



RESEARCH DATABASE AND ANALYSIS

Are we on the SAFE page?
Driving to responsibility among youth

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1. Introduction

The “**Are we on the SAFE page? Driving to responsibility among youth**” (PAGE) project is an Erasmus+ Small-scale Partnership in the field of youth. The project focuses on road safety among young people, with particular attention to young and inexperienced drivers and the promotion of responsible driving behaviours.

A central element of PAGE is the development of an innovative **e-learning tool** combining educational content, practical exercises, quizzes, digital simulations and games. The Research (Database Creation) activity supports this objective by providing the evidence and information required to understand the main road safety challenges affecting young drivers and to ensure that the project's educational content responds to identified needs.

1.1. Background and Context of the PAGE Project

Road safety is an important issue for young people, particularly for young and inexperienced drivers who may be exposed to risky driving behaviours and situations. PAGE was developed to address these challenges through youth work and non-formal education, moving beyond traditional awareness-raising approaches and providing youth workers with engaging and practical tools that can be used when working with young people.

The project brings together organisations from Greece, Bulgaria and Belgium, allowing different national experiences and perspectives on road safety to be considered. The research activity therefore provides an

important transnational foundation for identifying common challenges, country-specific issues and existing good practices, while supporting the development of educational approaches that can be relevant to young people across different European contexts.

1.2. Purpose of the Research Database

The purpose of the **Research Database** is to collect and organise relevant information on road safety and young drivers in Greece, Bulgaria and Belgium. The database covers statistical information on road accidents, risky driving behaviours, existing road safety campaigns and strategies, relevant legislation and policies, enforcement practices, case studies and personal testimonies.

Beyond the collection of information, the database aims to provide an evidence base for understanding the main challenges affecting young drivers and identifying areas where further educational intervention is needed. The research is directly linked to the development of the PAGE educational content and is intended to guide the creation of more targeted and relevant learning resources.

1.3. Objectives of the Research Activity

The main objective of the research activity is to develop a clear and evidence-based understanding of road safety challenges affecting young drivers. This includes collecting accident statistics, identifying risky driving behaviours, examining existing road safety campaigns and strategies, mapping relevant legislation and policies, and reviewing enforcement approaches in the three partner countries.

A further objective is to identify educational needs and translate the research findings into practical recommendations for the PAGE e-learning tool. The activity therefore seeks to connect evidence on road safety with the needs of young drivers and youth workers, while identifying common challenges, national differences and good practices that can contribute to the development of effective educational content.

1.4. Scope of the Research

The research focuses geographically on the three countries represented in the PAGE partnership: **Greece, Bulgaria and Belgium**. It examines the road safety situation of young drivers while also considering the role of youth workers and educators who support young people through non-formal learning activities.

Thematically, the research covers accident statistics, fatalities and serious injuries, risky driving behaviours such as speeding, distracted driving and alcohol consumption, existing road safety initiatives, legislation, enforcement measures and educational needs. Both quantitative information and qualitative evidence, including case studies and personal experiences, are considered in order to provide a broader understanding of the challenges addressed by the project.

1.5. Connection with the PAGE E-learning Tool

The Research Database is directly connected to the three educational components of the PAGE e-learning tool: **Module 1 – Educational Material, Module 2 – Practical Exercises and Quizzes, and Module 3 – Digital Simulations and Games**. Research findings on road safety principles, legislation, accident risks and risky behaviours will provide the basis for the topics and information presented throughout the learning tool.

The connection between research and educational development is based on a clear process in which the research findings are analysed to identify educational needs, which then inform the development of the learning content and its practical application within the PAGE e-learning tool.. In this way, the research activity ensures that the PAGE e-learning tool is based on identified road safety challenges and educational needs, while supporting youth workers in delivering more relevant and engaging road safety education to young people.

2. Research Methodology

The research conducted within the PAGE project follows a structured approach aimed at collecting, organising and analysing relevant information on road safety and young drivers in Greece, Bulgaria and Belgium. The methodology combines quantitative and qualitative information in order to provide a comprehensive understanding of road

safety challenges, risky driving behaviours, existing prevention measures and educational needs.

The research methodology was designed to ensure that the information collected from the three partner countries could be organised according to common thematic areas and subsequently compared. The findings generated through this process provide the evidence base for identifying priorities and developing the educational content and activities of the PAGE e-learning tool.

2.1. Research Approach and Methodological Framework

The research adopted a **desk-based and comparative approach**, focusing on the collection and analysis of existing information and evidence related to young drivers and road safety. The research was structured around several key thematic areas, including road accident statistics, risky driving behaviours, road safety strategies and campaigns, legislation and policies, enforcement practices, case studies and educational needs.

A common methodological framework was applied across Greece, Bulgaria and Belgium in order to facilitate the organisation and comparison of the collected information. Both quantitative and qualitative sources were considered, allowing the research to examine not only the scale of road safety problems but also the behavioural, institutional and educational factors associated with them.

2.2. Sources of Information and Data Collection

The research relied primarily on publicly available and reliable sources of information, including official statistical databases, governmental and institutional sources, European-level resources, policy and legislative documents, road safety organisations, research publications and existing educational and awareness-raising initiatives. Information was collected and organised according to the thematic categories established for the Research Database.

The data collection process focused on identifying information that was relevant to the project's target group and objectives. Where possible, information from recent years was prioritised in order to provide an up-to-date overview of the road safety situation. The collected material was

subsequently organised by country and thematic area to support further analysis and comparison.

2.3. Statistical and Quantitative Data

A significant part of the research focused on the collection of quantitative data concerning road accidents involving young drivers. This included available information on the number of road accidents, fatalities and serious injuries, as well as relevant trends and indicators concerning young and inexperienced drivers.

The research also considered quantitative information related to major risky driving behaviours, including speeding, distracted driving and driving under the influence of alcohol or other substances. These data were used to identify the behaviours and risk factors that require particular attention within the educational activities developed by the PAGE project.

2.4. Policy, Legal and Institutional Sources

The research examined the legal and policy frameworks relevant to road safety and young drivers in each partner country. Particular attention was given to regulations concerning speeding, distracted driving, alcohol and drug-related driving, traffic offences, penalties and other measures intended to promote responsible driving.

In addition to legislation, institutional sources were examined in order to understand how road safety policies are implemented and which authorities and organisations are involved in prevention, monitoring and enforcement. This approach allows the research to consider both the formal regulatory framework and the broader institutional context in which road safety measures operate.

2.5. Road Safety Campaigns and Existing Initiatives

Existing road safety campaigns, awareness-raising activities and educational initiatives were reviewed in the three partner countries. The research considered initiatives targeting young people as well as broader road safety campaigns that address behaviours and risks relevant to young drivers.

The review focused on the objectives, target groups, key messages and approaches used by existing initiatives, while also considering their strengths, limitations and potential gaps. The identification of effective and transferable practices provides useful information for the development of new educational approaches within PAGE.

2.6. Case Studies and Personal Testimonies

The research also considers the use of case studies and personal testimonies to complement statistical and institutional information. Real-life experiences related to road traffic accidents and risky driving can provide a deeper understanding of the human and emotional consequences of unsafe behaviour and help illustrate issues that cannot be fully captured through quantitative data.

Where appropriate and available, case studies and testimonies are examined in relation to the circumstances of the incident, the behaviours involved, the consequences experienced and the lessons that can be drawn from the experience. Any personal information used for research and educational purposes should be handled appropriately, with respect for privacy, consent and anonymisation requirements.

2.7. Data Analysis and Comparative Approach

Following the collection process, the information was organised according to country and thematic category and analysed in order to identify key patterns, trends and areas of concern. Particular attention was given to identifying the most significant risk factors, existing responses and gaps in road safety education and prevention.

A comparative approach was then applied to the findings from Greece, Bulgaria and Belgium. This comparison allows the research to identify common challenges and country-specific characteristics, as well as good practices that may be relevant across different contexts. The analysis also supports the identification of educational priorities that can inform the development of the PAGE e-learning tool.

2.8. Limitations of the Research

The research recognises that the availability and level of detail of road safety information may differ between countries and sources. Differences in data collection methods, reporting systems, definitions and available time periods may affect the direct comparability of certain statistical indicators. Similarly, information concerning specific groups of young drivers or particular enforcement practices may not always be available at the same level of detail in all three countries.

These limitations were taken into consideration during the analysis, with the research focusing on reliable and relevant information while avoiding conclusions that cannot be adequately supported by the available evidence. The Research Database should therefore be understood as a structured evidence base reflecting the information available during the research period, while also providing a useful foundation for the development of the project's educational resources.

3. Road Safety Situation Among Young Drivers in Europe

Road safety remains a major public policy and public health concern across Europe, with young and novice drivers representing one of the groups exposed to disproportionately high crash risks. Although road fatalities have decreased substantially over the longer term, young people continue to be over-represented in fatal road crashes in relation to their share of the population. Recent European data show that 19,934 people were killed in road traffic accidents in the EU in 2024, representing a 2.2% reduction compared with 2023 and a 17.4% reduction compared with 2014. At the same time, people aged 18–24 accounted for approximately 12% of all road fatalities in 2024, despite representing a considerably smaller share of the population.

The European evidence indicates that the increased risk among young drivers cannot be attributed to a single factor. Age, limited driving experience, risk perception, peer influence, distraction, speeding, night-time driving and substance use can interact and increase the likelihood and severity of crashes. The European Road Safety Observatory therefore identifies young novice drivers as a particularly important target group for prevention, education and graduated approaches to driver training.

3.1. Young Drivers as a High-Risk Group

Young and novice drivers are consistently identified in European road safety research as a **high-risk road user group**. The most recent European Road Safety Observatory thematic report defines young novice drivers as drivers aged approximately 16–24 and highlights their over-representation in crashes. The increased risk results from the interaction between young age and limited driving experience. Young drivers have not yet fully developed higher-order driving skills such as hazard perception, risk awareness and appropriate calibration of their own driving abilities. In addition, characteristics associated with youth, including greater susceptibility to distraction, peer pressure, risk-taking and limited impulse control, can further increase exposure to dangerous situations.

The scale of this over-representation is particularly evident in fatal crash statistics. According to European Commission data covering 2015– 2019, an average of **1,215 car drivers aged 18–24 were killed every year in the EU**. These young drivers represented **16% of all car drivers killed**, while the 18–24 age group represented only around **8% of car drivers** in the available European data. Furthermore, **82% of young car drivers killed during this period were male**, demonstrating a substantial gender difference in fatal crash involvement. More recent European data confirm that the disproportionate risk remains relevant: people aged 18–24 accounted for **12% of all EU road fatalities in 2024**, compared with their substantially smaller demographic share.

The risk is not limited to the young driver themselves. European Commission material notes that, on average, **for every young driver killed in a crash, another 1.3 people also die**, illustrating the wider consequences of crashes involving young drivers. Young drivers are also more likely to be involved in certain types of crashes, particularly **single-vehicle and night-time crashes**, while speeding and loss of control are frequently identified among the circumstances associated with these collisions.

Sources – 3.1

Sources – 3.1

European Commission – ERSO, Thematic Report: Young Novice Drivers

European Commission – Novice Drivers

European Commission – Annual Statistical Report on Road Safety in the EU 2026

3.2. Road Accident Trends and Key Statistics

European road safety has improved significantly over the last decade, but the pace of progress remains insufficient in relation to the EU's long-term road safety objectives. According to the latest Eurostat data, 19,934 people were killed in road traffic accidents across the EU in 2024, compared with 20,384 in 2023, representing a 2.2% decrease in one year. Compared with 2014, the number of road fatalities decreased by 17.4%. Nevertheless, this still corresponds to approximately 44 road deaths per million inhabitants across the EU in 2024. Considerable differences remain between Member States: Bulgaria recorded approximately 74 deaths per million inhabitants, while Greece recorded 64, compared with only 20 in Sweden.

The age distribution of fatalities demonstrates the continued vulnerability of young people. The European Commission's 2026 Annual Statistical Report shows that people aged 18–24 accounted for 12% of all EU road fatalities in 2024, while the 25–49 and 65+ age groups each accounted for approximately 31%. Importantly, the number of fatalities among 18–24-year-olds decreased by 12% between 2019 and 2024, compared with a 12% decrease across all age groups. This indicates progress, but it does not eliminate the disproportionate risk faced by young people.

The type of road user also provides important context. In 2024, drivers and passengers of passenger cars represented 43.6% of all EU road fatalities, while powered two-wheelers accounted for 18.5%, pedestrians for 17.8% and cyclists/e-bike riders for 9.9%. Among young people aged 18–24, however, the distribution is particularly important for the PAGE project: European Commission data indicate that 62% of fatalities among this age group occurred in cars and 24% involved powered two-wheelers. This reinforces the importance of addressing responsible driving behaviour, speed management, distraction, substance use and decision-making within youth road safety education.

A further important trend concerns the environment in which fatal crashes occur. Available EU-wide data indicate that **52% of road fatalities in 2023 occurred on rural roads**, compared with 38% in urban areas and 9% on motorways. The European evidence also shows that young drivers are particularly exposed to night-time driving and other challenging conditions. The ERSO thematic research identifies night driving, peer passengers, inappropriate speed and limited experience as factors that can combine to increase crash risk among young drivers. In Great Britain, for example, the collision risk for young drivers was reported to be **eight times higher between 02:00 and 04:00** than during less risky periods, illustrating the particular danger associated with late-night driving among this group.

Overall, the European statistics demonstrate two important points for the PAGE project. First, the long-term trend in road fatalities is positive, with fewer people being killed on European roads than a decade ago. Second, the improvement has not eliminated the specific vulnerability of young drivers. Their continued over-representation in fatal crashes, together with the concentration of fatalities in passenger cars and the interaction between age, experience, speed, night-time driving and other risk factors, demonstrates the need for targeted and evidence-based road safety education.

Sources – 3.2

[Eurostat – EU road fatalities decrease by 2.2% in 2024](#)

[European Commission – Annual Statistical Report on Road Safety in the EU 2026](#)

[European Commission – EU road fatalities drop by 3% in 2024](#)

[European Commission – Road Accident Fatalities by Age, 2024](#)

[European Commission – ERSO Thematic Report: Young Novice Drivers](#)

3.3. Main Risk Factors Affecting Young Drivers

The increased road safety risk among young drivers is influenced by a combination of factors rather than by age alone. The European Road Safety Observatory identifies four major categories contributing to young novice drivers' crash risk: immaturity, exposure to risky conditions, lack of driving experience and impairment. Immaturity can affect judgement, self-control, risk perception and the ability to anticipate dangerous situations, while limited driving experience means that young drivers have not yet fully developed the automaticity, hazard perception and vehicle-control skills acquired through experience. Research also indicates that young drivers tend to perceive certain traffic hazards less reliably, may overestimate their ability to control a vehicle in emergency situations and have greater difficulty anticipating developing hazards.

Risk exposure further increases the vulnerability of young drivers. European evidence indicates that young novice drivers are more likely to drive in circumstances that are inherently more demanding, including higher-speed conditions, night-time driving and situations involving multiple passengers. Their risk may be further increased by alcohol or drug use, fatigue and distraction. The combination of several risk factors can be particularly dangerous; for example, alcohol may interact with night-time driving, speeding and passenger presence, while fatigue is particularly relevant to young people because sleep deprivation and driving during normal sleeping hours can substantially reduce reaction capacity.

The European Commission also notes that distraction can have a greater impact on novice drivers because they have higher attentional demands while performing the driving task. Another important factor is social influence and behavioural context. Young drivers may be more susceptible to peer pressure and may alter their driving behaviour when travelling with friends or engaging in social activities. The European Road Safety Observatory identifies passenger presence as a relevant factor in young-driver crashes and notes that young drivers often carry more passengers than older drivers. The interaction between peer influence, risk-taking, speed and limited experience can therefore create situations in which a relatively minor driving error develops into a serious crash. These findings demonstrate that young-driver safety requires an approach that

addresses not only technical driving skills, but also decision-making, self-regulation, risk perception and the social context in which driving takes place.

Sources – 3.3.

- European Commission – European Road Safety Observatory, **Contributing Factors to Crash Risk.**
 - European Commission – European Road Safety Observatory, **Young Drivers / Novice Drivers.**
 - European Commission – European Road Safety Observatory, **Exposure and Impairment.**
 - European Commission – ERSO, **Thematic Report: Novice Drivers.**
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3.4. High-Risk Driving Behaviours

Several specific driving behaviours are repeatedly associated with increased crash risk among young drivers. Speeding is one of the most significant. European Road Safety Observatory evidence indicates that speed and inappropriate speed are major contributors to crashes involving young drivers, particularly young men. In the available European analysis, speeding accounted for almost 30% of identified causation factors for crashes involving male young drivers, compared with 21% for female young drivers and 15% for older drivers.

Speed is particularly problematic when young drivers fail to adapt their speed to road, weather or traffic conditions, reflecting the combined effects of limited experience, inadequate risk calibration and overconfidence. Young novice drivers are also heavily over-represented in single-vehicle and loss-of-control crashes, patterns in which excessive or inappropriate speed can play an important role.

Alcohol and drug-impaired driving represents another major risk. European Commission evidence estimates that approximately 25% of road fatalities in Europe are alcohol-related. The risk increases progressively with blood alcohol concentration, and the combination of alcohol with other substances can produce particularly severe effects.

For young drivers, alcohol can be especially problematic because the driving task requires greater concentration and because young people may have less developed self-control and may underestimate their level of impairment. The ERSO also identifies fatigue as an important high-risk behaviour-related condition, particularly during night-time driving, while the use of mobile phones and other distracting activities can further reduce the driver's ability to perceive and respond to hazards. Distracted driving is particularly relevant in the context of young people.

The European Commission identifies mobile phone use, interaction with passengers, eating and interaction with in-vehicle technologies among the main sources of distraction. European survey evidence reported by the ERSO indicates that 28.6% of drivers self-reported using a hand-held mobile phone for conversation while driving, while 24.2% reported using a mobile phone to read texts or check social media. Importantly, hand-held mobile phone use was associated with a 3.6-fold increase in crash risk, with particularly high risks associated with activities such as dialing and texting. The available evidence also indicates that mobile-phone use while driving is more prevalent among younger drivers than older drivers.

Finally, risky behaviour among young drivers often results from the combination of several behaviours rather than one isolated action. Speeding can occur alongside night-time driving, alcohol consumption, passenger influence or distraction, creating a significantly more demanding driving environment for an inexperienced driver. European evidence therefore supports an educational approach that does not treat risky behaviours as separate issues, but instead helps young people understand how different decisions and circumstances interact to increase crash probability and severity. This is particularly relevant for PAGE, as the e-learning tool can use realistic scenarios to demonstrate how a sequence of seemingly small decisions can lead to a dangerous situation.

Sources – 3.4.

- European Commission – European Road Safety Observatory, **Characteristics of Crashes Involving Young Novice Drivers.**
- European Commission – European Road Safety Observatory, **Thematic Report: Novice Drivers.**
- European Commission – European Road Safety Observatory, **Driver Distraction Thematic Report.**
- European Commission – European Road Safety Observatory, **Alcohol and Drugs.**
- European Commission – European Road Safety Observatory, **Impairment.**

3.5. Consequences of Road Traffic Accidents Among Young People

The consequences of road traffic accidents extend far beyond the immediate loss of life. Young people involved in road crashes may experience serious physical injuries, long-term disabilities and psychological consequences that can affect their education, employment, social relationships and overall quality of life. According to the European Road Safety Observatory, for every person killed on European roads, approximately five additional people are seriously injured. Serious road injuries can result in lifelong consequences for victims and their families, while the European Commission also recognises that the long-term health consequences of road trauma are not systematically recorded across Europe. This means that fatality statistics capture only part of the overall burden created by road crashes.

The impact can be particularly significant for young people because serious injuries and disabilities may affect individuals during the early stages of their educational, professional and social lives. Consequences may include permanent physical impairment, neurological trauma, lengthy rehabilitation and reduced ability to participate independently in everyday activities. WHO/Europe reports that road trauma kills more people aged 5–24 years than any other cause in the European Region and highlights that millions of people survive road crashes with injuries of different levels of severity, many of which have lifelong consequences. The organisation further identifies long-term disability, particularly among younger people, as placing substantial demands on rehabilitation and welfare systems.

Road traffic injuries also generate substantial psychological and social consequences. Survivors may experience pain, distress, loss of independence and difficulties returning to education, work or normal social activities. Families can also be affected through emotional distress, caring responsibilities and changes in household circumstances. The European Commission notes that long-term disability generates intangible costs for both injured people and their families, while appropriate post-crash care and rehabilitation are important for helping victims with major injuries reintegrate into work and family life. These consequences are particularly relevant for youth- focused road safety education because they demonstrate that risky driving does not only create the possibility of a fatal crash; it can also permanently alter the lives of survivors and the people around them.

The consequences are also economic and societal. Road crashes create direct costs related to emergency services, medical treatment, rehabilitation and long-term care, as well as indirect costs associated with lost education, employment and productivity. The European Commission estimates the socio-economic cost of fatal and non-fatal road injuries, including intangible costs, at approximately 2% of the GDP of EU countries, equivalent to around €180 billion. Importantly, the Commission notes that many national estimates do not fully capture the costs associated with long-term disability, meaning that the real social and economic burden may be underestimated.

For young people, these consequences underline the importance of prevention and early intervention. A road crash during adolescence or early adulthood can affect not only the individual's immediate health but also their future education, employment, independence and relationships. The evidence therefore supports a broader understanding of road safety in which prevention is not limited to reducing fatalities, but also aims to prevent serious injuries, lifelong disability and the wider social consequences of road trauma. This perspective is particularly relevant to PAGE, as it provides an important foundation for educational activities that encourage young people to understand the real-life consequences of their driving decisions and to recognise responsible driving as a means of protecting both themselves and others.

Sources – 3.5.

- European Commission – European Road Safety Observatory, **Serious Traffic Injuries.**
- European Commission – European Road Safety Observatory, **Health of Survivors and Long-Term Disability.**
- European Commission – European Road Safety Observatory, **Socio-economic Costs and the Value of Prevention.**
- European Commission – European Road Safety Observatory, **Recovery and Rehabilitation of Crash Victims from the Road Network.**
- WHO/Europe, **Making Roads Safer / Preventing Road Traffic Injuries.**

4. Country Analysis: Greece

Greece presents a particularly relevant case for the PAGE project, as road safety indicators continue to show a comparatively high burden of road traffic fatalities despite significant improvements over the longer term. The analysis of the Greek context focuses on the scale and evolution of road traffic accidents, the specific situation of young drivers, risky driving behaviours, the national road safety framework and existing prevention and enforcement measures. Particular attention is given to evidence from the Hellenic Statistical Authority (ELSTAT), complemented by European Road Safety Observatory data and other reliable national and international sources.

The country analysis aims not only to describe the current road safety situation in Greece, but also to identify the specific challenges that should be addressed through youth-oriented road safety education. The findings will subsequently be used to assess existing campaigns and policies, identify gaps and translate the Greek evidence into educational priorities for the PAGE e-learning tool.

4.1. Road Accident Statistics and Trends

According to the latest data published by the Hellenic Statistical Authority (ELSTAT), Greece recorded 11,000 injury-causing road traffic accidents in 2024, representing an increase of 4.2% compared with 2023, when 10,553 such accidents were recorded. These accidents resulted in 14,035 casualties, compared with 13,461 in 2023, corresponding to a 4.3% annual increase. In terms of fatalities, 664 people were killed in road traffic accidents in 2024, compared with 646 in 2023, representing an increase of 2.8%. At the same time, serious injuries decreased from 659 in 2023 to 568 in 2024, a reduction of 13.8%, while slight injuries increased by 5.3%, reaching 12,803. These figures demonstrate that, despite improvements in some indicators, road traffic accidents remain a significant cause of death and injury in Greece.

The longer-term data provide a more nuanced picture. ELSTAT's road accident time series covers the period 1991–2024, while its detailed series on fatalities extends from 2007 onwards, allowing changes in the Greek road safety situation to be assessed over time. The European Commission's Greek Road Safety Profile similarly documents a substantial long-term reduction in fatalities: between 2012 and 2021, fatalities among Greek males aged 18–24 fell from 124 to 74, a reduction of approximately 40%, while fatalities among females aged 18–24 decreased from 19 to 12, or approximately 37%. Nevertheless, the 18–24 age group continued to represent an important proportion of fatalities, particularly among males.

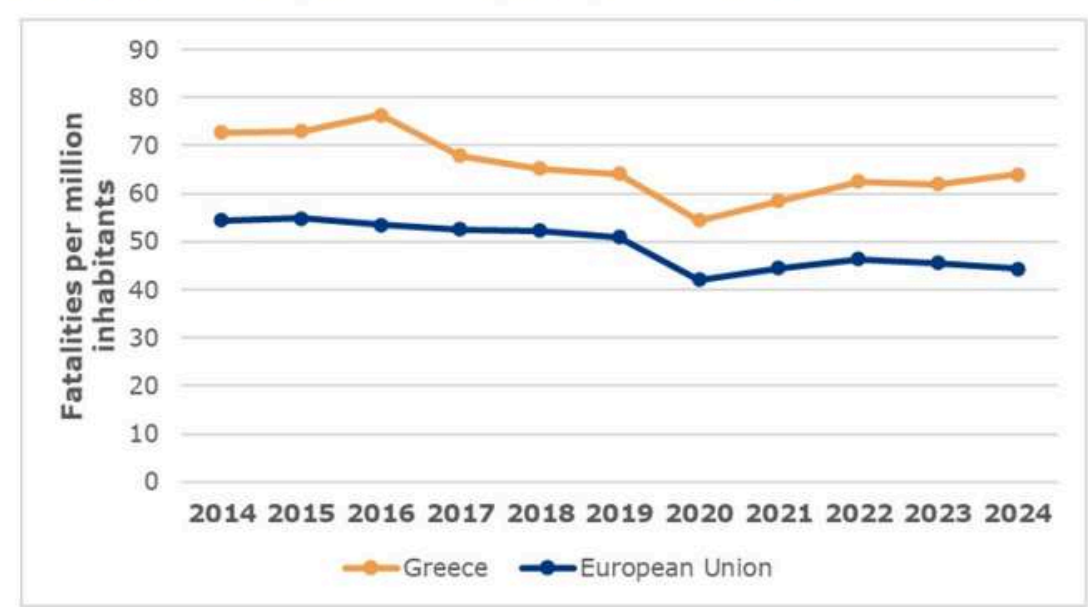
The broader European comparison also places Greece among the countries requiring continued attention. In 2024, Greece recorded 664 road fatalities, equivalent to approximately 64 deaths per million inhabitants, compared with an EU average of around 44 deaths per million. The Greek figure is therefore substantially above the EU average. The European Commission's earlier Greek country profile also identified several structural characteristics of the Greek road safety environment, including a relatively high proportion of fatalities involving powered two-wheelers and fatalities occurring on urban roads, as well as comparatively high levels of self-reported drink-driving and distracted driving.

An additional characteristic of the Greek situation concerns the geographical distribution of young people's fatalities. European Commission data for 2022 show that **more than half of fatalities among people aged 18–24 in Greece occurred on urban roads**, placing Greece among the European countries where young people in this age group experience a particularly significant urban-road fatality burden. At regional level, the situation can be even more pronounced: the **South Aegean recorded 623 fatalities per million inhabitants aged 18–24 in 2022**, the highest regional rate identified in the European analysis. Four of the ten European regions with the highest mortality rates for 18–24-year-olds were located in Greece.

Number of fatalities and serious injuries, 2014 and 2024

	2014	2024	Trend	EU trend
Fatalities	795	664	-16%	-17%
Serious Injuries	1,016	568	-44%	-

Figure 1. Mortality rate development, 2014 – 2024



□

Sources – 4.1.

Hellenic Statistical Authority (ELSTAT) – Road Traffic Accidents
– Year 2024. [ELSTAT – Road Traffic Accidents 2024](#)

ELSTAT – Road Traffic Accidents – Annual Statistics / Time Series.
[ELSTAT – Road Traffic Accidents Statistics](#)

European Commission – European Road Safety Observatory –
Country Profile: Greece. [ERSO – Greece Country Profile](#)

European Commission – ERSO – Facts & Figures: Young People.
[ERSO – Young People](#)

European Commission – ERSO – Facts & Figures: Regional
Distribution. [ERSO – Regional Distribution of Road Fatalities](#)

4.2. Young Drivers and Road Safety Risks

Young drivers represent an important road safety concern in Greece, as the available national and European evidence shows a clear concentration of fatalities among young people, particularly young males. The European Commission's analysis of Greek data for 2012–2021 shows that fatalities among 18–24-year-old males decreased from 124 to 74, while female fatalities in the same age group decreased from 19 to 12. Despite this substantial reduction, young males remained considerably more affected than young females. In 2021, 18–24-year-old males accounted for 74 fatalities, compared with 12 among females, meaning that males represented approximately 86% of fatalities in this age group in that year.

The wider European evidence helps place this Greek pattern into context. Young drivers are generally considered a high-risk group because age and limited driving experience interact with risk perception, decision-making, exposure to demanding driving conditions and risky behaviours. The European Road Safety Observatory reports that young drivers aged 18–24 have substantially higher fatality risks than more experienced drivers and that both young age and lack of experience contribute to this elevated risk. In Greece, this vulnerability is particularly relevant given the country's road safety profile, which has identified comparatively high levels of self-reported distracted driving and drink-driving, while the large presence of powered two-wheelers also contributes to the country's distinctive road safety risk profile.

The Greek context also requires attention to the environments in which young people are exposed to road risk. As noted above, European Commission data indicate that more than half of fatalities among Greek 18–24-year-olds occurred on urban roads in 2022. This is particularly relevant for a youth-focused intervention because it indicates that young people's road safety challenges are not limited to high-speed rural or motorway environments. Urban mobility, interaction with other road users, powered two-wheelers, distraction and behavioural decision-making are also important components of the Greek road safety context.

Another important characteristic is the gender dimension. The European Road Safety Observatory consistently identifies young males as having substantially higher road crash and fatality risks than young females, and the Greek data follow this broader European pattern. This does not mean that young female drivers should be considered a low- risk group; rather, it indicates that prevention strategies should take into account differences in exposure and behaviour while remaining inclusive of all young road users. For PAGE, the Greek evidence therefore supports educational interventions that address risk perception, responsible decision-making, distraction, alcohol-related driving, speed and the broader behavioural and social factors influencing young drivers.

Sources – 4.2.

- **European Commission – European Road Safety Observatory – Country Profile: Greece.** [ERSO – Greece Country Profile](#)
- **European Commission – ERSO – Young Drivers / Risk.** [ERSO – Young Drivers and Risk](#)
- **European Commission – ERSO – Novice Drivers.** [ERSO – Novice Drivers](#)
- **European Commission – ERSO – Facts & Figures: Young People.** [ERSO – Young People and Road Safety](#)
- **European Commission – ERSO – Facts & Figures: Regional Distribution.** [ERSO – Regional Distribution](#)
- **Hellenic Statistical Authority (ELSTAT) – Road Traffic Accidents – Year 2024.** [ELSTAT – Road Traffic Accidents 2024](#)

4.3. Assessment of Risky Driving Behaviours

The available evidence indicates that risky driving behaviour remains a significant road safety challenge in Greece. A particularly useful source is the national road safety performance assessment conducted through roadside observations across all regions of Greece. The study, published in *Transportation Research Procedia*, calculated national Key Performance Indicators for speeding, seat-belt use, helmet use and driver distraction.

The results showed that 27% of observed Greek drivers exceeded the applicable speed limit, while 9% used a handheld mobile phone while driving. At the same time, helmet use among observed motorcyclists was relatively high at 88%, whereas seat-belt use among car occupants was considerably lower, at 65%. These findings provide objective behavioural evidence and indicate that compliance with basic safety rules remains inconsistent across the Greek road network.

Speeding emerges as one of the most important behavioural risks. The national observational research identified excessive speed as a widespread behaviour, with more than one in four observed drivers exceeding the applicable speed limit. This finding is particularly relevant when combined with the European evidence presented earlier in the report, according to which excessive or inappropriate speed is disproportionately associated with young-driver crashes. Additional evidence from research involving juvenile traffic-law offenders in Greece provides a useful youth-specific perspective.

A 2024 study of 181 juvenile offenders participating in an educational intervention in Crete found that 54.9% reported exceeding the legal speed limit, while 66.3% reported feelings of aggression when driving behind a slow vehicle. Furthermore, 34.5% reported using a mobile phone while driving and 17.7% reported driving after consuming alcohol. Importantly, 85.5% reported high confidence in their ability to deal with road risks, suggesting a possible gap between perceived competence and actual risk-taking behaviour.

Distraction represents another significant concern. The national observational study found handheld mobile-phone use among 9% of observed drivers, while the youth-focused study found substantially higher self-reported mobile-phone use among its juvenile traffic offenders. This difference is methodologically important: observational studies measure behaviour in real traffic conditions, whereas self-reported surveys capture behaviours that individuals acknowledge engaging in.

The two forms of evidence should therefore not be treated as directly equivalent, but together they indicate that mobile-phone use remains an important road safety issue in Greece. Recent national survey findings reported in 2025 similarly indicated that 47% of respondents admitted using a mobile phone while driving at least occasionally, while 65% reported driving above the speed limit at least occasionally and 20% acknowledged driving after consuming alcohol.

Alcohol-related driving is another area requiring continued attention. Official Greek road safety assessments identify driving under the influence of alcohol as one of the major behavioural risks, while the most recent national enforcement information demonstrates the continuing focus placed on alcohol controls. In April 2026, the Ministry of Citizen Protection reported that alcohol had been involved in approximately 15% of people killed in road crashes, alongside significant contributions from motorcycle involvement, mobile-phone use and red-light violations. During the first quarter of 2026, approximately 460,000 alcohol tests were conducted in Attica, illustrating the scale of enforcement activity targeting impaired driving.

The evidence therefore points to several interconnected behavioural priorities for Greece: speeding, mobile-phone use and distraction, alcohol-impaired driving, aggressive driving, insufficient seat-belt use and, in the case of powered two-wheelers, continued attention to protective equipment. An important finding is that risky behaviours are not necessarily isolated. The combination of overconfidence, speeding, distraction, alcohol consumption and aggressive responses to other road users can substantially increase exposure to serious crashes. For PAGE, this supports an educational approach based not only on explaining individual traffic rules, but also on helping young people

recognise how behavioural choices interact and how apparently ordinary decisions can develop into high-risk driving situations.

Sources – 4.3.

- **Papadimitriou et al. – “Assessing driver safety behaviour in Greece”, Transportation Research Procedia, 2023.** National roadside observational study covering speeding, seat-belt and helmet use and distraction.
- **Vagionakis et al. – “The profile and aberrant driving behavior of juvenile traffic law violators in Greece”, 2024.** Study of 181 juvenile offenders in Crete.
- **National Survey on Road Behaviour and Traffic Accidents,** findings reported by ERTNews.
- **Hellenic Ministry of Citizen Protection – Road Safety Strategy and enforcement data, 2026.**
- **European Commission / European Road Safety Observatory – Greece country evidence and road-user behaviour indicators.**

4.4. Existing Road Safety Strategies and Campaigns

Greece has developed a structured national policy framework for road safety through the National Road Safety Strategic Plan 2021–2030 (NRSS 2030). The strategy is led by the Ministry of Infrastructure and Transport and is aligned with the European road safety framework and the United Nations Decade of Action for Road Safety.

Its central objective is to contribute to the long-term Vision Zero approach while establishing a quantitative target of reducing road fatalities and serious injuries by 50% by 2030. The strategy adopts a multi-dimensional approach covering road users, infrastructure, vehicles, enforcement, post-crash response and governance rather than treating road safety solely as a matter of driver behaviour. The strategic framework is supported by a governmental governance structure involving several ministries and a Road Safety Executive Committee. The current European Commission assessment notes that

the implementation of the Greek strategy has intensified in recent years and identifies increased enforcement, improved road infrastructure, treatment of high-risk locations and more systematic road safety management among the measures contributing to recent improvements. At the same time, the assessment identifies communication campaigns and enforcement as areas where progress has been delayed, while education and new-driver training are assessed as being on track. This is particularly relevant to PAGE because it indicates that Greece already has a broad policy framework, but there remains room to strengthen the communication and educational dimension of road safety.

Road safety awareness campaigns are implemented by both public authorities and specialised organisations. One of the most established actors is the Road Safety Institute “Panos Mylonas” (IOAS), which has developed awareness, education and prevention activities targeting different age groups and road-user categories. Its activities include campaigns addressing speeding, seat-belt and helmet use, mobile-phone distraction and other high-risk behaviours. For example, the 19th Panhellenic Road Safety Week in March 2026 included a nationwide television and radio campaign addressing inappropriate speed, seat-belt and helmet use, mobile-phone use while driving and child restraints. The campaign was broadcast nationally with the approval of the National Council for Radio and Television.

Education-oriented interventions targeting young people are also present. The Ministry of Education, in cooperation with IOAS, has organised the nationwide student digital-creation competition “Road Safety: Common Responsibility”, with its eighth edition covering the 2024–2025 school year. The initiative involves secondary-school students and encourages them to develop digital content and campaigns around road safety, including safer mobility applications and awareness campaigns.

This represents an approach that moves beyond passive information provision and involves young people directly in the creation of road safety messages. Earlier national initiatives have also used mass communication and educational material to reach younger audiences. In 2018, the Ministry of Education collaborated with IOAS to produce eight road safety and traffic-education social messages and two short educational videos, targeting primary and secondary-school students as well as teachers.

The material was designed for dissemination through television and online channels, demonstrating the continued use of public communication and school-based education as components of the Greek road safety approach.

More recently, the Greek authorities have also moved towards combining communication with digital tools and targeted enforcement. The national Road Traffic Collision Map, available through gov.gr, provides anonymised and statistically processed information on road crashes and allows users to explore incidents by location and time, identify high-risk areas and examine information such as crash causes and vehicle type. The platform has potential value not only for transparency and monitoring but also for public awareness and evidence-based road safety planning.

Overall, Greece therefore has a substantial network of road safety strategies, campaigns and educational interventions. However, the available evidence also suggests several areas for further development. The European Commission's assessment identifies communication campaigns as an area where implementation has lagged behind other components of the national strategy, while existing educational initiatives are often directed towards school-age children or the general population rather than specifically targeting young novice drivers and their real-world behavioural risks.

Furthermore, the existence of campaigns does not in itself demonstrate their behavioural effectiveness; systematic evaluation of changes in attitudes and behaviour is less visible in the publicly available evidence. This creates an opportunity for PAGE to complement existing Greek initiatives with a digital, interactive and youth-centred educational approach that combines evidence, scenarios, simulations and practical decision-making exercises.

Sources – 4.4.

- **National Road Safety Strategic Plan 2021–2030 – Greece (NRSS 2030).**
- **European Commission / EUR-Lex – Greece Road Safety Strategic Plan and implementation assessment, 2026.**
- **Road Safety Institute “Panos Mylonas” (IOAS) – national road safety campaigns and educational activities.**
- **IOAS – 19th Panhellenic Road Safety Week, 2026.**
- **Ministry of Education / Educational Radio & Digital Media – “Road Safety: Common Responsibility”, 2024–2025.**
- **Greek Government – Road safety and traffic education campaign, 2018.**
- **Gov.gr – Road Traffic Collision Map.**

4.5. Legal and Policy Framework

The Greek road safety framework is based on a combination of national legislation, the Road Traffic Code (Κώδικας Οδικής Κυκλοφορίας – KOK), the National Road Safety Strategic Plan 2021–2030 and the wider European road safety framework. A significant recent development is the adoption of **Law 5209/2025**, which introduced a new Road Traffic Code and established updated provisions concerning road-user behaviour, administrative measures, penalties and repeat offending. The new framework includes specific provisions covering speeding, alcohol and drug-impaired driving, mobile-phone use, red-light violations, seat-belt and helmet use, dangerous manoeuvres and other behaviours associated with road crashes.

An important characteristic of the 2025 reform is the increased emphasis on **repeat offending**. The new KOK establishes differentiated and progressively more severe consequences when certain serious offences are repeated within a five-year period. These include driving under the influence of alcohol or substances, red-light violations, dangerous driving and racing, very high speeds, non-use of seat belts or helmets and mobile-phone use while driving. Depending on the offence and number of repetitions, sanctions can include higher administrative fines and extended withdrawal of the driving licence.

For certain repeated serious offences, the legislation provides for fines reaching €4,000 and licence withdrawal for several years, while particularly serious cases can lead to much longer or, in specific circumstances, lifelong withdrawal.

The legal framework is complemented by the National Road Safety Strategic Plan 2021–2030, which adopts a broader Safe System approach rather than relying exclusively on individual driver responsibility. The strategy contains 44 Road Safety Actions and 200 individual measures distributed across five pillars: road safety management, road user behaviour, road infrastructure and traffic, vehicles, and post-crash care. It also establishes measurable Key Performance Indicator targets. For example, the national baseline for speeding was 29% in 2022, with a target of reducing this to below 15% by 2030; seat-belt use is targeted to exceed 95%, helmet use to exceed 95%, and mobile-phone use while driving to fall below 2%.

The policy framework therefore combines regulation, prevention, enforcement, infrastructure improvements, education and post-crash intervention. This is particularly relevant to the PAGE project because road safety education is not being developed in isolation from the existing Greek system.

Rather, the e-learning tool can complement the national framework by translating legal requirements and road safety objectives into accessible educational content for young people. At the same time, the existence of comprehensive legislation does not automatically guarantee compliance; this makes the assessment of enforcement and actual driving behaviour in the following section particularly important.

Sources – 4.5.

- **Greek Law 5209/2025 – New Road Traffic Code (KOK).**
- **European Commission – Greece Road Safety Country Profile.**
- **European Commission – Greece Road Safety Strategic Plan and implementation assessment.**
- **National Road Safety Strategic Plan 2021–2030 – Greece (NRSS 2030).**

4.6. Enforcement Measures and Prosecution of Driving Offences

The enforcement of road traffic legislation in Greece is primarily carried out by the Hellenic Police Traffic Services, through roadside controls, speed enforcement, alcohol testing, checks on vehicle and driver compliance and targeted operations addressing high-risk behaviours. The available enforcement statistics demonstrate the considerable scale of these activities. According to the Hellenic Police, during 2024, Traffic Police services recorded 338,419 speeding violations, 55,975 violations concerning non-use of seat belts, 91,289 non-use-of-helmet violations, 32,452 alcohol-related violations, 18,951 mobile-phone violations, 15,078 wrong-way driving violations and 18,612 red-light violations. A further 79,545 cases concerned driving without a valid licence.

These figures are particularly useful because they allow the enforcement situation to be compared directly with the risky behaviours identified in the previous section. Speeding was by far the most frequently recorded among the major dangerous behaviours, accounting for more than 338,000 violations in 2024. The number of helmet and seat-belt violations was also substantial, while almost 19,000 mobile-phone violations and more than 32,000 alcohol-related violations demonstrate that enforcement is not concentrated on a single type of offence. The Hellenic Police reported that this corresponded, on average, to approximately 927 speeding violations, 153 seat-belt violations, 250 helmet violations, 89 alcohol violations and 52 mobile-phone violations every day during 2024.

Enforcement activity also increased during 2024. During the first seven months of 2024, the Hellenic Police reported a 21% increase in recorded traffic violations compared with the corresponding period of 2023. During this period, authorities recorded 186,336 speeding violations, 79,164 seat-belt and helmet violations, 44,294 cases involving driving-licence violations, 18,457 alcohol-related violations, 10,797 mobile-phone violations and 10,073 red-light violations. The data indicate a substantial enforcement presence, although the number of detected violations should not automatically be interpreted as an increase in the actual prevalence of risky behaviour: higher numbers can also reflect more intensive controls.

Alcohol enforcement provides another example of targeted policing. The Greek authorities conduct roadside breath-testing operations and targeted controls, particularly during periods and in locations associated with increased risk. In early 2026, for example, the Ministry of Citizen Protection reported that approximately **460,000 alcohol tests had been conducted in Attica during the first quarter of the year**, demonstrating the scale of enforcement directed at drink-driving. The same governmental communication reported that alcohol was associated with approximately **15% of people killed in road crashes**, reinforcing the importance of continued enforcement against impaired driving.

Enforcement versus prosecution

An important methodological distinction must be made between **traffic violations detected and administrative sanctions** on the one hand, and **criminal prosecution** on the other. Most traffic offences recorded during roadside controls are handled initially through administrative procedures, such as fines, licence withdrawal or other administrative measures. Certain behaviours, however, can also have a criminal dimension depending on their severity, consequences and the applicable provisions of the KOK and criminal legislation.

The available public Greek enforcement statistics provide extensive information on **violations detected and sanctions imposed**, but they do not consistently provide a national, offence-by-offence dataset showing the proportion of every recorded traffic violation that subsequently resulted in criminal prosecution and conviction. For this reason, it would not be methodologically correct to claim, for example, that a specific percentage of the 338,419 speeding violations in 2024 resulted in prosecution. The available evidence supports the conclusion that Greece conducts extensive enforcement and applies progressively stronger sanctions, particularly for serious and repeated offences, but a comprehensive national prosecution-rate indicator is not readily available in the publicly accessible sources reviewed for this Research Database.

The introduction of the 2025 KOK nevertheless strengthens the enforcement framework through its **repeat-offender provisions**.

Serious offences such as drink-driving, mobile-phone use, dangerous driving, red-light violations, extreme speeding and non-use of safety equipment can result in progressively stronger sanctions when repeated. This creates a more deterrence-oriented framework in which repeated dangerous behaviour can lead to substantially longer licence withdrawals and higher fines.

Overall, the Greek evidence demonstrates that enforcement is a substantial component of the national road safety response. However, the persistence of very high numbers of speeding, helmet, seat-belt, alcohol and mobile-phone violations indicates that the existence of enforcement does not automatically translate into universal compliance. This is particularly important for PAGE: enforcement can increase the perceived consequences of dangerous driving, but education can address the underlying knowledge, attitudes, risk perception and decision-making that lead young people to engage in such behaviours. The combination of legislation, enforcement and targeted behavioural education is therefore more consistent with the Safe System approach than relying exclusively on penalties.

Sources – 4.6.

- **Hellenic Police – 2024 Traffic Enforcement Results.**
- **Hellenic Police – Increase in traffic violations during the first seven months of 2024.**
- **Hellenic Police – Statistical Yearbooks.**
- **Greek Law 5209/2025 – Road Traffic Code and repeat-offender sanctions.**
- **European Commission – Greece Road Safety Country Profile.**
- **European Commission – Greece Road Safety Strategic Plan and implementation assessment.**

4.7.1. Documented Case Studies from Greece

The use of documented case studies provides an important complementary dimension to the statistical and policy analysis presented in the previous sections. While national statistics demonstrate

the scale and patterns of road safety problems, individual cases and empirical studies help illustrate how specific behavioural, social and environmental factors can contribute to road traffic accidents. For the purposes of the PAGE Research Database, the following cases have been selected from documented Greek research and publicly available evidence. They are presented exclusively on the basis of published findings and do not include personally identifiable information.

Case Study 1 – Young Drivers, Peer Influence and Accident Involvement

A particularly relevant Greek case study is provided by a 2025 research study conducted among 309 university students in Greece, examining the relationship between peer pressure, driving behaviour and accident involvement. The study, conducted by researchers from the Aristotle University of Thessaloniki, used an anonymous questionnaire and examined students' attitudes, self-perceptions, driving behaviours, passenger influence and previous involvement in road traffic accidents. The sample consisted of 50.5% male and 49.5% female students.

The findings provide important evidence concerning young drivers' exposure to road risk. 31.4% of the participants reported having been involved in a road traffic accident. In 27.2% of cases, the accident resulted in material damage, while 4.2% involved injuries. No fatal accident was reported among the participants. The study also identified a significant gender difference: 37.17% of male students reported accident involvement compared with 25.49% of female students. Students originating from small villages recorded the highest reported accident involvement, reaching 50%, although the authors caution that the number of respondents from this category was relatively small.

An especially important finding concerns overconfidence among young drivers. A large majority of participants considered themselves capable drivers, with 81.41% of male and 64.05% of female respondents expressing confidence in their driving ability. The research nevertheless identified associations between self-perceived driving competence, accident involvement and other behavioural factors. The presence of passengers also influenced driving behaviour, with the effect depending on the characteristics and relationship of the passenger.

In particular, the research identified peer influence as a factor capable of encouraging riskier driving behaviour among young male drivers.

The case study is particularly relevant for PAGE because it demonstrates that young-driver risk cannot be understood exclusively through technical knowledge of traffic rules. **Social pressure, overconfidence, passenger influence and self-perception of driving ability** can affect decision-making behind the wheel. Consequently, educational interventions targeting young people should address not only what constitutes a safe driving behaviour, but also the psychological and social mechanisms that may lead a young person to take unnecessary risks.

It is also important to interpret these findings within their methodological context. The study relied on **self-reported data from a university-based sample** and therefore cannot be treated as representative of all young drivers in Greece. Nevertheless, it provides valuable empirical evidence concerning behavioural patterns and social influences among young people and offers a useful basis for developing targeted educational scenarios.

Road Safety Relevance for PAGE:

The study supports the inclusion of educational content addressing:

- peer pressure and passenger influence;
- overconfidence and unrealistic self-assessment;
- gender-related differences in risky driving;
- social norms surrounding driving behaviour;
- decision-making under social pressure;
- the difference between perceived and actual driving competence.

Source:

Nalmpantis, D. & Beli, E. (2025), *Peer Pressure on Road Safety: The Case of Student Drivers in Greece*, **The Open Transportation Journal**, 19.

DOI: 10.2174/0126671212381793250410071023.

Case Study 2 – Fatal Road Crashes and Excessive Speed in Crete

A second documented case illustrates the extreme consequences that can arise when multiple road safety risks converge. On 17 August 2017, two university students, aged 19 and 20, were killed while walking with their dog on a road outside the Technical University of Crete in Chania. According to the documented account, the vehicle involved was travelling at approximately 125 km/h on a road where the speed limit was 40 km/h. Following the initial collision, the vehicle continued at a reported speed of approximately 170 km/h before eventually crashing into a parked motorcycle. Both young pedestrians and their dog died in the incident.

The case provides a particularly clear illustration of the relationship between excessive speed and the severity of road crashes. The difference between the applicable speed limit and the reported speed of the vehicle was substantial, demonstrating how extreme speeding can dramatically increase the potential severity of a collision. The case also illustrates that the consequences of risky driving are not limited to the driver: pedestrians, passengers and other road users can become victims even when they are not themselves engaging in risky behaviour.

From a PAGE perspective, the case is particularly relevant because both victims were young people, while the incident occurred in an environment connected to everyday youth mobility and university life. It therefore provides a strong example of why road safety education needs to communicate the social consequences of dangerous driving, rather than presenting risky behaviour exclusively as a matter of individual choice. Excessive speed can transform an otherwise ordinary journey or road encounter into a fatal event involving multiple people.

The case should, however, be treated as a documented illustrative case rather than as statistically representative evidence. A single accident cannot establish causal relationships or determine the prevalence of speeding among Greek young drivers. Its value within the Research Database is instead qualitative and educational: it demonstrates, in a concrete Greek context, the potential consequences associated with extreme speed and highlights the vulnerability of other road users.

Road Safety Relevance for PAGE:

The case supports educational content addressing:

- excessive and inappropriate speed;
- speed and crash severity;
- responsibility towards pedestrians and other road users;
- consequences of dangerous driving beyond the driver;
- the importance of respecting speed limits;
- the difference between perceived driving ability and the physical consequences of excessive speed.

Source:

Giannarou, L. (2023), *Lives cost little on Greece's streets*, **Kathimerini**, documenting the 2017 Chania road crash and subsequent legal proceedings.

Analytical Synthesis of the Two Case Studies

Taken together, the two cases illustrate two complementary dimensions of young people's road safety in Greece. The first provides empirical evidence of behavioural and social risk factors among young drivers, demonstrating the importance of peer influence, overconfidence and passenger effects. The second demonstrates the potential consequences of extreme risk-taking, particularly excessive speed, and shows that the effects of dangerous driving can extend to completely uninvolved road users.

These cases reinforce the findings presented in Sections 4.2 and 4.3. Young-driver road safety is influenced not only by technical driving skills, but also by risk perception, social environment, confidence, behavioural choices and the ability to anticipate consequences. This supports the PAGE approach of combining theoretical road safety knowledge with practical scenarios, behavioural reflection and interactive learning activities.

For methodological clarity, the two cases should not be presented as representative samples of Greek road crashes. Rather, they function as **documented qualitative evidence that complements the quantitative statistics and behavioural research presented elsewhere in the Research Database.**

Sources – 4.7.1.

- Nalmpantis, D. & Beli, E. (2025). *Peer Pressure on Road Safety: The Case of Student Drivers in Greece*. **The Open Transportation Journal**, 19.
- Giannarou, L. (2023). *Lives cost little on Greece's streets*. **Kathimerini**, 14 September 2023.
- Yannis, G., Golias, J., Spyropoulou, I. & Papadimitriou, E. (2007). *Accident risk factors of young drivers and targeted counter measures*. National Technical University of Athens / World Conference on Transport Research. The study identifies male gender, inexperience, motorcycle use and night driving as important risk factors among young drivers in Greece.

4.7.2. Personal Testimony – The Consequences of a Single Risky Decision

As part of the research activity conducted for the PAGE project, an anonymous testimony was collected from a young person who had been involved in a road traffic accident while driving under the influence of alcohol. The testimony provides a first-hand perspective on the interaction between alcohol consumption, peer pressure and decision-making, while also illustrating the potential consequences that a single decision can have on future attitudes towards road safety. In accordance with principles of privacy and personal data protection, no identifying information concerning the individual or the other people involved in the incident is disclosed.

Anonymous Testimony: “I Thought I Was Fine to Drive”

The interviewee described an evening during which he had been out with friends and had consumed alcohol. At the end of the evening, the

group needed to return home and he was encouraged by his friends to drive. Although he had been drinking, he did not consider himself too impaired to drive and ultimately decided to get behind the wheel.

The journey took place at night, with several friends travelling in the vehicle. According to the testimony, the atmosphere among the group and the pressure to get home contributed to the decision to drive rather than use a taxi or another alternative form of transportation. At the time, the driver did not fully appreciate the extent to which alcohol could affect his perception, reaction time and ability to recognise hazards.

During the journey, the vehicle collided with a roadside column that the occupants did not notice in time. The accident caused injuries to the people inside the vehicle. Fortunately, the consequences were not fatal or permanently disabling. The interviewee experienced a concussion and superficial injuries, while the other occupants also avoided serious injuries.

Reflecting on the incident, the interviewee explained that one of the most important lessons was that feeling capable of driving is not the same as actually being fit to drive. At the time, he believed that he was sufficiently in control to drive safely. The accident changed this perception significantly. The combination of alcohol, night-time driving, the presence of friends and the pressure to drive created a situation in which the risks were underestimated.

The interviewee also described a significant change in his behaviour following the accident. He now avoids driving whenever he knows that he will consume alcohol. Instead, he chooses to take a taxi or use another form of transportation. The decision has become a personal rule: if he is going out and expects to drink, he does not take the car. This behavioural change illustrates how direct experience of a road crash can substantially alter an individual's perception of risk and future decision-making.

Key Road Safety Lessons

The testimony illustrates several of the risk factors identified through the wider Greek desk research. First, alcohol consumption can impair

the driver's ability to accurately assess their own driving capacity. The interviewee's belief that he was capable of driving despite having consumed alcohol demonstrates the importance of addressing not only knowledge of legal restrictions but also risk perception and overconfidence.

Second, the testimony highlights the role of peer pressure. The decision to drive was not made exclusively in isolation; it occurred within a social context in which the driver felt encouraged to take responsibility for transporting the group. This is particularly relevant for young drivers, for whom social expectations and the presence of friends can influence driving decisions.

Third, the incident demonstrates the additional risks associated with night-time driving. Reduced visibility, combined with alcohol-related impairment and potentially delayed reactions, can make hazards considerably more difficult to identify in time.

Finally, the testimony demonstrates that road safety education should emphasise the availability of practical alternatives to driving after drinking. The interviewee's current practice of taking a taxi whenever he intends to drink provides a simple example of a preventive decision that can eliminate the risk before the journey begins.

Relevance to the PAGE Project

The testimony provides a human perspective that complements the statistical findings presented throughout the Research Database. While statistics demonstrate the prevalence of alcohol-related driving, peer influence and other risky behaviours, a personal account demonstrates how these factors can interact in an actual situation and how quickly an apparently ordinary decision can lead to a road crash.

For the PAGE e-learning tool, the testimony can therefore support educational content addressing drink-driving, peer pressure, risk perception, night-time driving and responsible decision-making. It also illustrates an important principle for youth-oriented road safety education: effective prevention should not rely exclusively on presenting rules and statistics, but should also help young people

recognise realistic situations in which they may be pressured to make unsafe decisions.

Ethical and Data Protection Note

The testimony is presented anonymously and contains no personally identifying information. The name, exact age, location, date of the incident and other details that could potentially identify the individual or other persons involved have been omitted. The testimony is used exclusively for research and educational purposes within the PAGE project, with emphasis placed on the road safety lessons arising from the experience rather than on the identity of the individual.

Source: Anonymous personal testimony collected for the purposes of the PAGE Research Activity, Greece. Personal identifying information has been omitted in accordance with data protection and privacy principles.

4.8. Key Findings and Identified Gaps

The analysis of road safety in Greece demonstrates that young drivers remain an important risk group, with risky behaviours such as speeding, alcohol-impaired driving, mobile-phone use, aggressive driving and overconfidence contributing significantly to road safety risks. The reviewed evidence also highlights the influence of social and contextual factors, including peer pressure, passenger influence and night-time driving.

At the same time, the Greek road safety system has developed a comprehensive framework combining legislation, enforcement, national strategies, awareness campaigns and educational initiatives. The introduction of the National Road Safety Strategic Plan 2021–2030 and the updated Road Traffic Code demonstrate a clear institutional commitment to reducing road fatalities and serious injuries.

Nevertheless, the research identifies several areas where further development is needed. Existing initiatives do not always focus specifically on **young and novice drivers**, while communication and educational interventions could be more strongly connected to the behavioural and psychological factors that influence risky decision-

making. The available evidence also indicates a gap between **knowledge and actual behaviour**, as young people may recognise road safety rules while simultaneously demonstrating overconfidence or engaging in risky practices. Furthermore, although Greece has extensive enforcement activity, the persistence of large numbers of traffic violations suggests that enforcement alone cannot ensure sustained behavioural change.

These findings highlight the need for a more youth-centred, interactive and behaviour-oriented approach to road safety education. PAGE can address this gap by combining reliable road safety information with realistic scenarios, practical decision-making exercises, digital simulations and content addressing peer pressure, risk perception, alcohol, distraction and other high-risk behaviours.

The Research Database therefore provides the evidence base for the development of an e-learning tool that does not simply communicate road safety rules, but aims to strengthen young people's ability to recognise risks, make responsible decisions and translate knowledge into safer driving behaviour.

5. Country Analysis: Bulgaria

Bulgaria continues to face a significant road safety challenge at European level. Although the country has achieved a substantial reduction in road fatalities compared with 2019, its fatality rate remains among the highest in the European Union. The available national and European evidence also indicates that newly licensed drivers constitute an important risk group, with their involvement in serious road traffic crashes remaining significant despite representing a relatively limited proportion of the total driving population. The Bulgarian case therefore provides an important context for PAGE, particularly in relation to young and novice drivers, behavioural risk, enforcement and road safety education.

5.1. Road Accident Statistics and Trends

The latest official Bulgarian data show that road traffic accidents remain a major public safety issue. According to the **National Statistical**

Institute (NSI) of Bulgaria, a total of 7,173 road traffic accidents were recorded in 2024, resulting in 478 fatalities and 9,054 injured persons. The figures are based on information provided by the Ministry of Interior and are therefore particularly valuable for the national-level analysis undertaken in the PAGE Research Database. The NSI notes that its annual publication presents registered serious road traffic accidents together with the number of people killed and injured, as well as information on the temporal distribution of accidents.

From a European comparative perspective, Bulgaria's situation remains particularly concerning. The European Commission's 2026 assessment, based on final 2024 data, reports 74 road fatalities per million inhabitants in Bulgaria, compared with an EU average of approximately 45 fatalities per million. This placed Bulgaria as the second-highest EU Member State in terms of road fatality rate in 2024, behind Romania.

At the same time, Bulgaria has made measurable progress: the number of road fatalities in 2024 was 24% lower than in the 2019 baseline year. The European Commission therefore considers Bulgaria to be broadly on track towards the national and EU objective of halving road fatalities by 2030, although the reduction in serious injuries has been slower, with serious injuries in 2023 only 7% below the 2019 level.

The composition of road fatalities also reveals important structural characteristics of the Bulgarian road safety problem. According to the European Commission, 60% of road fatalities in 2023 were car occupants, while approximately 68% of fatalities occurred outside urban areas on non-motorway roads. This indicates that rural and interurban mobility represents a particularly important area of concern.

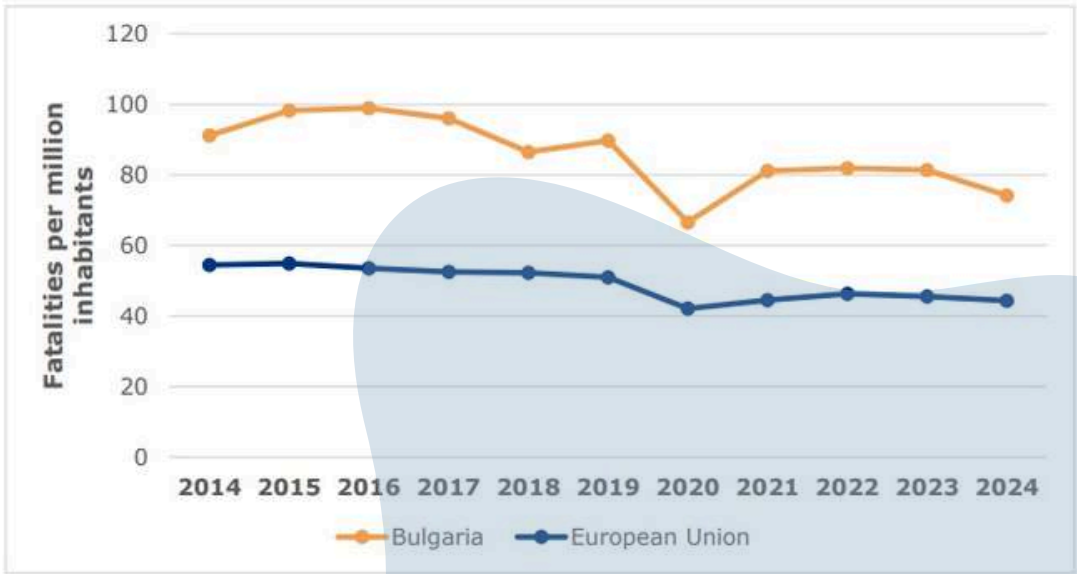
The high proportion of fatalities occurring outside urban areas is relevant when considering young drivers, as novice drivers may be particularly vulnerable when travelling at higher speeds on roads where road design, visibility and emergency response conditions differ from those encountered in urban environments. At national level, the geographical distribution of crashes also demonstrates substantial variation. The Bulgarian NSI recorded 826 road traffic accidents with casualties in Varna, 747 in Sofia (capital),

596 in Plovdiv, 485 in Burgas and 389 in Stara Zagora during 2024. These figures should be interpreted alongside population size and traffic exposure rather than as direct measures of regional road safety performance. Nevertheless, they demonstrate that road crashes affect both major urban centres and other regions throughout the country. Overall, the Bulgarian trend can therefore be characterised as improving but still high-risk.

The reduction in fatalities since 2019 represents meaningful progress, but the country's fatality rate remains substantially above the EU average. Moreover, the slower progress concerning serious injuries suggests that reducing mortality alone is not sufficient: road safety policies must also address crash severity and the behavioural and infrastructural factors that lead to serious injury. Number of fatalities and serious injuries, 2014 and 2024

	2014	2024	Trend	EU trend
Fatalities	661	478	-28%	-17%
Serious Injuries	2,175	1,888	-13%	-

Figure 1. Mortality rate development, 2014 – 2024



Sources – 5.1.

- **National Statistical Institute of Bulgaria (NSI) – Road Traffic Accidents in the Republic of Bulgaria 2024.**
- **National Statistical Institute of Bulgaria – 2024 data on disasters, accidents and crises.**
- **European Commission – European Road Safety Observatory, Bulgaria Country Profile / 2026 assessment.**
- **European Commission – Road Safety Statistics 2024.**

5.2. Young Drivers and Road Safety Risks

The situation of young and novice drivers requires particular attention in Bulgaria. Rather than relying exclusively on age-based definitions of young drivers, Bulgarian authorities also monitor drivers with up to two years of driving experience, providing a particularly useful indicator of novice-driver risk. According to an analysis conducted by the Bulgarian Ministry of Interior under Regulation No. N-12, in 2024 a total of 936 drivers with up to two years of experience were involved in 914 serious road traffic accidents. These accidents represented 13.05% of all 7,173 serious road traffic accidents recorded in the country. The average age of the novice drivers involved was 22 years, demonstrating the strong relevance of this category to the PAGE target group.

The consequences associated with these crashes were substantial. The 914 serious crashes involving novice drivers resulted in 51 road users being killed, representing 10.67% of all 478 road fatalities recorded in Bulgaria in 2024, while 1,264 people were injured, representing 13.96% of all 9,054 injured road users. The data therefore indicate that drivers with limited experience were involved in a considerably higher share of serious crashes and injuries than might be expected from their relatively specific population category. It is also notable that the 936 novice drivers involved in crashes consisted of 732 men and 204 women, meaning that approximately four out of five involved novice drivers were male. The comparison with the previous year provides additional insight. In 2023, 951 drivers with up to two years of experience were involved in 918 serious road traffic accidents, compared with 914 such crashes in 2024. The number of fatalities associated with these crashes decreased

from 59 in 2023 to 51 in 2024, while injuries decreased from 1,361 to 1,264. Thus, the available national data indicate a modest improvement in outcomes among novice drivers, although their contribution to the overall road safety burden remains significant.

The national evidence is also supported by regional data. For example, information presented by the Bulgarian National Radio (BNR) based on data from the Traffic Police in Varna reported 523 road traffic accidents caused by drivers aged 18–25 during the period from 17 March 2024 to 17 March 2025. Of these, 276 involved drivers aged 18–20, while 247 involved drivers aged 21–25. According to the same Traffic Police information, failure to give way and excessive speed were among the most frequent causes of crashes involving drivers under 25. Although these figures concern one region rather than the whole country, they provide useful national-level evidence concerning the types of behaviours associated with young-driver crashes.

The Bulgarian evidence therefore suggests that young-driver risk is strongly connected to the transition from obtaining a driving licence to gaining practical driving experience. The official data do not support a simplistic conclusion that young drivers are responsible for the majority of crashes; rather, they show that novice drivers account for approximately 13% of serious crashes while being associated with more than 10% of fatalities and almost 14% of injuries. This distinction is important for PAGE because it supports a targeted rather than stereotypical approach: young people should be treated as a specific risk group requiring additional support in developing risk perception, hazard anticipation and responsible decision-making, without portraying all young drivers as inherently dangerous.

For the purposes of the PAGE educational tool, the Bulgarian evidence particularly supports attention to speed management, right-of-way and hazard recognition, practical driving experience, risk perception and the transition from theoretical driving knowledge to real-world decision-making. The fact that the average novice driver involved in a serious crash was only 22 years old further reinforces the relevance of youth-focused road safety education.

Sources – 5.2.

- **Ministry of Interior of Bulgaria (MVR)** – Analysis under Regulation No. N-12 concerning serious crashes involving drivers with up to two years of experience, 2024.
- **Ministry of Interior of Bulgaria (MVR)** – corresponding analysis for 2023.
- **Bulgarian National Radio (BNR), Radio Varna** – Traffic Police data concerning drivers aged 18–25 and crash causes, 2025.
- **European Commission – European Road Safety Observatory**, Bulgaria country assessment.

5.3. Assessment of Risky Driving Behaviours

The available evidence indicates that risky driving behaviour remains a significant contributor to road safety problems in Bulgaria, with speeding, failure to respect right-of-way, alcohol-impaired driving, non-use of seat belts and distracted driving representing particularly relevant areas of concern. The European Road Safety Observatory's Bulgarian country profile identifies several behavioural indicators in which Bulgaria performs below or differently from the European average.

In particular, seat-belt use among car occupants has historically been lower than the EU average, while self-reported mobile-phone use while driving has also represented an important concern. Earlier European data showed that 55% of Bulgarian drivers reported having driven faster than the speed limit outside built-up areas during the previous 30 days, compared with 68% across the European sample. This does not mean that speeding is insignificant in Bulgaria; rather, it demonstrates the importance of distinguishing between self-reported behaviour and objectively observed behaviour.

National evidence provides a more specific picture concerning young and novice drivers. The Bulgarian Ministry of Interior's analysis of drivers with up to two years of experience identified failure to adapt speed to road conditions, excessive speed and failure to give way among the behaviours associated with serious crashes involving novice drivers.

The evidence from Varna provides a further indication of this pattern: Traffic Police data for the period March 2024–March 2025 recorded 523 crashes involving drivers aged 18–25, with failure to give way and excessive speed identified among the most frequent causes. Within this group, 276 crashes involved drivers aged 18–20 and 247 involved drivers aged 21–25. These findings are particularly relevant for PAGE because they demonstrate that risky behaviour among young drivers is not limited to deliberate high-risk actions such as extreme speeding, but can also involve failures in hazard perception, anticipation and decision-making at intersections or priority situations.

Alcohol-impaired driving represents another important area of concern. Bulgaria applies a 0.5 g/l general legal blood-alcohol limit, while the European Road Safety Observatory has historically identified drink-driving as an important component of the country's road safety policy. The national road safety framework places strong emphasis on preventive and enforcement measures against impaired driving. Distraction is similarly relevant, particularly because mobile-phone use combines a cognitive, visual and manual distraction component. The available European evidence indicates that Bulgaria has experienced difficulties in relation to distracted driving and that behavioural indicators should be addressed alongside enforcement.

The evidence therefore suggests that risky driving among young people in Bulgaria should be understood as a combination of behavioural and situational factors rather than as a single problem. Limited driving experience may interact with excessive speed, insufficient hazard perception, poor judgement of right-of-way, alcohol consumption, distraction and social influences. This is consistent with the national evidence showing that drivers with up to two years of experience were involved in 914 serious crashes in 2024, while the average age of the novice drivers involved was approximately 22 years. The findings support the development of PAGE educational content that goes beyond teaching traffic rules and instead develops risk perception, anticipation, self-assessment and practical decision-making skills.

Sources – 5.3.

- **European Commission / European Road Safety Observatory – Bulgaria Country Profile**, including behavioural road safety performance indicators.

- **Ministry of Interior of Bulgaria (MVR)** – Analysis of serious crashes involving drivers with up to two years of driving experience, 2024.
- **Bulgarian National Radio (BNR), Radio Varna** – Traffic Police data on crashes involving drivers aged 18–25 and the main identified causes.
- **European Commission – European Road Safety Observatory, Bulgaria Country Profile 2024.**

5.4. Existing Road Safety Strategies and Campaigns

Bulgaria has established a comprehensive national policy framework for road safety through the National Road Safety Strategy of the Republic of Bulgaria 2021–2030 and its associated action plans. The strategy adopts the Safe System approach, recognising that human error is unavoidable and that the road transport system should be designed to prevent mistakes from resulting in death or serious injury. The strategy is structured around several thematic areas, including responsible behaviour and lifelong learning, effective and preventive enforcement, safer road infrastructure, safer vehicles and the post-crash emergency response chain.

Implementation is supported through successive action plans. In 2024, the Bulgarian Council of Ministers adopted the Three-Year Road Safety Action Plan 2024–2026, which represents the second three-year implementation period of the 2021–2030 National Strategy. The plan translates the strategic objectives into concrete areas of intervention and takes into account findings from the national road safety reports. The framework therefore combines preventive education with infrastructure, enforcement, vehicle safety and emergency response measures rather than treating road safety solely as a matter of driver responsibility.

A particularly relevant initiative for the PAGE target group is the “I will be a responsible driver” campaign, launched in 2024 with the participation of the Bulgarian Ministry of Transport and Communications. The campaign specifically addressed students approaching the age at which they would undertake driver training and examinations.

During the launch, the Ministry highlighted the importance of responsible behaviour during both driver training and subsequent participation in traffic, while also drawing attention to the high involvement of young drivers in serious crashes. This makes the campaign particularly relevant as an example of an intervention that connects road safety education with the transition from student to newly licensed driver.

Another youth-oriented initiative was implemented through schools by the Stefan Stefanov Foundation – PMS – All Together for One, with support from public authorities. During a 2024 road safety discussion at a Sofia secondary school, students were introduced to issues relating to driver training, responsible road behaviour and the consequences of driving after alcohol or intoxicant use. Special simulation goggles were used to demonstrate the effects of impaired vision and perception.

The initiative had already been implemented in several schools and was intended to expand to additional educational institutions. Such activities are particularly relevant because they move beyond conventional information provision and use experiential learning to demonstrate the consequences of risky behaviour.

Bulgaria also participates systematically in the ROADPOL Safety Days, including the annual European campaign “A Day Without a Road Death”. In 2024, 18 September was designated as the Bulgarian Day Without a Road Death, within the wider ROADPOL Safety Days running from 16–22 September.

The campaign used the message “Stay alive! Save lives!” and involved awareness activities combined with increased enforcement of traffic rules. Bulgarian police authorities specifically indicated that controls would focus on locations and road sections vulnerable to serious traffic injuries. The campaign illustrates the country's use of coordinated communication and enforcement, rather than relying on awareness messaging alone.

Road safety communication is also increasingly connected with driver training and the quality of licensing procedures. In 2024, the Ministry of Transport discussed reforms under the campaign “*Drive smart — get alive!*”, including measures concerning theoretical and practical

examinations for candidate drivers. The proposed system would limit candidates to four examination attempts within six months, after which additional training would be required. The Ministry also highlighted the digitisation of driver-training procedures. These measures indicate recognition that road safety prevention should begin before young people become fully licensed drivers and that the quality of initial training can influence subsequent behaviour.

Overall, Bulgaria has a substantial institutional and campaign-based road safety infrastructure, combining national strategy, action plans, school-based education, driver-training measures, public awareness campaigns and police-led initiatives. However, the evidence from Sections 5.1–5.3 indicates that the existence of these interventions has not eliminated the behavioural risks associated with young and novice drivers. The persistence of serious crashes involving drivers with limited experience suggests that there remains room for educational approaches that are more interactive, youth-centred and focused on behavioural change, particularly in areas such as hazard perception, peer influence, speed management, alcohol, distraction and responsible decision-making.

Sources – 5.4.

- **Ministry of Transport and Communications of Bulgaria – Sectoral Road Safety Strategy 2021–2030.**
- **Council of Ministers of Bulgaria – National Road Safety Strategy 2021–2030 and Three-Year Action Plan 2024–2026.**
- **Ministry of Transport and Communications – “I will be a responsible driver” campaign, 2024.**
- **Ministry of Interior of Bulgaria – ROADPOL Safety Days / “A Day Without a Road Death”.**
- **Ministry of Transport and Communications – school-based road safety education and “Drive smart — get alive!” initiative.**
- **European Commission / European Road Safety Observatory – Bulgaria Country Profile.**

5.5. Legal and Policy Framework

The Bulgarian road safety framework is based primarily on the Road Traffic Act (Закон за движението по пътищата – ZDvP), supported by national strategic planning and secondary legislation concerning driver licensing, vehicle registration, traffic control and administrative sanctions.

The legislation establishes the main obligations of road users and provides sanctions for behaviours that pose a risk to road safety, including speeding, driving under the influence of alcohol or narcotic substances, driving without a valid licence, failure to comply with traffic signs and other dangerous behaviours. The Ministry of Interior is responsible for a substantial part of the practical enforcement of these provisions through its Traffic Police structures.

The Bulgarian legal framework places particular emphasis on alcohol-impaired driving and repeat offending. Under the Road Traffic Act, driving with a blood-alcohol concentration above 0.5‰ and up to 1.2‰ constitutes an administrative offence and can result in a fine and temporary loss of the right to drive. The legislation also provides substantially stronger consequences for repeated violations.

Driving after alcohol consumption above the relevant threshold can therefore lead not only to a financial penalty but also to withdrawal of driving privileges. The legal framework also contains provisions concerning refusal to undergo testing and the temporary withdrawal of driving licences in relevant circumstances.

Speeding is similarly addressed through graduated administrative sanctions. The Road Traffic Act establishes different penalties according to the degree by which the applicable speed limit is exceeded, with higher excess speeds resulting in higher fines and, in specified circumstances, temporary loss of the right to drive. Repeat speeding offences can also result in additional sanctions.

This graduated system reflects an attempt to establish a proportional relationship between the seriousness of the behaviour and the resulting penalty, while the possibility of licence withdrawal introduces a stronger deterrent component. The legislative framework is complemented by the National Road Safety Strategy of the Republic of Bulgaria 2021–2030 and successive implementation plans.

The strategy adopts a Safe System perspective and recognises that road safety cannot be achieved through driver regulation alone. It combines measures relating to responsible road-user behaviour and lifelong learning, enforcement, infrastructure, vehicle safety and post-crash response. The Three-Year Road Safety Action Plan 2024–2026 represents a subsequent implementation stage of the national strategy and translates its objectives into concrete measures.

This combination of legislation and strategic planning is particularly relevant for PAGE because it demonstrates that youth road safety education forms part of a wider national policy framework rather than operating independently from it.

For young and novice drivers, the legal framework is particularly relevant because legal compliance is only one component of safe driving. The national evidence presented in Sections 5.1–5.3 indicates that drivers with limited experience continue to be involved in a significant number of serious crashes.

Consequently, the effectiveness of the legal framework depends not only on the existence of sanctions but also on whether young drivers understand the risks associated with behaviours such as speeding, alcohol consumption, distraction and failure to give way. This creates a direct connection between legislation, enforcement and behavioural education, which is central to the PAGE approach.

Sources – 5.5.

- **Ministry of Interior of Bulgaria – Road Traffic Act (Закон за движението по пътищата).**
- **Ministry of Interior of Bulgaria – Information on sanctions for alcohol and narcotic-related driving offences.**
- **Ministry of Transport and Communications – National Road Safety Strategy 2021–2030.**
- **Council of Ministers of Bulgaria – Three-Year Road Safety Action Plan 2024–2026.**

5.6. Enforcement Measures and Prosecution of Driving Offences

The enforcement of road traffic legislation in Bulgaria is primarily undertaken by the Ministry of Interior and its Traffic Police services. Enforcement combines roadside inspections, speed monitoring, alcohol and drug testing, checks on driving licences and vehicle documentation, electronic enforcement and targeted police operations.

The available national evidence demonstrates that enforcement activity is extensive. For example, during a specialised police operation in April 2024, Bulgarian authorities reported that 77,993 motor vehicles and 90,111 drivers and passengers were checked, resulting in 22,539 fines (фишове) and 4,997 administrative violation acts (АУАН). The operation specifically prioritised alcohol- and drug-impaired driving and driving by unlicensed persons.

Targeted operations provide further evidence of the scale and nature of enforcement. In one operation conducted in Sofia between 14 and 20 October 2024, Traffic Police checked more than 6,000 vehicles and 6,241 drivers and passengers and identified 1,828 violations. Among these were cases of alcohol-impaired driving, drug-impaired driving, non-use of seat belts and mobile-phone use. Speed enforcement cameras also recorded 7,288 speeding violations during the operation. The authorities reported that 31 driving licences were withdrawn for various violations.

Alcohol-impaired driving is a particularly important focus of Bulgarian enforcement. During a specialised national operation reported in September 2024, authorities checked 12,515 vehicles and 11,920 drivers and passengers. On the reported day, 35 drivers were detected after consuming alcohol, including 23 with alcohol concentrations between 0.5 and 1.2‰ and 12 with concentrations above 1.2‰; four drivers refused testing.

A further 20 drivers were detected under the influence of narcotic substances or their analogues, while eight refused testing. These figures demonstrate that enforcement involves both routine controls and targeted operations focusing on high- risk behaviours. The use of electronic speed enforcement is another important element of the Bulgarian system.

During the December 2024 Sofia operation, for example, authorities reported 4,835 speeding violations recorded electronically, while 1,611 total traffic violations were established during roadside controls. The same operation resulted in 657 penalty decisions, 33 driving licences being withdrawn and the registration of 12 vehicles being terminated. The combination of roadside controls and automated enforcement allows authorities to address both directly observed offences and violations captured through technological monitoring.

The enforcement data are particularly relevant when compared with the behavioural findings presented earlier in this chapter. Speeding, alcohol-impaired driving, mobile-phone use and other violations identified through national enforcement operations correspond closely to the risk factors identified among young and novice drivers. This suggests that the behaviours addressed through police enforcement are not theoretical risks but observable violations occurring on Bulgarian roads. At the same time, the high number of detected violations should not automatically be interpreted as proof that risky behaviour is increasing. More intensive policing and greater use of automated enforcement can itself produce higher detection rates.

Enforcement and prosecution: an important distinction

As in the Greek analysis, it is necessary to distinguish between administrative enforcement and criminal prosecution. A substantial proportion of traffic offences in Bulgaria are dealt with through administrative mechanisms, including fines, administrative violation acts, penalty decisions, temporary withdrawal of driving licences and other measures. The enforcement statistics published by the Ministry of Interior therefore primarily measure detected violations and administrative sanctions, rather than the subsequent criminal prosecution and conviction of offenders.

More serious conduct can, however, acquire a criminal dimension under Bulgarian law, particularly where driving under the influence or dangerous driving reaches the thresholds established by criminal legislation or results in serious injury or death. In such circumstances, the case can proceed beyond the administrative enforcement stage and enter the criminal justice system. However, the publicly available Traffic Police statistics reviewed for this Research Database do not provide a sufficiently detailed national dataset allowing us to calculate a reliable prosecution rate for all traffic offences.

Therefore, it would not be methodologically appropriate to state that a particular percentage of detected speeding, alcohol or mobile-phone offences resulted in prosecution.

The available evidence nevertheless demonstrates a substantial enforcement effort. Bulgarian authorities conduct large-scale inspections, targeted operations, alcohol and drug testing, automated speed control and licence-related sanctions. The persistence of serious crashes and the significant involvement of inexperienced drivers indicate, however, that enforcement alone cannot eliminate risky behaviour. This reinforces the need for complementary preventive interventions aimed at the attitudes, risk perception and decision-making processes of young drivers.

For PAGE, this is particularly important. The Bulgarian enforcement system provides clear consequences for dangerous driving, but young drivers also need to understand why these behaviours are dangerous and how to recognise risky situations before they develop into violations or crashes. The evidence therefore supports an educational approach combining knowledge of legislation with realistic scenarios, behavioural reflection and practical decision-making exercises.

Sources – 5.6.

- **Ministry of Interior of Bulgaria – Road Traffic Police enforcement operations and national traffic controls.**
- **Ministry of Interior of Bulgaria – Sofia Traffic Police specialised operation, October 2024.**
- **Ministry of Interior of Bulgaria – Sofia Traffic Police operation, December 2024.**
- **Ministry of Interior of Bulgaria – Road Traffic Act and administrative sanctions.**
- **Ministry of Interior of Bulgaria – Alcohol-related driving sanctions.**

5.7.1. Documented Case Studies from Bulgaria

Case Study 1: Alcohol-Impaired Driving by a 19-Year-Old Driver in Blagoevgrad

A documented case reported in Blagoevgrad in February 2024 illustrates the severe consequences that can arise when alcohol consumption is combined with limited driving experience. A 19-year-old driver from Yakoruda was involved in a road traffic accident at approximately 23:10 while driving a Mercedes passenger car. The vehicle collided with the rear of another car after the young driver failed to maintain the necessary distance. Fortunately, no person was injured, although the collision caused material damage. A subsequent alcohol test recorded 2.52‰, substantially exceeding the Bulgarian legal threshold. The driver was detained for up to 24 hours and pre-trial proceedings were initiated.

This case is particularly relevant to the PAGE research because it demonstrates the interaction between young age, limited experience, alcohol consumption and inadequate perception of traffic risk. The fact that the accident occurred late at night is also relevant, as night-time driving can further increase the risks associated with impaired attention and judgement. Although the incident did not result in serious injuries, the extremely high alcohol concentration demonstrates the potential severity of the behaviour. The case therefore provides a useful example for educational content addressing the principle that drinking and driving are incompatible, while also illustrating how a seemingly routine driving error—such as failing to maintain a safe distance—can result in a crash when combined with impaired judgement.

Source: 24 Chasa, *“19-year-old drunk driver caused accident in Blagoevgrad”*, 27 February 2024.

Case Study 2: The Fatal Crash of an 18-Year-Old Newly Licensed Driver near Varna

A more severe example concerns a fatal crash near Varna involving an 18-year-old driver who had obtained his driving licence only 18 days before the incident. The crash occurred on 21 April 2023 following a birthday celebration. According to the documented court proceedings,

the young driver had consumed alcohol and initially allowed another person to drive. However, during the return journey he took control of the vehicle and entered a built-up area at 128.5 km/h where the permitted speed was 50 km/h. He subsequently lost control of the vehicle, which left the road and collided successively with infrastructure and a tree. A young woman travelling in the vehicle was killed and another passenger was injured. The driver was subsequently convicted, and in June 2026 the Varna Court of Appeal sentenced him to five years' imprisonment and seven years' disqualification from driving.

This case represents a particularly strong example of the combined-risk effect identified in the preceding sections of the Bulgarian analysis. Several risk factors were present simultaneously: extremely limited driving experience, alcohol consumption, excessive speed, night-time driving and the presence of passengers. The case is especially relevant to PAGE because it demonstrates how several individually identifiable risk factors can interact and transform a potentially manageable situation into a fatal crash.

It also illustrates the limitations of relying exclusively on legal sanctions after an accident has occurred. The ultimate intervention must take place earlier, through education that strengthens risk perception, self-control, responsible decision-making and the ability to resist risky choices, particularly in social situations involving alcohol and peer influence.

Sources:

- **Varna Court of Appeal / Bulgarian Judiciary**, decision concerning the sentence imposed on the young driver, 17 June 2026.
- **24 Plovdiv**, report reconstructing the circumstances of the 21 April 2023 crash.

Relevance for PAGE

Taken together, the two cases illustrate two complementary dimensions of young-driver risk in Bulgaria. The first demonstrates how alcohol impairment can turn an ordinary driving situation into a crash, while the second demonstrates how the combination of alcohol, extreme speeding, minimal driving experience and social

circumstances can have fatal consequences. Importantly, these are not presented as representative of all young Bulgarian drivers; rather, they are documented illustrative cases that help translate the statistical findings of Sections 5.1–5.6 into concrete human situations that can be used in the development of PAGE's educational and interactive content. Sources for 5.7.1: Bulgarian Ministry of Interior data on novice drivers and road safety; Varna Court of Appeal; 24 Chasa; 24 Plovdiv.

5.7.2. Personal Testimony – A Sudden Encounter with Wildlife

The following testimony is presented anonymously for privacy reasons. The interviewee is a young adult from Bulgaria who agreed to share a personal experience involving a road traffic accident. Identifying information has been omitted, and some contextual details have been adapted to protect the individual's privacy while preserving the educational value of the testimony.

The interviewee described an evening journey with his partner, when they were travelling by car on a road outside an urban area. They were listening to music at a relatively high volume and talking during the journey. The passenger, who was sitting in the front seat, was not wearing her seat belt. According to the interviewee, neither of them expected anything unusual to happen, and the journey initially felt completely routine. Their attention was therefore not focused on identifying potential hazards that could suddenly appear on the road. Without warning, a wild boar suddenly entered the road. The driver reacted immediately and attempted to avoid the animal, but there was not enough time to prevent the collision.

The vehicle struck the wild boar, resulting in damage to the front of the car and a sudden impact that caused both occupants to experience a strong physical shock. Fortunately, neither person suffered life-threatening injuries. However, the incident made the driver realise how quickly an apparently ordinary journey can turn into an emergency situation and how little time a driver may have to react when an unexpected obstacle appears. Reflecting on the incident, the interviewee emphasised that the accident was not caused by deliberate reckless driving. Instead, it demonstrated how unexpected hazards can interact with relatively small safety weaknesses.

The loud music, the passenger's failure to wear a seat belt and the absence of anticipation of wildlife crossing the road all became relevant once the unexpected event occurred. The interviewee explained that the experience changed his perception of road safety: *“Before that night, I thought that if you drive carefully, nothing serious can happen. Now I understand that you also have to be prepared for something you cannot predict.”*

The testimony provides an important educational example because it demonstrates that road safety is not limited to avoiding obvious violations such as speeding or driving under the influence of alcohol. Hazard perception, situational awareness, seat-belt use and preparedness for unexpected events are equally important. For PAGE, this type of personal experience can be particularly useful in interactive learning activities, allowing young drivers to consider how they would react to a sudden hazard and why basic safety measures—such as wearing a seat belt and maintaining concentration—remain important even when a driver does not expect an accident to occur.

Ethical Considerations and Source

This personal testimony was collected through an anonymous interview with a young participant from Bulgaria who had direct experience of the road incident described above. In accordance with ethical principles concerning privacy, confidentiality and the protection of personal data, no name, exact location, date of the incident or other identifying information is disclosed in this Research Database. The testimony has been presented in an anonymised form and selected contextual details may have been adapted where necessary to prevent the identification of the individual while maintaining the educational value and core meaning of the experience. Such safeguards are consistent with established ethical approaches to qualitative research and the protection of participants' privacy.

Source: Anonymous personal interview conducted for the purposes of the PAGE Research Database, Bulgaria. The identity of the interviewee is confidential and is not disclosed for ethical and data-protection reasons. The testimony is used solely as an illustrative qualitative account and should not be interpreted as a statistically representative finding.

5.8. Key Findings and Identified Gaps

The analysis of road safety in Bulgaria indicates that young and novice drivers remain an important risk group, particularly during the first years of driving experience. The research identified speeding, failure to give way, alcohol-impaired driving, distraction and insufficient hazard perception among the most relevant behavioural risks. National data also demonstrate that these behaviours continue to be reflected in serious road traffic crashes involving young and inexperienced drivers.

The documented case studies further illustrate how combinations of risk factors, such as alcohol, excessive speed, limited experience and social circumstances, can substantially increase the severity of road incidents. At the policy level, Bulgaria has a well-established legal and institutional framework for road safety, supported by the National Road Safety Strategy 2021–2030, successive action plans, traffic legislation, police controls and targeted awareness campaigns.

Enforcement is extensive and includes roadside inspections, alcohol and drug testing, speed monitoring, automated enforcement and administrative sanctions. Nevertheless, the persistence of serious crashes among young drivers indicates that the existence of legislation and enforcement mechanisms does not, by itself, guarantee sustained behavioural change. A key challenge is therefore to complement enforcement with preventive education that addresses the attitudes, risk perception and decision-making processes of young drivers.

The main gap identified for PAGE is consequently not the absence of road safety information or campaigns, but the need for more engaging and behaviour-oriented educational approaches. Existing interventions can be strengthened through interactive digital learning, realistic accident scenarios, personal testimonies, simulations and practical exercises addressing peer pressure, alcohol, speeding, distraction, seat-belt use and unexpected hazards. The Bulgarian findings therefore support the development of an e-learning tool that moves beyond the simple transmission of traffic rules and helps young

people develop the practical skills, awareness and confidence required to make safer decisions in real-life driving situations.

6. Country Analysis: Belgium

Belgium has a relatively well-developed road safety monitoring system, with national accident statistics collected by Statbel and detailed behavioural and road safety analyses conducted by the Vias Institute. The available evidence shows a generally positive long-term trend in several road safety indicators, although substantial risks remain, particularly among young drivers and in relation to speeding, alcohol, distraction and other forms of risky road behaviour. The Belgian analysis therefore focuses not only on the overall evolution of road accidents, but also on the specific vulnerability of young drivers and the behavioural factors that contribute to their exposure to road traffic risks.

6.1. Road Accident Statistics and Trends

Belgium recorded 35,916 road traffic accidents in 2024, resulting in 44,246 casualties. These included 40,780 slightly injured persons, 2,996 seriously injured persons and 470 people who died either at the scene or within 30 days of the accident. Compared with 2023, the number of accidents decreased by 2.6%, while the number of fatalities within 30 days fell by 6.2%. The number of seriously injured people also decreased considerably, by 8.4%. These figures confirm the continuation of the positive road safety trend observed since 2023.

The longer-term data show a substantial reduction in road fatalities compared with the middle of the previous decade. Statbel records 604 road deaths in 2018, compared with 469 in 2024, representing a reduction of approximately 22%. The number of seriously injured persons also decreased from 3,637 in 2018 to 2,999 in 2024. The decline was not uniform across the country, however. In 2024, Flanders recorded 253 road deaths within 30 days, Wallonia 205 and the Brussels- Capital Region 11. The regional differences are important because Belgium's road safety context is influenced by different mobility patterns, road infrastructures and population densities across the three regions.

The 2024 figures also demonstrate that road safety challenges extend beyond conventional car accidents. Among those killed within 30 days, 203 were drivers, 89 were cyclists, 70 were pedestrians and 57 were motorcyclists. Together, these four categories represented 84.5% of all road fatalities. The high number of cyclist fatalities is particularly relevant to the Belgian context, where cycling represents an important mode of everyday mobility. At regional level, Flanders experienced a notable increase in fatalities involving powerful motorcycles, from 12 in 2023 to 20 in 2024, while Wallonia recorded a decline in fatalities from 225 to 206.

The Vias Road Safety Barometer, which is based on accident reports from the Federal Police and local police zones, provides a complementary picture of the evolution of injury crashes. According to the 2024 data, Belgium recorded 35,540 injury crashes, compared with 36,576 in 2023, representing a 2.8% decrease. The number of casualties in these police-recorded injury crashes fell from 44,874 to 43,591.

However, fatalities recorded at the scene increased slightly from 358 to 363. This distinction is methodologically important: Statbel's annual figures use the internationally comparable definition of deaths occurring at the scene or within 30 days, whereas the Vias barometer also presents figures for deaths recorded at the scene.

Temporal patterns are also relevant. In 2024, 25.5% of road accidents occurred during the weekend, despite the weekend accounting for a smaller proportion of the total week. Vias data further show that weekend night-time crashes decreased considerably between 2023 and 2024, while some other periods experienced smaller reductions. Such temporal patterns are particularly relevant when examining young drivers because young people's mobility frequently involves evening and weekend travel, social activities and journeys associated with leisure.

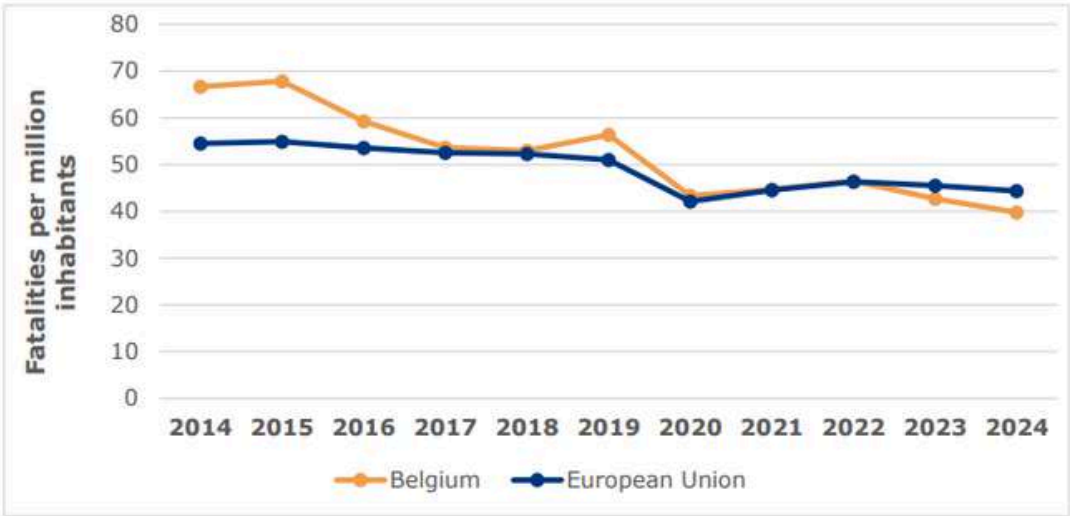
Overall, the Belgian data demonstrate a clear improvement in road safety at national level, but they also show that road traffic remains responsible for thousands of injuries and hundreds of deaths every year. The persistence of serious injuries, the regional differences and the continued vulnerability of particular road-user groups indicate that

further prevention efforts remain necessary. For PAGE, this provides the wider national context within which the specific risks affecting young drivers must be examined.

Number of fatalities and serious injuries, 2014 and 2024

	2014	2024	Trend	EU trend
Fatalities	745	470	-37%	-17%
Serious Injuries	4,484	2,996	-33%	-

Figure 1. Mortality rate development, 2014 – 2024



Sources – 6.1.

- ❑ **Statbel – Belgian Statistical Office, “470 road traffic deaths in Belgium in 2024.”** Official national statistics on accidents, injuries and fatalities.
- ❑ **Statbel – Road casualties 2024**, including data by age group, road-user type and sex.
- ❑ **Statbel – be.STAT, Road casualties by age and road-user characteristics.**
- ❑ **Vias Institute – Road Safety Barometer 2024**, based on Federal Police and local police data.

6.2. Young Drivers and Road Safety Risks

Young drivers constitute a particularly relevant road safety group in Belgium. Vias defines a young car driver as a driver aged 18–24, providing a specific statistical category for monitoring their involvement in road traffic crashes. This age group is important because the combination of limited driving experience, developing hazard- perception skills and greater exposure to certain social and leisure- related driving situations can increase vulnerability. The Vias road safety monitoring system specifically tracks injury crashes involving young car drivers and the fatalities occurring in these crashes.

The available Belgian evidence indicates that age and driving experience interact with other risk factors rather than operating independently. Young drivers are more likely to encounter situations involving night-time and weekend driving, social mobility and passenger presence, while their limited experience may reduce their ability to anticipate hazards or respond appropriately to unexpected situations. The Vias data structure itself distinguishes young drivers from the general driver population and examines their involvement in injury crashes, demonstrating that young-driver risk is considered a specific component of national road safety monitoring rather than simply part of the overall accident statistics.

Alcohol represents an especially relevant issue for the young-driver population. The Vias 2024 national behavioural measurement on driving under the influence of alcohol found that the prevalence of driving under the influence among 18–24-year-old drivers was 1.1%, compared with 0.8% in the same age group in 2021. Although the 18–24 group did not have the highest prevalence in 2024, the increase from 2021 is noteworthy. Vias also reports that the differences between age groups were no longer statistically significant in 2024, indicating that alcohol-impaired driving cannot be treated exclusively as a problem of older or younger drivers.

The Belgian context also needs to be understood in relation to the different forms of mobility used by young people. Young people are not exclusively car users: they may alternate between cars, bicycles, mopeds, motorcycles, public transport and increasingly micromobility options. Consequently, road safety education for young people needs to

address interaction between different road users, rather than focusing exclusively on the behaviour of the young driver. The national statistics demonstrate the importance of this broader approach, with cyclists, pedestrians and motorcyclists collectively accounting for a substantial proportion of road deaths.

Another important dimension is the relationship between driving experience and risk perception. A newly licensed driver may possess the technical skills required to pass a driving test but still lack extensive experience in recognising complex or rapidly changing road situations. This distinction is important for PAGE because the objective of youth road safety education should not simply be to reinforce knowledge of traffic rules. It should also develop hazard perception, anticipation, self-regulation and responsible decision-making, particularly in situations involving peer influence, alcohol, night-time driving or unexpected hazards.

The Belgian evidence therefore suggests that young drivers should be considered a priority educational group, even within a country experiencing an overall improvement in road safety. The existence of a positive national trend does not eliminate the need for targeted interventions. Rather, the reduction in overall fatalities creates an opportunity to focus more precisely on the remaining high-risk behaviours and population groups. For PAGE, the Belgian context supports educational content that combines legal knowledge with realistic scenarios and behavioural learning, allowing young people to understand not only what the traffic rules are, but also how risky decisions emerge in everyday situations.

Sources – 6.2.

- **Vias Institute – Road Safety Barometer 2024**, including the specific definition and monitoring of young car drivers aged 18–24.
- **Vias Institute – National Behavioural Measurement: Driving Under the Influence of Alcohol 2024**, including age-specific prevalence data.

- **Statbel – Road casualties 2024**, official Belgian data by age group and road-user category.
- **Statbel – 2024 Belgian road traffic statistics**, including national and regional fatality trends.

6.3. Assessment of Risky Driving Behaviours

The Belgian road safety evidence identifies speeding, driving under the influence of alcohol, distraction and fatigue as major behavioural risk factors. The Vias Institute's national behavioural measurements provide particularly useful evidence because they are based either on direct observation of drivers or on systematic roadside alcohol testing. In addition, the national ESRA3 survey provides information on self-reported behaviour and attitudes among Belgian road users. Together, these sources demonstrate that risky driving remains a significant issue despite the overall improvement in Belgium's road safety indicators.

Speeding

Speeding is one of the most widespread risky behaviours identified in Belgium. Vias conducted a national behavioural measurement in 2024 involving approximately 2.2 million passenger cars, observed at 92 locations across Belgium under free-flow conditions. The results showed that 83.2% of drivers exceeded the 30 km/h limit, while the corresponding figures were 49.0% on 50 km/h roads, 44.0% on 70 km/h roads, 40.4% on 90 km/h roads and 22.5% on motorways with a 120 km/h limit. The particularly high rate observed on 30 km/h roads is significant because these environments generally include pedestrians, cyclists and other vulnerable road users.

The results also reveal an uneven evolution over time. Compared with the previous national measurement, the proportion of speeding drivers decreased on 50, 90 and 120 km/h roads, but increased on 30 and 70 km/h roads. This suggests that although some progress has been achieved, compliance with lower urban speed limits remains a significant challenge. Vias also notes that excessive or inappropriate speed contributes to approximately one third of fatal crashes, reinforcing its importance as a priority behaviour for prevention.

The problem is particularly relevant for young drivers. Earlier Vias research focusing specifically on young people aged 15–24 found that 69% of young drivers reported speeding outside built-up areas at least occasionally or daily, while 59% reported doing so on motorways and in built-up areas. Although these figures originate from an earlier national study and should not be presented as current prevalence estimates, they provide useful evidence of the historical relationship between young-driver behaviour and speeding.

Alcohol-Impaired Driving

Alcohol remains another major behavioural concern. Vias's 2024 national behavioural measurement involved more than 8,000 car drivers subjected to random breath tests during more than 400 organised police controls. On average, 1.4% of Belgian drivers were above the legal alcohol limit. The prevalence was considerably higher during nights and weekends: 7.2% during weekend nights and 3.6% during weekday nights, compared with 0.6% during weekday daytime and 1.3% during weekend daytime. The rate was also higher among men than women, at 1.7% compared with 0.9%.

The 2024 figure represents a modest improvement compared with the 1.6% recorded in 2021, but it remains substantially above the Belgian target of 0.8% by 2030. This indicates that alcohol-impaired driving continues to require both enforcement and behavioural prevention. The concentration of the problem during night-time and weekends is particularly relevant for young drivers, whose social and leisure activities can increase exposure to precisely these periods.

The broader ESRA3 survey reinforces this concern. According to Vias, 19% of Belgian respondents reported having driven after drinking alcohol during the previous month, considerably above the European average of 11.6%. Belgium also ranked among the countries with the highest self-reported alcohol-impaired driving and acceptance of this behaviour. At the same time, public support for stronger measures was relatively high, with 75.7% supporting zero tolerance for novice drivers. **Distraction and Mobile-Phone Use**

Driver distraction represents another important risk factor. Vias's third national behavioural measurement on distraction, conducted in 2023, directly observed drivers at randomly selected locations throughout Belgium. The study focused particularly on handheld mobile-screen use, while also recording other visible potentially distracting behaviours. The methodology covered urban roads, roads outside built-up areas and motorways, providing a broad national picture of distraction in real driving conditions.

The importance of distraction is also reflected in self-reported behaviour. In the ESRA3 survey, distraction was identified alongside fatigue as one of the most frequently reported risky behaviours after speeding, with approximately 23% of Belgian drivers reporting distraction-related risky behaviour during the previous month. The same survey therefore suggests that distraction should not be considered merely a technological issue related to mobile phones, but as part of a broader problem of maintaining attention while driving.

For young people, this issue is particularly relevant because mobile phones and social media form an important part of everyday communication. Earlier Vias research among young drivers found that 18% reported using a handheld phone while driving and 32% reported using a hands-free phone. Although these figures should be treated as historical rather than current prevalence estimates, they demonstrate the importance of addressing digital distraction and divided attention within youth road safety education.

Fatigue and Other Risk Behaviours

Fatigue is another relevant behavioural risk. The ESRA3 results indicate that approximately 23% of Belgian drivers reported fatigue-related risky behaviour during the previous month, placing fatigue alongside distraction among the most commonly reported risky behaviours after speeding. Earlier research focusing on young people found an even stronger indication of the problem: 66% of young drivers reported driving while tired. Again, the latter figure should be interpreted as evidence from an earlier youth-focused study rather than as a current national prevalence estimate.

Taken together, the evidence demonstrates that risky driving in Belgium is multidimensional. Speeding is widespread, alcohol-impaired driving is concentrated particularly during nights and weekends, distraction remains a significant problem and fatigue can compromise drivers' ability to respond effectively to hazards. Importantly, these behaviours can interact. A young driver who is inexperienced, tired, distracted and travelling at excessive speed may have substantially less time and ability to react to an unexpected event. This interaction between behavioural risks provides an important basis for PAGE's educational methodology, particularly the use of scenarios in which learners must identify several risks simultaneously rather than treating each behaviour as an isolated issue.

Sources – 6.3.

- **Vias Institute – National Behavioural Measurement on Speed 2024**, based on approximately 2.2 million observed passenger cars.
- **Vias Institute – National Behavioural Measurement “Driving Under the Influence of Alcohol” 2024**, based on more than 8,000 drivers and more than 400 police controls.
- **Vias Institute – Third National Behavioural Measurement on Distraction**, based on direct roadside observations conducted in 2023.
- **Vias Institute – ESRA3 / Belgian road users' perceptions of road safety**, covering self-reported risky behaviours and attitudes.
- **Vias Institute – Young People (15–24) Road Safety Thematic Report**, providing youth-specific evidence on risky driving behaviours.

6.4. Existing Road Safety Strategies and Campaigns

Belgium has developed a comprehensive road safety policy based on the “**All for Zero**” vision. The approach establishes a long-term ambition of reducing road deaths to **zero by 2050**, while pursuing an intermediate

objective of reducing the number of fatalities and seriously injured road users by half by 2030. The strategy is explicitly interfederal, reflecting the Belgian division of responsibilities between the federal government, the Flemish Region, Walloon Region and Brussels-Capital Region. Each level of government has therefore developed its own road safety plan within the broader All for Zero framework.

The Federal Road Safety Plan 2021–2025 and the interfederal All for Zero plan combine measures addressing infrastructure, road-user behaviour, enforcement, vulnerable road users and the prevention of serious crashes. The approach follows principles associated with the Safe System / Vision Zero philosophy, recognising that human error is inevitable and that the transport system should be designed so that mistakes do not automatically result in death or serious injury. The Belgian framework therefore goes beyond individual driver responsibility and incorporates infrastructure, vehicle safety, enforcement and behavioural interventions.

An important characteristic of the Belgian approach is the use of evidence-based behavioural monitoring to inform policy. Vias regularly measures speeding, alcohol-impaired driving, distraction and other road safety indicators, while the All for Zero framework uses national road safety barometers and statistical reporting to monitor progress. This creates a feedback mechanism between research, policy development and implementation. In 2024, Belgian road safety stakeholders also adopted 10 common commitments, including reducing fatalities and serious injuries, strengthening enforcement, improving information exchange concerning traffic offences, addressing recidivism and developing additional training for problematic drivers.

Major Awareness Campaigns

One of Belgium's most established road safety campaigns is the BOB campaign, which focuses on preventing alcohol-impaired driving. First introduced in 1995, BOB has become a long-running national and internationally recognised campaign. Its particular strength lies in combining awareness-raising with police enforcement. The campaign therefore does not rely exclusively on communicating a prevention message; it simultaneously increases the perceived and actual probability of being checked by police.

The results of the BOB campaign provide evidence of its long-term reach. During the 2023–2024 winter campaign, approximately 429,768 drivers were subjected to breath testing, with 1.6% testing positive. Vias described this as the lowest positive rate recorded since the beginning of the BOB campaigns in 1995 and noted that the corresponding figure had been 3.2% ten years earlier. Although campaign results cannot by themselves establish causality, the long-term decline provides an important indication of the potential value of combining communication, social norms and enforcement.

Speeding is addressed through both structural interventions and public awareness campaigns. The All for Zero framework explicitly identifies speed management as a priority, while national initiatives such as the Flitsmarathon combine intensive police speed controls with public communication. Vias reported in 2024 that 30% of surveyed Belgian drivers had received a traffic fine during the previous year, with approximately 80% of those fines related to speeding. Importantly, six out of ten drivers who had received a fine reported that it had influenced their subsequent behaviour.

Belgium also supports local and community-based road safety initiatives. Under the All for Zero framework, local projects have been funded for diverse target groups, including young people, cyclists, children and motorists. The 2022 programme, for example, supported 16 local projects addressing road safety through educational, community and awareness-based approaches. This illustrates the decentralised nature of Belgian road safety policy and the recognition that different population groups require different forms of intervention.

From the perspective of PAGE, the Belgian experience provides several particularly relevant lessons. First, road safety communication is most effective when it is combined with enforcement and measurable behavioural objectives. Second, Belgium has moved beyond one-off awareness campaigns towards a continuous system of behavioural measurement, policy evaluation and targeted intervention. Third, there remains room for educational approaches aimed specifically at young

people that use interactive scenarios, simulations, personal experiences and digital learning to complement existing campaigns. The role of PAGE can therefore be understood as complementary to the Belgian system: rather than replacing established campaigns such as BOB or All for Zero, the e-learning tool can translate their core road safety messages into a more participatory and youth-oriented learning environment.

Sources – 6.4.

- **All for Zero – Interfederal Vision and Belgian Road Safety Plans**, including the objective of zero road deaths by 2050.
- **All for Zero – Strategic Road Safety Plans**, including the Federal Road Safety Plan 2021–2025 and regional plans.
- **All for Zero Conference 2024**, including the ten common Belgian road safety commitments.
- **Vias Institute – BOB Campaign**, documentation of the campaign's prevention-and-enforcement model.
- **Vias Institute – 2023–2024 BOB campaign results**.
- **Vias Institute – Road Safety Status Report 2024**, covering accidents, alcohol, distraction, seat belts and speed.
- **All for Zero – Local Road Safety Projects**, including youth-oriented and educational initiatives.

6.5. Legal and Policy Framework

Belgium has a comprehensive legal framework governing road traffic, driver behaviour and sanctions for traffic offences. The framework establishes rules concerning speed limits, alcohol and drug-impaired driving, mobile-phone use, seat-belt use, driving licences and other road-user obligations. The federal Federal Public Service Mobility and Transport (FPS Mobility and Transport) provides the national information framework concerning traffic rules and sanctions, while enforcement and implementation also involve the Federal Police, local police zones, judicial authorities and the competent regional authorities. (mobilit.belgium.be)

Alcohol-impaired driving is subject to a general legal threshold of 0.5 ‰ blood alcohol concentration, corresponding to 0.22 mg/l in exhaled air. Importantly for PAGE, the same general limit applies to young and inexperienced drivers; Belgium does not establish a separate lower alcohol limit specifically for novice drivers. Professional drivers, however, are subject to a stricter threshold of 0.2 ‰. The distinction is relevant because it demonstrates that the Belgian framework recognises differences in occupational driving risk while maintaining the same general legal threshold for ordinary young drivers. (mobilit.belgium.be)

The Belgian sanctioning framework is graduated according to the seriousness of the offence. Traffic violations are divided into four degrees, with fourth-degree offences considered the most serious. Depending on the offence and circumstances, sanctions may include immediate payment, a settlement proposal, a fine imposed by a court, temporary withdrawal of the driving licence or other judicial measures. For the most serious offences, an immediate payment is generally not available and the case may proceed through a settlement or judicial procedure. (mobilit.belgium.be)

The legal framework also contains specific mechanisms for dealing with alcohol-related driving offences and recidivism. Courts can impose an alcohol interlock device (alcolock) on certain offenders, including drivers convicted of serious alcohol-related offences, drivers found to be intoxicated and repeat offenders. The measure is particularly relevant from a road safety perspective because it combines a legal sanction with a technological mechanism designed to prevent a vehicle from being driven after alcohol consumption. (mobilit.belgium.be)

The legal framework operates within the broader All for Zero road safety policy. Belgium's national approach aims to achieve zero road deaths by 2050, with an intermediate objective of substantially reducing fatalities and serious injuries by 2030. The policy combines legislation and enforcement with infrastructure, behavioural interventions, awareness campaigns and evidence-based monitoring. This is particularly relevant to PAGE because it places youth road safety education within a broader Safe System approach rather than treating traffic accidents solely as the result of individual driver mistakes.

A further strength of the Belgian framework is the systematic use of evidence to evaluate road safety policy. Vias conducts national behavioural measurements covering speeding, alcohol-impaired driving and distraction, while national accident statistics are continuously monitored. This allows the authorities to compare legal objectives with actual driver behaviour. At the same time, the persistence of speeding, alcohol-impaired driving and distraction identified in the behavioural measurements demonstrates that the existence of comprehensive legislation does not automatically result in full compliance. (vias.be)

Sources – 6.5.

- **FPS Mobility and Transport – Belgian Traffic Rules and Sanctions**, official Belgian government information. (mobilit.belgium.be)
- **FPS Mobility and Transport – Fines and Immediate Payments**. (mobilit.belgium.be)
- **FPS Mobility and Transport – Driving Under the Influence and Alcohol Interlock**. (mobilit.belgium.be)
- **Vias Institute – Road Safety Status Report 2024**. (vias.be)

6.6. Enforcement Measures and Prosecution of Driving Offences

Road traffic enforcement in Belgium is carried out through a combination of Federal Police and local police controls, automated enforcement systems, roadside checks and judicial procedures. Enforcement focuses particularly on the behaviours identified as major contributors to road risk, including speeding, alcohol and drug-impaired driving, distraction and other serious traffic violations. The Belgian system therefore combines direct police intervention with technological monitoring and subsequent judicial or administrative processing.

Alcohol enforcement provides one of the clearest examples of this approach. Vias's 2024 national behavioural measurement was conducted in cooperation with 106 local police zones and all nine units of the Federal Road Police. A total of 411 alcohol controls were organised, during which 8,370 car drivers and 980 van drivers underwent alcohol testing. The study itself demonstrates the scale and systematic nature of Belgian enforcement, while also providing an independent behavioural measurement of the prevalence of driving above the legal alcohol limit. (vias.be)

The same research found that 1.4% of Belgian car drivers were driving above the legal alcohol limit in 2024. The rate was considerably higher during weekend nights, reaching 7.2%, and during weekday nights, reaching 3.6%, compared with 0.6% during weekday daytime. This concentration of offences during night-time periods provides an important basis for targeted enforcement. It also explains why Belgian enforcement campaigns such as BOB combine public awareness with intensified police controls during periods when alcohol-impaired driving is particularly prevalent.

Speed enforcement is another major component of the Belgian system. Vias's 2024 behavioural measurement, based on observations of approximately 2.2 million passenger cars, found substantial non-compliance with speed limits, particularly on roads with lower speed limits.

The study recommends strengthening enforcement through fixed and mobile speed checks, announced and unannounced controls and section control, while also considering a demerit-point system and wider use of Intelligent Speed Assistance. These recommendations demonstrate that speed enforcement remains a central policy priority even though Belgium already makes extensive use of automated controls.

The use of speed cameras and automated enforcement is widespread in Belgium. However, Vias has identified a potential enforcement challenge associated with radar-warning systems. Its research found that approximately 37% of Belgian drivers use one or more systems that indicate the location of speed or police controls.

Vias reported that drivers using such systems received approximately 50% more speeding fines per kilometre travelled, suggesting that some drivers may adapt their behaviour specifically around known enforcement locations rather than consistently respecting speed limits. Vias therefore recommended stronger restrictions on systems that provide real-time information about mobile controls.

Administrative enforcement and judicial prosecution

A key characteristic of the Belgian system is the distinction between immediate administrative processing and judicial prosecution. Not every traffic offence results in a court case. Depending on the type and seriousness of the offence, authorities may use an immediate payment procedure or an amicable settlement. For more serious offences, a police report may be prepared and the case can subsequently be referred to the competent judicial authorities and, where appropriate, the Police Court. (mobilit.belgium.be)

This distinction is important when interpreting Belgian enforcement statistics. The number of detected traffic violations, fines or immediate payments cannot be equated with the number of criminal prosecutions or convictions. A speeding offence detected by an automated camera, for example, may be processed through an administrative or financial procedure without reaching a criminal court. Conversely, serious offences such as severe alcohol impairment, dangerous driving or offences resulting in serious injury or death can enter the judicial system and potentially lead to a court conviction.

Belgian research has also specifically examined the decision-making process of Police Courts. Vias has conducted research using standardised cases to examine how judges deal with traffic offences involving factors such as alcohol, speeding and other violations. This research demonstrates that judicial sanctioning is not simply an automatic continuation of police enforcement: the final sanction may depend on the characteristics of the offence, the offender and the circumstances of the case.

The Belgian enforcement system therefore presents both strengths and challenges. On the positive side, it combines large-scale police controls, automated enforcement, behavioural monitoring and judicial sanctions, while targeted campaigns increase public awareness of specific risks. On the other hand, the continuing prevalence of speeding and alcohol-impaired driving demonstrates that enforcement does not eliminate risky behaviour entirely. The existence of warning systems for speed controls also illustrates the challenge of ensuring that enforcement influences behaviour consistently rather than only at known control locations.

For PAGE, this finding is particularly relevant. The Belgian evidence suggests that **enforcement and education should operate as complementary mechanisms**. Police controls can increase the perceived consequences of dangerous driving, but young drivers also need to develop internal risk awareness and decision-making skills.

An educational tool such as PAGE can therefore complement enforcement by addressing the situations that precede a violation: peer pressure, overconfidence, alcohol consumption, distraction, fatigue and the underestimation of speed. This approach is consistent with the broader Belgian Safe System philosophy, in which prevention, enforcement and behavioural change are treated as interconnected components of road safety.

Sources – 6.6.

- **Vias Institute – National Behavioural Measurement “Driving Under the Influence of Alcohol” 2024**, including the methodology and national enforcement data. (vias.be)
- **Vias Institute – National Behavioural Measurement on Speed 2024**. (vias.be)
- **Vias Institute – Road Safety Status Report 2024**. (vias.be)
- **Vias Institute – Radar-warning systems and enforcement efficiency**. (vias.be)
- **FPS Mobility and Transport – Traffic fines and immediate payments**. (mobilit.belgium.be)
- **Vias Institute – The sanctioning process in Belgian Police Courts**. (vias.be)

6.7.1. Documented Case Studies from Belgium

Case Study 1: Young Drivers, Loss of Control and Single-Vehicle Crashes

A major Belgian Vias Institute analysis of young drivers provides a clear picture of the circumstances in which young motorists are particularly vulnerable to serious road crashes. The study examined injury crashes involving young car drivers and identified single-vehicle crashes as an important pattern among young and inexperienced drivers.

These crashes frequently occurred after the driver lost control of the vehicle and were particularly associated with night-time driving, roads outside built-up areas and situations where no intersection was involved. More than half of the fatal crashes involving Belgian young people aged 15–24 in the study involved only one vehicle.

The research identified several interacting factors behind this pattern. Excessive speed, limited driving experience, fatigue, distraction, alcohol, emotional states and passenger influence were identified as factors capable of increasing the risk of losing control. The study also found that young drivers frequently travelled under conditions that are more demanding from a safety perspective, including night-time and weekend driving.

This case study demonstrates that a serious crash involving a young driver does not necessarily result from one isolated violation. Instead, several relatively small risk factors can accumulate until the driver's ability to respond to a hazardous situation is substantially reduced.

The case is particularly relevant to PAGE because it supports the use of scenario-based learning. Rather than teaching speeding, alcohol, fatigue or passenger pressure as separate topics, the e-learning tool can reproduce situations in which several of these factors occur simultaneously.

Young learners can therefore be encouraged to recognise the accumulation of risk and understand that safe driving involves continuous risk assessment, anticipation and self-regulation. Source: Vias Institute, *Road Safety Thematic File No. 12 – Young People (15–24)*; Vias research on risks among young drivers.

Case Study 2: Victim Testimonials as a Road Safety Education Tool

A second documented Belgian case concerns the use of real victim and offender testimonies as an educational intervention for young people. Researchers from Hasselt University and the Belgian road safety research community evaluated a large-scale road safety education programme in Belgian secondary schools in which students were exposed to personal testimonies from people directly affected by road traffic crashes. The underlying educational approach was based on the assumption that a personal account can create an emotional connection with the consequences of unsafe behaviour and encourage young people to reflect on their own attitudes and decisions as road users.

The evaluation found that the intervention produced positive effects on several socio-cognitive and behavioural variables, although the effects were generally small. Importantly, the researchers observed both cognitive and emotional responses among participants, and some positive effects remained visible two months after the intervention. The findings therefore suggest that personal testimonies can contribute to road safety education when they are integrated into a broader educational methodology rather than being used simply as emotionally powerful stories.

This Belgian case is particularly relevant for PAGE because it provides empirical support for the inclusion of personal experiences within the e-learning tool. The value of a testimony is not simply that it can shock or emotionally affect the learner; its educational value lies in connecting a real-life consequence with questions about responsibility, risk perception, decision-making and behavioural intention. This supports the PAGE approach of combining statistical evidence and theoretical material with realistic scenarios and personal stories.

A related Belgian initiative also demonstrates the long-standing use of victims' experiences in youth road safety communication. In a 2013 campaign addressing young drivers, the former Belgian Road Safety Institute collaborated with the organisation Parents of Road Accident Victims to give young victims a symbolic "last message" through an awareness campaign. At the time, the campaign highlighted the disproportionate involvement of 18–24-year-olds in road crashes and sought to transform real experiences of loss into a preventive message for other young people.

Sources:

Cuenen et al., Effect evaluation of a road safety education program based on victim testimonials in high schools in Belgium, *Accident Analysis & Prevention*; Vias Institute and Belgian road safety campaign documentation.

Relevance for PAGE

Taken together, the two Belgian case studies demonstrate two complementary dimensions of youth road safety education. The first shows how multiple behavioural and situational risk factors can combine to produce serious crashes, while the second demonstrates the potential educational value of personal experiences and testimonies. These findings support the PAGE methodology of combining evidence-based information with realistic situations and human experiences, allowing young people not only to understand road safety rules but also to reflect on how decisions made in everyday situations can influence their own safety and that of others.

Sources – 6.7.1. Documented Case Studies from Belgium

- **Vias Institute – Thematic File Road Safety No. 12: Young People (15–24).** Goldenbeld, C., Nuyttens, N., & Temmerman, P. (2018). *Thematic File Road Safety No. 12 – Young People (15–24)*. Brussels, Belgium: Vias Institute – Knowledge Centre Road Safety.
- **Vias Institute – Risks for Young Drivers in Traffic.** Focant, N., & Nuyttens, N. *Statistical analysis of injury crashes involving young car drivers aged 18–31*. Vias Institute – Knowledge Centre Road Safety.
- **Cuenen, A., Brijs, K., Brijs, T., Van Vlierden, K., Daniels, S., & Wets, G. (2016).** *Effect evaluation of a road safety education program based on victim testimonials in high schools in Belgium. Accident Analysis & Prevention*, 94, 18–27.
<https://doi.org/10.1016/j.aap.2016.05.006>.
- **Hasselt University – Transportation Research Institute (IMOB).**
Institutional research record for *Effect evaluation of a road safety education program based on victim testimonials in high schools in Belgium*, documenting the study methodology, sample of 1,362 students and follow-up assessment.

6.7.2. Personal Testimony: Thierry Moreau de Melen and the Foundation of Responsible Young Drivers

One of the most significant personal testimonies connected with road safety in Belgium comes from Thierry Moreau de Melen, founder of Responsible Young Drivers (RYD). His personal experience demonstrates how an individual tragedy can become the starting point for a long-term youth road safety initiative. In 1989, Moreau de Melen lost his son, Tanguy, in a road traffic accident. Following this experience, he decided to establish an organisation whose purpose was to encourage young people to take greater responsibility for their behaviour on the road. Responsible Young Drivers subsequently developed into a youth-oriented road safety organisation based on the principle of “young people speaking to young people.”

In reflecting on the origins of the organisation, Moreau de Melen explains that the death of his son led him to consider how young people could be approached more effectively on the issue of road safety. Rather than relying exclusively on parents, police officers, politicians or other authorities to communicate road safety messages, he believed that young people themselves should speak directly to other young people. His approach was therefore deliberately different from a purely paternalistic or punitive model of road safety education. The objective was to encourage young people to reflect on their own behaviour and to challenge the cultural association between youth, speed and driving. Moreau de Melen also describes the cultural context in which the initiative emerged.

At the time of his son's death, the image of the young driver was often associated with speed, freedom and the “James Dean” ideal. His response was to challenge this perception and promote an alternative understanding of driving, in which responsibility and respect for others become central elements of mobility. This philosophy subsequently became a defining characteristic of Responsible Young Drivers and remains reflected in the organisation's current peer-to-peer approach to road safety education.

Educational Relevance for PAGE

This testimony is particularly relevant to PAGE because it illustrates the educational power of personal experience and peer-to-peer communication. The testimony does not simply describe the consequences of a road accident; it demonstrates how a personal loss can generate a long-term commitment to prevention and behavioural change. It also reinforces the importance of communicating road safety messages in a language and format that young people can relate to, rather than relying exclusively on formal rules, statistics or punitive messages.

The Belgian experience of Responsible Young Drivers therefore provides a strong conceptual basis for the PAGE e-learning tool. Personal testimonies can be used not simply to create an emotional reaction, but to encourage learners to question social norms surrounding speed, alcohol, risk-taking and driving. The RYD model demonstrates that young people can also become active communicators of road safety, transforming road safety education from a one-directional transfer of information into a participatory process of reflection and peer learning. Source: Interview with Thierry Moreau de Melen, founder of Responsible Young Drivers, published by Jeunes & Libres, 19 October 2020. The founding history of Responsible Young Drivers is additionally confirmed by RYD Wallonie-Bruxelles.

7. Comparative Analysis of the Partner Countries

The comparative analysis of Greece, Bulgaria and Belgium provides a broader understanding of the road safety challenges affecting young people across the three partner countries. Although the countries differ considerably in terms of road infrastructure, mobility patterns, enforcement systems and road safety performance, the country-level research identified a number of common behavioural risks, particularly speeding, alcohol-impaired driving, distraction and insufficient risk perception among young and inexperienced drivers. At the same time, the comparison reveals significant differences in the overall severity of road safety outcomes and in the maturity of national road safety systems.

The comparison is based on national statistical sources, European road safety databases and behavioural research, with particular emphasis on indicators that allow meaningful cross-country comparison. Where national methodologies differ, the findings are interpreted cautiously rather than treating figures as directly interchangeable.

7.1. Comparative Road Accident Statistics

The 2024 data demonstrate substantial differences in road mortality between the three partner countries. According to the European Commission's harmonised figures, Belgium recorded 470 road fatalities, corresponding to 40 deaths per million inhabitants; Greece recorded 665 fatalities, corresponding to 64 deaths per million; while Bulgaria recorded 478 fatalities, corresponding to 74 deaths per million. The EU average was approximately 45 deaths per million inhabitants. Consequently, Belgium performed considerably better than both Greece and Bulgaria, while Bulgaria recorded the highest fatality rate among the three countries.

The national statistics provide additional context. In Greece, ELSTAT recorded 11,000 injury-causing road accidents in 2024, resulting in 664 deaths, 568 serious injuries and 12,803 slight injuries. This represented a 4.2% increase in injury-causing accidents and a 2.8% increase in fatalities compared with 2023. Bulgaria recorded 7,173 serious road traffic accidents, with 478 fatalities and 9,054 injured persons in 2024. In contrast, Belgium recorded 35,916 road traffic accidents, 2,996 seriously injured persons and 470 deaths. The absolute number of accidents should not, however, be interpreted independently of population size, differences in statistical definitions and differences in mobility exposure.

The longer-term comparison is also informative. Between 2019 and 2024, road fatalities decreased by approximately 27% in Belgium, 24% in Bulgaria and only 3% in Greece. This indicates that Belgium has made the strongest progress among the three countries in reducing fatalities over this period, while Bulgaria has also achieved a substantial reduction despite retaining the highest fatality rate. Greece presents a more challenging situation, combining a comparatively high fatality rate with only limited progress against its 2019 level.

Overall, the comparison indicates three different road safety profiles. Belgium represents the strongest performer in terms of fatality rate and recent reduction; Bulgaria combines substantial recent progress with the highest mortality rate; and Greece combines a high mortality rate with comparatively limited improvement since 2019. These differences are important for PAGE because they demonstrate that a common European educational intervention can address shared behavioural risks while still allowing country-specific examples and priorities to be incorporated into the learning content.

Sources – 7.1.

- **European Commission – Road Safety Statistics 2024 / European Road Safety Observatory (ERSO).** Comparative data on fatalities and fatalities per million inhabitants for EU Member States.
- **Eurostat – EU Road Fatalities 2024.** Comparative European road mortality indicators.
- **ELSTAT – Road Traffic Accidents, Year 2024.** Official Greek national statistics.
- **National Statistical Institute of Bulgaria – Road Traffic Accidents in the Republic of Bulgaria 2024.**
- **Statbel – Road Traffic Accidents in Belgium 2024.** Official Belgian national statistics.

7.2. Comparison of Risky Driving Behaviours

The country analyses demonstrate that risky driving behaviour is a common feature across all three partner countries, although its prevalence and specific manifestations differ. Speeding is consistently identified as one of the most important behavioural risks. The harmonised European evidence also shows that younger drivers are generally more likely than older drivers to report risky behaviours such as speeding, impaired driving and distracted driving. The ESRA3 research, covering 39 countries and more than 42,000 road users, provides an important comparative framework for understanding these behavioural patterns.

Belgium provides particularly detailed behavioural evidence. Its ESRA3 results show that speeding is the most frequently reported risky behaviour among Belgian car drivers, with 56–59% reporting that they had driven too fast at least once during the previous 30 days depending on the road environment. Distraction and fatigue were each reported by approximately 23% of drivers. Furthermore, 19% reported having driven after drinking alcohol during the previous month, placing Belgium above the European average for self-reported drink-driving. Direct Belgian observations provide additional evidence: the 2024 national measurement found that 1.4% of car drivers were above the legal alcohol limit, with the prevalence increasing to 7.2% during weekend nights.

Greece also demonstrates significant levels of self-reported risky behaviour. ESRA3 data indicate that 42.8% of Greek car drivers reported driving faster than the speed limit inside urban areas at least once during the previous 30 days, while 17.3% reported driving after drinking alcohol and 12.5% reported driving when they believed they might have been over the legal alcohol limit. Greek national enforcement data additionally show that speeding, alcohol-impaired driving, mobile-phone use, red-light violations and failure to use seat belts or helmets remain recurring categories of dangerous traffic offences.

Bulgaria presents a somewhat different profile. The available harmonised performance indicators show that compliance with some protective behaviours remains weaker than the EU average, particularly seat-belt use: in 2025, front-seat belt use was 87.8% and rear-seat use only 41.7%, compared with EU averages of 92.4% and 69.9% respectively. Bulgaria also recorded relatively low compliance with urban speed limits in the 2022 observations, although this improved from 44.7% within the speed limit in 2022 to 56.0% in 2025. At the same time, the European comparative research emphasises that risky behaviour should not be reduced to speeding alone; alcohol, distraction, fatigue and inadequate protective behaviour interact and can collectively increase crash risk.

The comparison therefore suggests that the three countries share a common behavioural core, but with different priorities. Belgium stands out particularly for alcohol-related risk and speeding, Greece for speeding and a broader combination of risky behaviours, while Bulgaria shows particularly important challenges concerning protective behaviour and urban speed compliance. For PAGE, this supports a common educational structure addressing speed, alcohol, distraction, fatigue, seat belts, peer influence and risk perception, while national examples and scenarios can be adapted to reflect the specific behavioural profile of each partner country.

Sources – 7.2.

- **ESRA3 – Global Road Safety Insights: Synthesis from the ESRA3 Survey across 39 Countries.** Comparative evidence on speeding, alcohol, distraction, attitudes and risk perception.
- **European Road Safety Observatory – Young and Aging Drivers, ESRA3 Thematic Report.** Evidence on the relationship between age and risky driving behaviours.
- **Vias Institute – Belgian Road Users' Attitudes towards Road Safety / ESRA3.** Belgian evidence on speeding, alcohol, distraction and fatigue.
- **Vias Institute – National Behavioural Measurement: Driving Under the Influence of Alcohol 2024.** Belgian observational alcohol data.
- **ELSTAT / European Road Safety Observatory – Greece Country Profile and ESRA3 data.**
- **European Commission – Bulgaria Country Profile / Road Safety Performance Indicators.** Data on speeding, seat-belt use and distraction.

7.3. Comparison of Road Safety Strategies and Campaigns

The three partner countries have established national road safety strategies within the broader European framework of Vision Zero and the Safe System approach.

However, their approaches differ in terms of implementation, institutional organisation and emphasis. Belgium has developed the All for Zero framework, with the explicit ambition of reaching zero road deaths by 2050 and reducing fatalities and serious injuries by 50% by 2030. The Belgian approach is particularly characterised by the systematic combination of behavioural monitoring, enforcement, infrastructure measures and awareness campaigns. Road safety responsibilities are shared between the federal level and the three regions, with regional strategies contributing to the wider All for Zero framework.

Greece has adopted the National Strategic Plan for Road Safety 2021–2030, which establishes quantitative road safety targets and uses a set of Key Performance Indicators to monitor progress. The Greek framework covers infrastructure, enforcement, vehicle safety, road-user behaviour and emergency response. Recent policy initiatives have placed additional emphasis on digital enforcement and traffic cameras, the modernisation of sanctions and the development of an integrated system for the electronic detection and management of traffic violations. This indicates a gradual movement towards a more data-driven and technologically supported road safety system.

Bulgaria's National Road Safety Strategy 2021–2030 similarly establishes a multi-sectoral framework, complemented by national action plans and sector-specific strategies. Its six thematic directions include integrity-based management, socially responsible behaviour and lifelong learning, effective and preventive control, safer road infrastructure, safer vehicles and the emergency response chain. Bulgaria also implements recurring national prevention campaigns through the Ministry of Interior and Traffic Police.

Examples include *“Vacation! Let's Protect the Lives of Children on the Road!”*, *“Children Go to School! Let's Protect Them on the Road!”* and the national implementation of ROADPOL Safety Days. In 2024, Bulgaria also introduced the campaign *“I Wrote You a Letter”*, attaching personal messages from families who had lost relatives in road crashes to speeding fines, creating a more emotionally oriented form of road safety communication.

A clear difference therefore emerges in the maturity and structure of campaign approaches. Belgium combines long-running, recognisable campaigns such as BOB with systematic behavioural measurement and the wider All for Zero framework. Bulgaria relies strongly on recurring national police-led prevention campaigns and European initiatives such as ROADPOL Safety Days, while Greece combines national strategic planning with increasingly intensive enforcement and public-awareness initiatives. Nevertheless, all three countries continue to rely substantially on awareness campaigns and enforcement, leaving an opportunity for PAGE to provide a complementary interactive, youth- centred educational approach based on scenarios, simulations, peer learning and personal experiences rather than communication campaigns alone.

Sources – 7.3.

- **European Commission – EU Road Safety Policy Framework / Vision Zero.** European targets for reducing road deaths and serious injuries by 50% by 2030 and reaching zero road deaths by 2050.
- **European Commission – Baseline Project / Road Safety Performance Indicators.** Comparative framework for national road safety strategies and KPIs.
- **Belgium – All for Zero / Interfederal Road Safety Framework.**
- **Greece – National Strategic Plan for Road Safety 2021–2030 and government road safety initiatives.**
- **Bulgaria – National Road Safety Strategy 2021–2030 and Ministry of Interior prevention programmes.**
- **Bulgarian Ministry of Interior – ROADPOL Safety Days.**

7.4. Comparison of Legal and Policy Frameworks

The three countries operate within the common European road safety regulatory environment, but their national legal and institutional arrangements reflect different administrative structures. Belgium has a particularly decentralised framework, in which responsibilities are divided between the federal government and the Flemish, Walloon and Brussels-Capital authorities.

Federal institutions retain important responsibilities for traffic legislation and enforcement, while the regions have significant responsibilities concerning infrastructure and road safety policy. This multi-level structure is reflected in the existence of federal and regional road safety plans under the broader All for Zero framework.

Greece has a more centralised national framework, with the Ministry of Infrastructure and Transport playing a central role in road transport policy and the Ministry of Citizen Protection and the Hellenic Police responsible for important enforcement functions.

The National Strategic Plan for Road Safety 2021–2030 provides the overarching policy framework, while recent reforms have focused on strengthening the sanctions system and introducing digital mechanisms for the detection and management of traffic violations. The Greek approach is therefore increasingly combining traditional legislative and police mechanisms with technological enforcement.

Bulgaria also operates through a national strategic framework, with the National Road Safety Strategy 2021–2030 supported by national action plans and separate institutional strategies. The Bulgarian Ministry of Interior has its own Road Safety Strategy for 2021–2030, while the Ministry of Transport has developed a sectoral strategy addressing driver training and examinations, enforcement, vehicle technical requirements and road infrastructure. The national framework is therefore explicitly multi-sectoral, covering both behavioural and structural dimensions of road safety.

Despite these institutional differences, the three legal systems regulate broadly similar high-risk behaviours, including speeding, drink-driving, distracted driving, failure to use protective equipment and dangerous driving. The principal difference lies less in the existence of legislation and more in its implementation and enforcement mechanisms. Belgium has developed a particularly extensive system of behavioural monitoring and graduated sanctions;

Bulgaria combines legislative measures with preventive police campaigns and national action plans; while Greece is currently placing substantial emphasis on modernising sanctions and expanding electronic enforcement. For PAGE, this comparison reinforces the importance of providing young people with basic knowledge of national traffic legislation while also developing the practical understanding needed to comply with it in real-life situations.

Sources – 7.4.

- **European Commission – EU Road Safety Policy Framework and Vision Zero.** Common European policy framework for national road safety legislation and policy.
- **Belgium – All for Zero / Interfederal Road Safety Framework.** Federal and regional organisation of Belgian road safety policy.
- **Greece – Ministry of Infrastructure and Transport / National Strategic Road Safety Plan 2021–2030.** National policy framework and development of electronic traffic enforcement.
- **Bulgaria – Ministry of Interior, National Road Safety Strategy 2021–2030.** National strategy, action plans and institutional responsibilities.
- **Bulgaria – Ministry of Transport and Communications, Sectoral Road Safety Strategy 2021–2030.** Training, enforcement, vehicles and infrastructure policy.

7.5. Enforcement Practices and Challenges

The enforcement systems of Greece, Bulgaria and Belgium share a common focus on the behaviours that contribute most directly to serious road crashes, particularly speeding, drink-driving, mobile phone use and non-use of seat belts or helmets. Across the three countries, enforcement combines traditional police controls with increasingly extensive use of automated technologies such as speed cameras, section control and other camera-based systems. This reflects the broader European approach, according to which enforcement should not only punish violations but also increase the perceived probability of being detected and consequently discourage risky behaviour. (road-safety.transport.ec.europa.eu)

Belgium appears to have the most developed combination of automated enforcement, behavioural monitoring and police cooperation among the three countries. In 2024, approximately half of all recorded traffic offences in Belgium were detected through section-control radars and mobile cameras, while fixed cameras accounted for 28% of offences. Speeding represented approximately 93% of immediate police traffic fines. At the same time, Vias' 2024 behavioural measurement found that 1.4% of tested Belgian car drivers were above the legal alcohol limit, rising to 7.2% during weekend nights. These findings demonstrate both the scale of enforcement activity and the continuing difficulty of eliminating high-risk behaviours despite extensive controls. (justice.belgium.be) (vias.be)

Greece has traditionally faced greater challenges concerning the perceived effectiveness and consistency of traffic enforcement. Earlier European Road Safety Observatory assessments found Greece below the European average in perceived enforcement effectiveness, although alcohol and drug checks have been relatively intensive. More recent evidence indicates improvement: the European Commission's 2026 assessment notes that the significant reduction in Greek road deaths observed during the first ten months of 2025 was partly associated with increased enforcement of helmet use and measures against drink-driving. Nevertheless, important behavioural indicators remain problematic: in 2025, front-seat belt use was only 68.9%, while self-reported drink-driving remained higher than the EU average. (road-safety.transport.ec.europa.eu) (eur-lex.europa.eu)

Bulgaria also continues to face enforcement challenges, particularly in relation to speed compliance, protective equipment and the consistent deterrence of risky behaviour. Its enforcement model combines police controls, automated enforcement and national prevention campaigns. The comparison therefore suggests that the principal challenge is no longer simply whether traffic laws exist or whether police controls take place. The more important issue is whether enforcement is consistent, visible, technologically supported and

sufficiently predictable to influence driver behaviour. For PAGE, this reinforces the need to complement enforcement with education that helps young drivers understand *why* the rules exist and what consequences can result from non-compliance.

Sources – 7.5.

European Commission – Enforcement, EU Road Safety Policy.
(road-safety.transport.ec.europa.eu)

European Commission / European Road Safety Observatory – Greece Country Overview. (road-safety.transport.ec.europa.eu)
European Commission – Greece Road Safety Assessment, 2026.
(eur-lex.europa.eu)

Vias Institute – National Behavioural Measurement: Driving Under the Influence of Alcohol 2024. (vias.be)

Federal Public Service Justice Belgium – Traffic Offences and Enforcement Statistics 2024. (justice.belgium.be)

7.6. Common Challenges Across the Three Countries

Despite differences in road safety performance and enforcement systems, the country analyses reveal a substantial common behavioural and educational challenge across Greece, Bulgaria and Belgium. Speeding, alcohol-impaired driving, distraction, fatigue and inadequate use of protective measures remain recurring risk factors. These behaviours are particularly relevant for young drivers because limited driving experience can reduce their ability to recognise hazards, while social pressure, overconfidence and risk-taking can increase their willingness to engage in unsafe behaviour.

A second common challenge concerns the gap between knowledge, attitudes and actual behaviour. Young people may understand that speeding, drink-driving or mobile phone use are dangerous, while still engaging in these behaviours in particular social or emotional situations. This is important because traditional information campaigns that simply communicate rules may have limited capacity to produce

sustained behavioural change. The European Commission consequently emphasises that enforcement should work together with education, awareness and other Safe System interventions rather than functioning as an isolated measure. (road-safety.transport.ec.europa.eu)

A third common challenge is the need to **adapt road safety communication to young people's everyday realities**. The country research demonstrated that risk frequently emerges through combinations of factors—for example, driving at night after socialising, alcohol consumption combined with peer pressure, speeding on unfamiliar roads, distraction through mobile phones or inadequate use of seat belts. This suggests that young drivers need opportunities to practise decision-making in realistic situations rather than simply memorising traffic rules.

Finally, all three countries face the broader challenge of translating national road safety strategies into **consistent long-term behavioural change**. Belgium's relatively strong enforcement infrastructure, Greece's recent expansion of enforcement and Bulgaria's extensive national prevention activities demonstrate that significant institutional efforts already exist. Nevertheless, the persistence of risky behaviours shows that enforcement and campaigns alone cannot eliminate road safety risks. This represents an important opportunity for PAGE: the e-learning tool can provide a **transnational educational layer** that complements national strategies by combining evidence, legislation, realistic scenarios, simulations, case studies and personal testimonies. In this way, the project can address a common European challenge while remaining sensitive to the different national contexts of the three partner countries.

Sources – 7.6.

- **European Commission – EU Road Safety Policy: Enforcement and Safe Road Use.** (road-safety.transport.ec.europa.eu)
- **European Commission / European Road Safety Observatory – Country Profiles.** Comparative road safety data and indicators for EU Member States. (road-safety.transport.ec.europa.eu)

- **ESRA3 – Global Road Safety Insights.** International comparative evidence concerning attitudes, risk perception and self-reported road-user behaviour.
- **Vias Institute – Status Report Road Safety 2024.** Belgian evidence concerning speeding, alcohol, distraction and seat-belt use. (vias.be)
- **European Commission – Greece Road Safety Assessment 2026.** National performance indicators and implementation challenges. (eur-lex.europa.eu)

7.7. Country-Specific Challenges and Good Practices

The comparative research demonstrates that Greece, Bulgaria and Belgium share several road safety concerns, but the severity and nature of these challenges differ between the three countries. **Greece** continues to face a comparatively high road mortality rate and challenges related to speeding, drink-driving, protective equipment and consistent enforcement.

The implementation of the National Road Safety Strategic Plan 2021–2030 has nevertheless introduced a more structured approach based on the Safe System and Vision Zero principles, with measurable targets, a large set of planned measures and an integrated monitoring system. Recent European assessments also indicate progress associated with increased enforcement, improvements in infrastructure and the treatment of high-risk locations.

Bulgaria faces particularly significant challenges concerning its relatively high road fatality rate, speed compliance and the use of protective equipment, especially seat belts among rear-seat passengers. At the same time, the country has developed a comprehensive **National Road Safety Strategy 2021–2030**, supported by multi-year action plans and coordination through the State Agency Road Safety. A particularly relevant good practice is the development of targeted awareness and youth-oriented initiatives. The Bulgarian Union of Motorists' *Best Young Driver of Bulgaria* campaign, for example, has been organised nationally for several consecutive years and specifically targets drivers aged 18–26, combining competition, public awareness and practical road-safety education.

Belgium presents a different profile. Its road fatality rate is substantially lower than those of Greece and Bulgaria, and the country has achieved a significant reduction in fatalities since 2019. Its main challenges increasingly concern the reduction of serious injuries and the effective implementation of measures across federal, regional and local levels. The All for Zero framework represents a strong good practice in multi-level road safety governance, while the long-running BOB campaign provides an internationally recognised example of combining positive communication with police enforcement. BOB is particularly relevant because it promotes a socially positive alternative to drink-driving—the designated sober driver—while simultaneously increasing the perceived and actual likelihood of police checks.

The comparison therefore identifies three particularly useful areas of good practice for PAGE. Greece contributes an integrated strategic and monitoring approach; Bulgaria offers examples of youth-focused engagement and practical awareness activities; and Belgium provides strong examples of coordinated enforcement, behavioural communication and multi-level road safety governance. These practices should not be transferred mechanically from one country to another, but can be adapted to the different national contexts and incorporated into PAGE's educational methodology. In particular, the combination of evidence-based education, youth participation, realistic scenarios, positive behavioural messaging and enforcement awareness can provide a common transnational framework while allowing country-specific examples to remain visible.

Sources – 7.7.

- **European Commission – Road Safety Country Overview: Greece. National Road Safety Strategic Plan 2021–2030, implementation progress and identified challenges. (eur-lex.europa.eu)**
- **National Road Safety Strategic Plan of Greece 2021–2030 – National Technical University of Athens / Ministry of Infrastructure and Transport. (nrso.ntua.gr)**
- **European Commission – Road Safety Country Overview: Bulgaria. National Strategy 2021–2030, governance and implementation framework. (eur-lex.europa.eu)**
- **State Agency Road Safety – Bulgaria. *National Road Safety Strategy 2021–2030 and Action Plans*. (sars.gov.bg)**
- **Union of Bulgarian Motorists (SBA). *Best Young Driver of Bulgaria* – national youth road safety campaign. (sba.bg)**
- **Vias Institute – All for Zero. Belgian federal and interfederal road safety strategies and action plans. (vias.be)**
- **Vias Institute – BOB Campaign. Long-term Belgian good practice combining awareness, positive behavioural communication and police enforcement. (vias.be)**

8. Road Safety Campaigns and Existing Good Practices

Road safety campaigns and educational initiatives across Europe have evolved beyond traditional information-based communication. Increasingly, effective approaches combine awareness raising with behavioural education, practical experience, peer participation, digital tools and enforcement. This shift is particularly relevant for young drivers, who require not only knowledge of traffic regulations but also the ability to recognise risks, make safe decisions and understand the consequences of their behaviour.

The initiatives reviewed in this chapter were selected because they represent different approaches to road safety education and because they provide transferable lessons for the PAGE project. Particular attention is given to initiatives addressing young and novice drivers, risky behaviours such as speeding, distraction and alcohol-impaired driving, and the use of interactive or participatory methods.

8.1. Overview of Existing Initiatives

A significant European example is the ROADPOL Safety Days, an annual pan-European road safety campaign organised between 16 and 22 September. The initiative brings together police authorities, public institutions, schools, NGOs and other stakeholders with the common objective of demonstrating that achieving zero road fatalities is possible.

Its methodology combines enforcement, education and public engagement, rather than treating awareness raising as an isolated activity. The campaign also uses coordinated communication and the common message #ZeroMeansLife, allowing local and national activities to contribute to a shared European road safety narrative. Its main value for PAGE lies in demonstrating how road safety can be approached through coordinated action involving both authorities and communities.

A particularly relevant youth-oriented example is the European Best Young Driver (EBYD) initiative developed by FIA Region I. Rather than presenting young people as passive recipients of safety messages, the initiative requires participants to demonstrate both theoretical knowledge and practical driving competence in realistic situations.

The competitive format is designed to make road safety engaging for young drivers, while finalists can subsequently act as road safety ambassadors within their communities. The initiative therefore combines knowledge, practical skills, competition and peer influence, offering an alternative to conventional awareness campaigns.

Another strong example is the Young Mobility Ambassadors Program (YMAP), launched in Austria and subsequently expanded to Germany and Switzerland. The programme targets adolescents aged 14–19 and gives them an active role in developing their own road safety campaigns and solutions. Educational materials and interactive quizzes are combined with creative student projects, allowing young people to become creators and communicators of safety messages rather than simply receiving them.

In its 2025/26 implementation, the programme involved approximately 1,450 students from 43 schools and 65 classes, producing 102 student projects. This makes YMAP particularly relevant to PAGE because it demonstrates the potential of peer-to-peer education and youth participation.

A further relevant practice comes from the Netherlands through TeamAlert's Hazard Perception Training for Novice Drivers. The initiative recognises that novice drivers face elevated risk not simply because of their attitudes but also because they have limited experience in recognising and interpreting potentially dangerous traffic situations. TeamAlert therefore developed an online intervention based on scientific research and focused specifically on improving hazard perception among novice drivers. The initiative demonstrates the value of moving beyond general awareness and providing young drivers with specific cognitive and practical skills for identifying risks before they become dangerous situations.

Finally, an example directly relevant to the Greek context is the Road Safety and Urban Mobility Actions 2024–2026 implemented in the Region of Eastern Macedonia and Thrace. The initiative identified the limitations of purely theoretical road safety education and introduced experiential equipment, including crash simulators and intoxication/fatigue simulation goggles, to allow young participants to experience aspects of risky driving in a controlled environment. According to the initiative's reported evaluation, 95% of teachers assessed the practical component as excellent, while 74% of students stated that the training helped them understand the importance of road safety and 73% reported becoming more conscious road users. This provides particularly useful evidence for PAGE because it demonstrates how experiential and simulation-based learning can complement theoretical road safety education.

Taken together, these initiatives demonstrate several distinct but complementary models of road safety intervention: ROADPOL Safety Days demonstrate coordinated European awareness and enforcement; European Best Young Driver combines competition with practical competence; Young Mobility Ambassadors places young people at the centre of message creation; Hazard Perception Training focuses on developing a specific safety skill; and the Eastern Macedonia and Thrace initiative demonstrates the value of experiential simulation. These approaches provide a useful evidence base for the subsequent analysis of educational methods, digital tools, youth participation and

transferable practices that can inform the development of the PAGE e-learning tool.

Sources – 8.1.

- **European Road Safety Charter – European Best Young Driver.** European youth-focused initiative combining theoretical knowledge, practical driving skills and road safety ambassadorship.
- **ROADPOL – Safety Days.** European campaign combining enforcement, education and public engagement under the Vision Zero objective.
- **European Road Safety Charter – Young Mobility Ambassadors Award.** Youth-led road safety education and peer-to-peer participation in Austria, Germany and Switzerland.
- **European Road Safety Charter – Hazard Perception Training for Novice Drivers.** Research-based online training developed by TeamAlert for novice drivers.
- **European Road Safety Charter – Road Safety and Urban Mobility Actions 2024–2026.** Greek experiential road safety education using crash and intoxication/fatigue simulation.

8.2. Educational Approaches Used in Road Safety Campaigns

Contemporary road safety campaigns increasingly move beyond the traditional model of simply providing information about traffic rules and accident risks. Existing European initiatives indicate that effective road safety education combines knowledge acquisition, risk awareness, practical experience, behavioural reflection and active participation. This is particularly important for young and novice drivers, for whom lack of experience, inaccurate risk perception, peer influence and overconfidence can interact with risky behaviours.

The European Road Safety Charter identifies hazard perception, behavioural awareness and experiential learning as important components of interventions directed at young road users. One of the most established approaches is knowledge-based and evidence-based education. This involves providing young people with information about traffic regulations, risk factors, accident consequences and safe driving practices, but increasingly links this knowledge to realistic situations.

The *Learn to Drive* programme in Lithuania, for example, combines theoretical road traffic education with online testing, practical workshops and sessions involving police officers, paramedics and traffic psychologists. The programme also monitors students' test results and common mistakes, allowing educators to identify specific learning gaps. This illustrates the value of combining theoretical knowledge with practical and interdisciplinary education rather than treating road safety as a purely classroom-based subject.

A second approach is hazard perception and risk-recognition training. Rather than asking young drivers simply to remember rules, this method teaches them to identify potential dangers before they develop into crashes. TeamAlert's hazard perception training for novice drivers is based on scientific research and specifically addresses the difficulties inexperienced drivers have in interpreting traffic situations.

Similarly, the Czech *Start Driving* programme combines theoretical education with interactive activities designed to improve young drivers' ability to perceive and assess risks. This approach is particularly relevant to PAGE because it shifts the educational focus from *knowing what the rules are* towards *recognising when and how those rules need to be applied*.

A third approach is experiential learning and simulation. Here, participants are placed in controlled situations that reproduce some of the physical, perceptual or emotional consequences of unsafe road behaviour without exposing them to actual danger. The Greek Road Safety and Urban Mobility Actions programme, for example, uses intoxication and fatigue simulation goggles and crash simulators to allow young people to experience reduced spatial awareness, impaired reactions and the consequences of collisions. Similarly, a Czech VR initiative uses simulated crashes to create an emotionally engaging learning experience.

Its evaluation found that 84% of participants reported after the simulation that they had overestimated their reactions and concentration, while follow-up interviews indicated that many participants continued to remember the experience one year later.

Another important approach is scenario-based and problem-based learning. Instead of presenting road safety as a list of correct and incorrect behaviours, participants are asked to respond to realistic situations and consider the consequences of different decisions. The PAFSE educational scenarios provide an illustrative example: students were assessed before and after the intervention in relation to knowledge, risk perception, behavioural intentions and self-reported behaviour.

The intervention reported improvements in knowledge, risk perception and intentions towards safer behaviour. This type of methodology is particularly valuable for PAGE because it can reproduce situations that young drivers actually encounter, such as driving at night, travelling with friends, encountering unexpected hazards, using a mobile phone or deciding whether to drive after consuming alcohol. Peer-to-peer and participatory education represents another increasingly important approach.

Young people can be more receptive when safety messages are communicated through people of a similar age and social environment rather than exclusively through authorities or adults. The European Best Young Driver initiative combines practical competition with the development of young road safety ambassadors, while the Young Mobility Ambassadors approach allows young people to create their own road safety messages and campaigns. More recent initiatives such as Ireland's *Road Safety Reimagined* explicitly involve young people in redesigning road safety communication for their peers, recognising that conventional messaging may not always connect effectively with 18–25-year-olds.

Finally, an important educational approach is attitude and behavioural change, rather than knowledge acquisition alone. Research-based models increasingly attempt to influence risk perception, personal responsibility, emotional engagement and the intention to adopt safer behaviours. The *Attitude-Change Model for Road Safety Education*, for example, has been evaluated through longitudinal research and has reported durable improvements in areas including risk anticipation, emotional engagement with road safety and

commitment to safer driving. This is significant because knowledge of road safety rules does not automatically translate into safe behaviour. Effective education therefore needs to address the attitudes, motivations and decision-making processes that influence behaviour in real-life situations.

Overall, the reviewed practices indicate that the most relevant educational approaches for young drivers are evidence-based knowledge, hazard perception, scenario-based learning, experiential simulation, peer-to-peer education and behavioural/attitudinal change. These approaches are complementary rather than mutually exclusive. For PAGE, their combination provides a strong methodological foundation: the e-learning tool can provide the theoretical knowledge, present realistic scenarios, allow users to make decisions, incorporate interactive exercises and simulations, and use personal stories to encourage reflection on the consequences of risky behaviour. In this way, the educational process can move beyond simply informing young people about road safety and instead support them in recognising risks, making decisions and developing safer behavioural responses.

Sources – 8.2.

- European Road Safety Charter – Hazard Perception Training for Novice Drivers, TeamAlert, Netherlands.
- European Road Safety Charter – Education and Training Program for Young Drivers, Czech Republic.
- European Road Safety Charter – Road Safety and Urban Mobility Actions 2024–2026, Region of Eastern Macedonia and Thrace, Greece.
- European Road Safety Charter – VR Simulation of Traffic Accidents for Road Safety Education, Czech Republic.
- European Road Safety Charter – PAFSE: Partnerships for Science Education, educational scenario-based intervention.
- European Road Safety Charter – European Best Young Driver, FIA Region I.
- European Road Safety Charter – Road Safety Reimagined Initiative, Ireland.
- European Road Safety Charter – The Attitude-Change Model for Road Safety Education, longitudinal evaluation of behavioural and attitudinal education.

8.3. Digital and Interactive Approaches

The digitalisation of road safety education has created new opportunities to engage young people through learning formats that are more interactive, flexible and closer to their everyday digital environment. Traditional road safety education has often relied on printed materials, classroom presentations and information campaigns, whereas contemporary initiatives increasingly use online platforms, interactive videos, quizzes, gamification, simulations and virtual reality.

These approaches are particularly relevant for young and novice drivers because they allow participants to actively process information and practise decision-making rather than simply receiving safety messages. The European Road Safety Charter identifies technology and innovative educational activities as important areas for the development of effective road safety practices.

One relevant example is Yarrive, an Austrian digital learning platform developed by KfV for learner drivers. The platform uses gamification and spaced-repetition learning to provide short learning units, explanatory videos, games, exercises and knowledge checks. Rather than requiring learners to memorise large quantities of theoretical information, the platform aims to support understanding through repeated and interactive exposure to road safety content.

Yarrive can also be accessed remotely and across different devices, making it suitable for flexible learning environments. The platform was being used by approximately 700 students across more than 20 driving schools at the time of its European Road Safety Charter assessment.

Another important digital approach is interactive video-based hazard perception training. TeamAlert's intervention for novice drivers, developed in the Netherlands, uses videos depicting potentially dangerous traffic situations. Participants are asked to identify hazards

and predict what will happen before an experienced driver provides an alternative assessment and demonstrates the desired behaviour. The method therefore combines video content with active prediction, self-reflection and feedback. This is particularly valuable because it transforms a video from a passive communication medium into an interactive learning exercise in which the learner has to make a decision.

The development of virtual reality and immersive simulation represents a further step in digital road safety education. The Czech *Simulated Crash* initiative, for example, uses VR to reproduce dangerous traffic situations and crashes in a controlled environment. Participants can experience situations from different road-user perspectives and their own decisions can influence whether a simulated accident occurs. The project reported that 100% of respondents interviewed at the end of 2025 would recommend the experience, while 88% considered it highly beneficial. The online campaign associated with the project also reached more than 961,000 unique users and generated approximately 125,600 interactions, demonstrating how immersive education can be combined with large-scale digital communication.

VR is also being incorporated into longer educational programmes. The Fraunhofer IVI Accident Prevention School (FAPS) in Germany combines accident-data analysis, examination of real accident reports and virtual-reality simulations. Students first analyse local crash locations and accident causes and subsequently use VR to reconstruct critical situations and understand the perspectives of people involved in crashes. This combination is particularly interesting because technology is not used as an isolated attraction; instead, it is embedded within a broader educational process involving data analysis, discussion, risk identification and experiential learning.

Digital tools can also support scenario-based learning and hazard perception without requiring full VR technology. The Czech *Hazard Perception Initiative*, for example, introduced realistic scenarios, dynamic visualisations, interactive educational applications, videos and animations into novice-driver education and testing. The objective is to improve drivers' ability to anticipate potential hazards rather than

merely recognise traffic rules. The initiative has subsequently been integrated into the national driver-testing system and its outputs are reaching hundreds of thousands of novice drivers annually. This provides an important example of how interactive digital resources can move from a standalone educational project into a broader national training framework.

The available evidence also supports the educational potential of digital and simulation-based methods, although their effectiveness depends on how they are designed and implemented. A recent systematic review of driving-simulator interventions involving young novice drivers examined 15 intervention studies published between 2010 and 2022 and assessed their effects on driving skills and safety.

The findings provide evidence for the potential of simulator-based training while also highlighting the importance of appropriate intervention design and evaluation. More broadly, systematic evidence on digital serious games in education indicates improvements in knowledge and attitudes compared with traditional education, with web-based, computer-based and VR formats showing particular potential in different learning outcomes.

For PAGE, the key lesson is that digitalisation should not simply mean transferring traditional road-safety information onto a website. The strongest examples use technology to change the learning process itself. Users are asked to identify a hazard, predict an outcome, make a decision, experience a simulated consequence, answer a question, receive feedback or repeat an activity until the correct response is understood. This supports a more active learning model in which the learner becomes involved in the educational process.

Consequently, the evidence reviewed in this section supports the integration of several digital approaches within the PAGE e-learning tool: short multimedia learning units, interactive quizzes, scenario-based exercises, hazard-perception activities, gamification, digital simulations and feedback mechanisms. The PAGE platform can combine these elements with the theoretical content developed through the Research Database, allowing young people to move from understanding road safety principles to applying them in realistic

situations. This would also directly address one of the main gaps identified in the previous chapters: the distance between knowing what safe driving means and being able to make safe decisions when confronted with real-life risks.

Sources – 8.3.

- **European Road Safety Charter – Yarrive: The platform for easy sharing of driving school knowledge.** Austria.
- **European Road Safety Charter – Hazard Perception Training for Novice Drivers.** TeamAlert, Netherlands.
- **European Road Safety Charter – VR Simulation of Traffic Accidents for Road Safety Education.** Czech Republic.
- **European Road Safety Charter – Fraunhofer IVI Accident Prevention School (FAPS).** Germany.
- **European Road Safety Charter – Hazard Perception Initiative.** Platforma VIZE 0, Czech Republic.
- **Krasniuk et al. (2024), *The effectiveness of driving simulator training on driving skills and safety in young novice drivers: A systematic review of interventions*.** Journal of Safety Research.
- **Systematic review and Bayesian network meta-analysis of digital serious games in education (2026).** Evidence on digital games, knowledge and attitudes.
- **European Road Safety Charter – Guidelines and Tools / Good Practices.** European framework for assessing innovative and technology-based road safety initiatives.

8.4. Peer-to-Peer and Youth-Focused Approaches

Young people represent one of the most important target groups for road safety interventions, but they are also a particularly challenging audience for traditional awareness campaigns. Young and novice drivers are more likely to be affected by limited driving experience, peer influence, risk-taking, distraction and an underestimation of danger. For this reason, a growing number of European initiatives are moving away

from approaches in which young people are simply the recipients of messages and instead involve them as active participants, creators and communicators of road safety content. This peer-to-peer model is based on the assumption that messages can become more relevant and credible when they are expressed through the language, experiences and communication channels of young people themselves.

A strong example is the Young Mobility Ambassadors Program (YMAP), launched in Austria and subsequently expanded to Germany and Switzerland. The initiative targets adolescents aged 14–19 and specifically addresses behaviours such as distraction, speeding, peer influence and unsafe mobility practices. Rather than simply providing students with prepared information, the programme gives them the opportunity to develop their own road safety ideas, create messages and communicate them to their peers.

The combination of educational support, creative freedom and competition was identified as particularly effective in engaging young people. The programme eventually involved 43 schools, 65 classes and approximately 1,450 students, producing 102 student projects. This provides evidence that youth participation can transform road safety education from a passive learning activity into a process of creativity, reflection and social influence.

A similar principle can be observed in Ireland's Road Safety Reimagined Initiative, which specifically works with 18–25-year-old students, including early-stage, learner and novice drivers. The initiative was developed in response to the recognition that young people are not always receptive to conventional road safety marketing. Students are therefore given the opportunity to use their own experiences, knowledge and marketing skills to reimagine road safety campaigns for their peers.

The initiative is embedded within university curricula and combines academic research with practical campaign development. In 2025, more than 1,000 young people participated. This approach is particularly relevant because it demonstrates how road safety education can simultaneously develop young people's knowledge, communication skills and sense of ownership over the safety message.

Another relevant model is the European Best Young Driver (EBYD) initiative. Although it uses a competitive rather than purely peer-education format, it places young people in an active role and uses peer influence as part of its multiplier effect. Participants are required to demonstrate theoretical knowledge, practical driving competence and safe attitudes in realistic driving situations. Successful participants can subsequently become road safety ambassadors, allowing the message to reach wider youth networks. The initiative therefore reframes road safety from something imposed by authorities into a competence and achievement that young people can actively demonstrate and promote.

The potential of peer-to-peer education is also supported by previous European research projects. The European Commission's road safety research portfolio includes MODULE CLOSE TO II, which specifically explored peer-education methods in which young drivers who had experienced road accidents shared their experiences with learner drivers. Other European initiatives such as YEARS – Young Europeans Acting for Road Safety and ROSYPE – Road Safety for Young People in Europe similarly demonstrate the longstanding European interest in involving young people directly in road safety education rather than treating them exclusively as a vulnerable target group.

An important characteristic of youth-focused approaches is that they frequently combine education with social influence. Young people do not make driving decisions in isolation: passengers, friends, social expectations and the desire to fit into a group can influence decisions concerning speed, alcohol consumption, seat-belt use or mobile-phone behaviour. Peer-oriented programmes can therefore address not only the individual driver's knowledge but also the social environment in which risky behaviour occurs. This is particularly relevant to PAGE because some of the situations identified through the Research Database—such as pressure from friends to drive after drinking, distraction by passengers or attempts to impress peers—are inherently social rather than purely individual problems.

Peer-to-peer approaches also have an important multiplier effect. When young participants create campaigns, discuss road safety with friends or become ambassadors, the educational impact can extend beyond the original training group.

This principle is visible in YMAP, where students communicate their own projects and ideas, and in Road Safety Reimagined, where university students develop communication material intended specifically for their peers. The young person therefore becomes not only a learner but also a potential road safety communicator and role model.

For PAGE, the main lesson is that youth participation should not be limited to asking young people to complete an online questionnaire or consume educational material. The e-learning tool can incorporate peer perspectives, youth-generated scenarios, realistic social situations, personal experiences and decision-making activities. Even when the final content is developed by project partners, it can be designed to use language, situations and dilemmas that young people recognise from their own lives. The inclusion of anonymised testimonies and case studies, already identified in the Research Database, can further strengthen this approach by allowing young users to reflect on experiences presented from a peer perspective.

Overall, existing European practices indicate that the strongest youth-focused approaches share three characteristics: they make young people active participants, communicate through contexts and formats that are relevant to their lives, and create opportunities for young people to influence other young people. For PAGE, this supports the development of an e-learning experience that is not purely instructional but participatory and scenario-based. The objective is therefore not simply to tell young drivers what they should do, but to encourage them to recognise risky situations, question social pressures, consider consequences and ultimately develop a stronger personal commitment to responsible driving.

Sources – 8.4.

- **European Road Safety Charter – Young Mobility Ambassadors Award (YMAP).** Austria, Germany and Switzerland; youth-led peer-to-peer road safety education.
- **European Road Safety Charter – Road Safety Reimagined Initiative.** Ireland; young people developing road safety campaigns for their peers.

- **European Road Safety Charter – European Best Young Driver.** FIA Region I; youth participation, practical competence and road safety ambassadorship.
- **European Commission – European Road Safety Observatory, Projects Financed by the Commission.** Includes MODULE CLOSE TO II, YEARS and ROSYPE among European youth-focused road safety initiatives.
- **European Road Safety Charter – Hazard Perception Training for Novice Drivers.** Evidence on the importance of active participation, self-reflection and youth-specific education.

8.5. Strengths of Existing Campaigns

The review of existing European road safety initiatives demonstrates that the strongest campaigns increasingly move beyond simple information provision and combine awareness, education, behavioural change and active participation. One of their main strengths is their ability to define a specific target group and address clearly identified risk factors rather than communicating general road safety messages to the population as a whole.

This is particularly important for young drivers, whose risks are associated with specific factors such as inexperience, speeding, distraction, peer influence and alcohol-impaired driving. The European Road Safety Charter recommends that campaigns should be based on research, clearly defined objectives and an understanding of the target audience.

A second major strength is the increasing use of evidence-based and evaluated approaches. Effective initiatives increasingly collect information about participants' knowledge, attitudes, risk perception and behavioural intentions before and after an intervention. For example, the PAFSE educational intervention used pre- and post- scenario questionnaires and a control group, reporting improvements in road safety knowledge, risk perception and intentions towards safer behaviour. Similarly, the Road Safety and Urban Mobility Actions

implemented in Eastern Macedonia and Thrace used questionnaires and feedback forms to assess changes in attitudes and participant satisfaction. Such approaches are important because they allow educational interventions to demonstrate more than simple participation or visibility.

A third strength is the active and experiential nature of contemporary road safety education. Interactive scenarios, hazard- perception exercises, simulations, VR and practical activities require participants to make decisions rather than simply listen to a message. This is particularly valuable for young drivers because road safety competence depends not only on knowing traffic regulations but also on recognising hazards and responding appropriately under pressure.

The European examples examined in the previous sections demonstrate how simulations and interactive learning can make potentially abstract risks more concrete and memorable. VR-based initiatives such as the Fraunhofer IVI Accident Prevention School also evaluate participants' understanding of accident causation, awareness of risks and perceived influence on future behaviour.

Another important strength is the increasing involvement of young people themselves. Youth-focused initiatives such as Young Mobility Ambassadors and Road Safety Reimagined allow young people to create, adapt or communicate road safety messages for their peers. This approach can improve relevance and engagement because the communication reflects the language, experiences and social realities of the target group.

The Road Safety Reimagined initiative, for example, has involved more than 2,500 students aged 18–25 over three years and has collected individual reflections concerning the influence of the initiative on participants' driving practices and wider family circles.

A further strength is the use of multiple communication channels and complementary interventions. Successful road safety practice increasingly combines digital communication, educational activities, social media, practical training and, where appropriate, enforcement. This is important because awareness campaigns alone have limited capacity to produce sustained behavioural change. WHO evidence indicates that education and awareness are valuable for communicating

risks, laws and consequences, but they are substantially more effective when combined with strong and sustained enforcement and appropriate legislation. The European Road Safety Charter similarly stresses that campaigns should operate alongside measures such as legislation, enforcement, driver training and education. The reviewed campaigns also demonstrate the value of clear, memorable and emotionally relevant communication. Messages that connect risky behaviour with realistic personal, social and legal consequences can make road safety more meaningful to young audiences.

WHO's review of road safety campaigns found that target audiences often responded particularly well to messages concerning the consequences of unsafe behaviour, including consequences for drivers, families, friends and other road users. At the same time, such messaging is most effective when it forms part of a broader intervention rather than functioning as an isolated communication activity.

Finally, a major strength of the most advanced initiatives is their potential for replication, scalability and adaptation. YMAP, for example, expanded from its initial implementation to Austria, Germany and Switzerland, while the European Best Young Driver initiative has developed common tools and standards that allow implementation across different national contexts. This demonstrates that road safety education can have a common European methodological foundation while still being adapted to national legislation, cultural contexts and behavioural patterns.

Overall, the review identifies several characteristics that can be considered strengths of existing road safety campaigns: evidence-based design, clearly defined target groups, behavioural focus, active participation, experiential learning, digital and interactive tools, peer involvement, emotional relevance, evaluation and integration with broader road safety measures.

However, the evidence also makes clear that campaigns should not be considered a standalone solution. Their greatest potential appears when they form part of a wider educational and enforcement ecosystem. This finding is particularly relevant for PAGE, as the project can combine these strengths within a single digital learning environment and use research findings, realistic scenarios, simulations, case studies and interactive activities to transform road safety knowledge into practical decision-making skills.

Sources – 8.5.

- **European Road Safety Charter – How to Run Effective Road Safety Awareness Campaigns.** Guidance on evidence-based design, target groups, pre-testing, implementation and evaluation.
- **European Road Safety Charter – PAFSE: Partnerships for Science Education.** Evaluation of scenario-based road safety education using pre/post questionnaires and a control group.
- **European Road Safety Charter – Road Safety and Urban Mobility Actions 2024–2026.** Evaluation of an experiential road safety education programme in Eastern Macedonia and Thrace, Greece.
- **European Road Safety Charter – Fraunhofer IVI Accident Prevention School.** Evidence on VR-supported road safety education and evaluation.
- **European Road Safety Charter – Road Safety Reimagined Initiative.** Youth participation and peer-oriented communication in Ireland.
- **European Road Safety Charter – Young Mobility Ambassadors Award.** Youth-led road safety education across Austria, Germany and Switzerland.
- **European Road Safety Charter – European Best Young Driver.** Youth-focused practical training, competition and road safety ambassadorship.
- **World Health Organization – Road Safety Mass Media Campaigns: A Toolkit.** Evidence and guidance on the role and limitations of awareness campaigns.

8.6. Identified Weaknesses and Gaps

Despite the considerable progress made in road safety communication and education, the review of existing European initiatives also reveals several important weaknesses. One of the most significant is the limited evidence concerning long-term behavioural and crash outcomes.

Many campaigns evaluate immediate outcomes such as participation, knowledge, satisfaction, attitudes or behavioural intentions, while considerably fewer establish whether these changes are maintained over time or lead to measurable reductions in crashes and injuries. A systematic review of interventions targeting adolescents and young people found that the available evidence was predominantly based on educational and behavioural interventions, while the methodological quality of many studies was only moderate. The authors therefore highlighted the need for more rigorous evaluation and stronger evidence concerning long-term effectiveness.

A second weakness concerns the gap between awareness and actual behaviour. Knowing that speeding, alcohol consumption or mobile-phone use are dangerous does not necessarily mean that young drivers will avoid these behaviours in real-life situations. This is particularly relevant where campaigns rely heavily on information, emotional messages or one-off awareness events without providing opportunities for repeated practice, feedback and behavioural reinforcement. Research on young and novice drivers suggests that behavioural interventions can be beneficial, but the evidence remains heterogeneous and the transfer of improvements from controlled or educational environments to real-world driving is not always established.

Another important gap is the fragmentation of approaches. Many initiatives focus primarily on one dimension of road safety—for example, speeding, drink-driving, hazard perception, distraction or seat-belt use—while young drivers experience several risk factors simultaneously. Evidence from systematic reviews indicates that multifaceted interventions can be particularly promising, suggesting that road safety education is more effective when education and behavioural approaches are integrated with other measures such as enforcement, legislation and practical interventions. This represents an important opportunity for PAGE, as the e-learning tool can bring together several risk areas within one coherent educational pathway.

There is also a digital effectiveness gap. Digital tools, gamification, simulations and VR can substantially increase engagement, but technological innovation should not automatically be equated with educational effectiveness. A recent systematic review of simulator-based interventions for young novice drivers found immediate improvements in some simulated driving skills, while the evidence remained insufficient to establish whether these improvements consistently transfer to real-world driving safety. The authors therefore recommend using simulation as a complement to, rather than a replacement for, established driver education and practical training.

Finally, existing campaigns do not always make sufficient use of young people as co-creators of road safety solutions. Although peer-to-peer approaches are becoming more common, many interventions continue to be designed primarily by institutions and subsequently communicated to young audiences. This can create a distance between the campaign message and the everyday social situations in which young people make driving decisions.

For PAGE, this gap reinforces the importance of using realistic scenarios, youth-oriented language, personal testimonies, interactive decision-making and situations involving peer pressure, passengers, alcohol, distraction and risk-taking. The objective should therefore not simply be to produce another awareness campaign, but to create a continuous, interactive and evidence-informed learning experience that addresses the limitations identified in existing practice.

Sources – 8.6.

- **Malekpour et al. (2024), *The effect of intervention programs on road traffic injury prevention among adolescents and young people: A systematic review*.** Evidence concerning effectiveness and methodological limitations of interventions targeting young people.
- **Hafetz et al. (2025), *The effectiveness of behavioural interventions on young, novice drivers' motor vehicle crash risk: A systematic review*.** Review of behavioural interventions and their effects on young novice drivers.

- **Krasniuk et al. (2024), *The effectiveness of driving simulator training on driving skills and safety in young novice drivers: A systematic review of interventions***. Evidence concerning simulator training and limitations in demonstrating transfer to real-world safety.
- **Effects of interventions for preventing road traffic crashes: An overview of systematic reviews (2022)**. Evidence concerning enforcement, campaigns and multifaceted road safety interventions.
- **Phillips, Ulleberg & Vaa (2011), *Meta-analysis of the effect of road safety campaigns on accidents***. Meta-analysis of 67 studies examining road safety campaign effectiveness.
- **World Health Organization (2019), *Road Safety Mass Media Campaigns: A Toolkit***. Guidance on the role of campaigns as part of broader road safety strategies.

8.7. Transferable Good Practices for PAGE

The review of existing road safety initiatives indicates that gamification can be a particularly relevant approach for PAGE, as it can transform road safety education from a passive learning experience into an interactive process. Recent systematic research on road safety education identifies gamification, alongside interactive media and virtual reality, as promising tools for improving engagement, knowledge and safety-related behaviours among young people. In this context, the PAGE platform should incorporate game elements such as points, scores, challenges, quizzes, levels, immediate feedback and scenario-based decisions, allowing young users to actively apply the knowledge acquired through the different learning modules.

The gamification approach should, however, be used as a pedagogical mechanism rather than simply as entertainment. Within PAGE, users can be presented with realistic driving situations involving speeding, distraction, alcohol, peer pressure, seat-belt use and unexpected hazards, and receive points according to the safety of their decisions. Progression through the platform can reward users for completing activities and demonstrating understanding, while feedback can explain

why a particular decision is safe or dangerous. This approach is consistent with recent research showing that interactive and gamified road safety education can enhance engagement, although the evidence regarding long-term behavioural change remains developing.

The main transferable practice for PAGE is therefore the integration of gamification throughout the platform rather than concentrating it in a single final game. The theoretical content, interactive scenarios, quizzes and practical simulations can progressively contribute to the user's overall score and learning progression. At the same time, PAGE should avoid suggesting that achieving a high score automatically means that a person is a safe driver, since current research does not yet provide sufficient evidence that gamification alone produces sustained real-world behavioural change. The strongest model for PAGE is consequently one in which gamification reinforces evidence-based educational content, encourages repeated engagement and provides opportunities for reflection and decision-making, ultimately making road safety learning more engaging and memorable for young people.

Sources – 8.7.

- **Nawaz et al. (2026), “Road Safety Education for Children and Adolescents: A Systematic Review of Effectiveness, Methods, and Challenges.”** *Transportation Research Part F: Traffic Psychology and Behaviour*.
- **Avril et al. (2024), “Gamification in the Transport and Mobility Sector: A Systematic Review.”** *Transportation Research Part F: Traffic Psychology and Behaviour*, 104, 286–302.
- **Krasniuk et al. (2024), “The Effectiveness of Driving Simulator Training on Driving Skills and Safety in Young Novice Drivers: A Systematic Review of Interventions.”** *Journal of Safety Research*, 91, 20–37.
- **Awanda & Indriasari (2026), “Game-Based Applications for Traffic Education: A Systematic Literature Review.”** *Jurnal Buana Informatika*, 17(1), 95–108.

9. Legal and Policy Landscape

The legal and policy landscape of road safety in Europe is shaped by a combination of European Union frameworks, national legislation, enforcement systems and public policy measures. While the European Union establishes common objectives, minimum standards and mechanisms for cooperation between Member States, the detailed regulation of driving behaviour, penalties and enforcement remains largely within national competence. This creates a multi-level system in which European objectives such as reducing road deaths and serious injuries must be translated into national legislation, enforcement practices and educational interventions.

For the purposes of the PAGE project, understanding this landscape is particularly important because young drivers are affected not only by the general rules of the road, but also by specific provisions applicable to novice drivers, including licensing conditions, probationary periods, alcohol restrictions and penalties. The following sections therefore examine the European framework and its relationship with national legislation in Greece, Bulgaria and Belgium, focusing specifically on the areas most relevant to young-driver safety: speeding, distraction and mobile-phone use, alcohol and drug-impaired driving, and the effectiveness of penalties and enforcement.

9.1. EU Road Safety Framework

The European Union's road safety policy is built around the long-term objective of “Vision Zero”, which seeks to bring the number of deaths and serious injuries on European roads as close to zero as possible by 2050. As an intermediate objective, the EU aims to halve road deaths and serious injuries between 2020 and 2030. The current framework, the EU Road Safety Policy Framework 2021–2030 – Next steps towards “Vision Zero”, is based on the Safe System Approach.

This approach recognises that road crashes cannot be prevented entirely, but deaths and serious injuries can be reduced by designing a transport system that anticipates human error and ensures that mistakes do not automatically result in fatal consequences. Consequently, responsibility for safety is distributed across several elements of the system, including road users, vehicles, infrastructure, speed management and post-crash care.

The EU framework therefore goes beyond simply establishing traffic rules. It combines legislation, infrastructure standards, vehicle safety requirements, enforcement, education, data collection and cooperation between Member States. Key areas include safe road use, safe speeds, preventing drink-driving and distracted driving, the use of seat belts and protective equipment, safer vehicles and roads, and effective post-crash response. EU legislation also facilitates the cross-border enforcement of major road-safety-related offences, including speeding, drink-driving, drug-driving, failure to use seat belts and illegal mobile-phone use.

More recently, the revised EU Driving Licence Directive (2025/2205) has strengthened the European approach towards novice drivers by introducing a minimum two-year probationary period and requiring Member States to apply stricter rules or sanctions for novice drivers who drive under the influence of alcohol, while also addressing drug-driving, safety-system compliance and risk-awareness training. This is particularly relevant to PAGE because it demonstrates that young-driver education is increasingly considered part of the wider European road-safety system rather than a separate awareness activity.

Sources – 9.1. EU Road Safety Framework

- European Commission, **EU Road Safety Policy Framework 2021– 2030 – Next steps towards “Vision Zero”**. European Commission – EU Road Safety Policy Framework
- European Commission, **What we do – Road Safety**. European Commission – Road Safety Policy
- European Commission, **EU Road Safety Policy Framework / Safe System Approach**. European Commission – Safe System and Road Safety Policy
- European Union, **Directive (EU) 2025/2205 on driving licences**. EUR-Lex – Directive (EU) 2025/2205
- European Union, **Directive (EU) 2015/413 on cross-border exchange of information on road-safety-related traffic offences**. EUR-Lex – Directive 2015/413

9.2. National Road Safety Legislation

Road safety legislation in Greece, Bulgaria and Belgium is primarily established at national level, within the broader framework created by EU law. Although the three countries share common principles concerning driving licences, road traffic offences, vehicle safety and enforcement, their legislative systems differ in structure and implementation. Greece regulates road user behaviour primarily through the Road Traffic Code (KOK), with the new Code adopted in 2025 introducing a stronger classification of offences according to their severity and a greater emphasis on deterrent sanctions.

Bulgaria's framework is centred on the Road Traffic Act (Закон за движението по пътищата) and its implementing regulations, complemented by provisions of the Criminal Code and administrative sanctions legislation. In Belgium, road traffic legislation operates within a more decentralised institutional structure, with federal legislation complemented by regional competences and regulations.

Despite these structural differences, national legislation in all three countries regulates the main behavioural factors associated with road crashes, including speeding, drink- and drug-driving, mobile-phone use, seat-belt use, dangerous manoeuvres and other traffic violations. Legislation is supported by administrative and, for more serious offences, criminal sanctions, as well as licence-related measures such as suspension or disqualification.

The current direction of national policy is also increasingly linked to digital enforcement and technological monitoring. Greece, for example, is expanding automated camera enforcement and digital processing of traffic violations, while Bulgaria is updating its Road Traffic Act and enforcement mechanisms. Belgium has also continued to modify its legislation concerning driving disqualification and novice drivers. Consequently, national road safety legislation should be understood not simply as a set of rules, but as a wider system connecting legal obligations, sanctions, enforcement mechanisms and prevention policies.

Sources – 9.2. National Road Safety Legislation

- Hellenic Republic, **Law 5209/2025 – New Road Traffic Code (KOK)**. [Official text – New Greek Road Traffic Code](#)
- Ministry of Interior of Bulgaria, **Road Traffic Act and related legislation**. [Bulgarian Ministry of Interior – Laws and Codes](#)
Belgian Federal Public Service Mobility and Transport, **Road Traffic Legislation and recent amendments**. [Belgian Mobility – Road Traffic Legislation](#)
- European Commission, **EU Road Safety Legislation**. [EU Road Safety Legislation](#)
- European Commission, **European Road Safety Observatory – Country Profiles**. [Road Safety Country Profiles](#)

9.3. Legislation Relevant to Young Drivers

Young and novice drivers are increasingly recognised within European road safety policy as a group requiring additional protection and graduated regulation, because their limited driving experience and greater exposure to risk can increase the probability of serious crashes. The EU's recently adopted Directive (EU) 2025/2205 on driving licences introduces a harmonised minimum two-year probationary period for novice drivers. During this period, Member States are required to apply stricter rules or sanctions concerning driving under the influence of alcohol and to take measures addressing drug-driving and compliance with safety-belt and child-restraint requirements. The Directive also strengthens the role of risk awareness and behavioural training, indicating a shift towards combining sanctions with additional education for novice drivers.

At national level, the way these principles are applied differs between the PAGE partner countries. Greece already distinguishes novice drivers for certain road-safety provisions, including a lower permitted blood-alcohol concentration, while national legislation also establishes specific licensing and sanction mechanisms. Belgium has a clearly defined legal distinction for novice drivers, with specific consequences

for serious offences committed during the first two years after obtaining a category B licence; from July 2026, similar provisions were extended to holders of provisional licences who commit serious offences. Bulgaria has also been developing additional measures for young drivers, including proposals concerning accompanied driving and restrictions for drivers under 21. These developments demonstrate that legislation concerning young drivers is moving towards a model in which the first years of driving are treated as a distinct risk-management period, combining licensing, supervision, behavioural restrictions, education and stronger consequences for serious violations.

Sources – 9.3. Legislation Relevant to Young Drivers

- European Union, **Directive (EU) 2025/2205 on driving licences** – provisions concerning novice drivers and probationary periods. [EUR-Lex – Directive \(EU\) 2025/2205](#)
- European Commission, **Modernised EU rules on driving licences and driving disqualifications**. [European Commission – Modernised Driving Licence Rules](#)
- European Commission, **Novice drivers and road safety: managing risks in the first years**. [European Road Safety Charter – Novice Drivers](#)
- European Union, **Your Europe – Road rules and safety in Greece**, including specific alcohol limits for novice drivers. [Your Europe – Road Rules and Safety in Greece](#)
- Federal Public Service Mobility and Transport, Belgium, **Recent amendments concerning novice and provisional drivers**. [Belgian Mobility – Road Traffic Changes 2026](#)
- Council of the European Union, **New EU driving licence rules – accompanied driving and novice-driver probationary period**. [Council of the EU – New Driving Licence Rules](#)

9.4. Speeding and Traffic Violations

Speeding is consistently identified as one of the principal contributors to road deaths and serious injuries in Europe. The European Road Safety Observatory identifies speed as a key road-safety performance indicator because both excessive speed (driving above the legal limit) and inappropriate speed (driving too fast for prevailing road, weather or traffic conditions) increase crash probability and severity. European evidence also demonstrates a persistent gap between knowledge of speed limits and actual behaviour.

ESRA research has identified speeding among the most frequently self-reported traffic violations, with between approximately 40% and 70% of respondents, depending on the road environment and region, reporting at least one speeding behaviour. Enforcement is therefore considered an essential component of road safety policy, particularly because the perceived probability of being detected influences compliance with speed limits.

The situation is also reflected in the national enforcement data of the PAGE partner countries. In Greece, for example, the Hellenic Police recorded 1,899 speeding violations in June 2024, 1,784 in July, 1,648 in August, and 1,862 in September, within its monthly traffic enforcement operations. Speeding was repeatedly the largest category among the dangerous traffic violations recorded in these operations.

In Belgium, Vias reported in 2024 that 30% of surveyed drivers had received a traffic fine during 2023, and 80% of those fines concerned speeding. Importantly, around six in ten drivers who had received a speeding fine reported that the sanction had influenced their subsequent behaviour, illustrating the potential deterrent effect of enforcement when violations are actually detected and followed by a meaningful sanction.

Sources – 9.4. Speeding and Traffic Violations

- European Commission, **European Road Safety Observatory – Thematic Reports**, including *Speed and Speeding* and *Traffic Law Enforcement*.
- European Commission, **Enforcement – EU Road Safety Policy**.

- European Commission, **Baseline project – Key Road Safety Performance Indicators.**
- ESRA/Vias Institute, **ESRA2 Thematic Report No. 6 – Enforcement and Traffic Violations.**
- Hellenic Police, **Monthly Road Safety Enforcement Reports – 2024.**
- Vias Institute, **Speeding fines and behavioural change – 2024.**

9.5. Distracted Driving and Mobile Phone Use

Driver distraction is a major road safety problem because it reduces the driver's ability to continuously perceive and respond to the traffic environment. The European Road Safety Observatory distinguishes between visual distraction (taking the eyes away from the road), manual distraction (taking the hands away from the controls) and cognitive distraction (diverting mental attention away from driving). Mobile-phone use can involve all three simultaneously, particularly when drivers read or write messages.

According to the European Commission's 2024 thematic report on distraction, drivers engage in distracting activities during approximately half of their driving time, while almost one in three European drivers report having used a handheld mobile phone for conversation and almost one in four report having used one to check texts or social media. Young drivers are more likely than older drivers to report mobile-phone use while driving. Critically, the Commission reports that using a handheld mobile phone increases crash risk by approximately 2.5 times.

All European countries prohibit the use of handheld mobile phones while driving, but the effectiveness of the legal prohibition depends strongly on enforcement and perceived detection risk. National enforcement data illustrate how mobile-phone use remains a recurring traffic offence: the Hellenic Police recorded 120 mobile-phone violations in June 2024, 95 in July, 62 in August and 98 in September, alongside thousands of other dangerous traffic violations. The European Commission therefore identifies a combination of strict enforcement, awareness campaigns, driver education and technological solutions,

including smart cameras and in-vehicle warning systems, as relevant measures for reducing distraction. For young drivers in particular, this has an important educational implication: simply knowing that mobile-phone use is illegal may not be sufficient; training should address the mechanisms of distraction and place young drivers in realistic situations where they must recognise and manage competing demands for their attention.

Sources – 9.5. Distracted Driving and Mobile Phone Use

- European Commission / European Road Safety Observatory, **Thematic Report: Driver Distraction**, 2024.
- European Commission, **Distraction – EU Road Safety Policy**.
- European Commission, **Enforcement – EU Road Safety Policy**.
- European Commission, **Baseline project – Key Road Safety Performance Indicators**, including distraction.
- Hellenic Police, **Monthly Road Safety Enforcement Reports – 2024**.
- ESRA/Vias Institute, **ESRA Thematic Reports on Enforcement, Traffic Violations and Distraction**.

9.6. Driving Under the Influence of Alcohol and Drugs

Driving under the influence of alcohol and drugs remains one of the most significant behavioural risk factors for fatal road crashes in Europe. According to the European Road Safety Observatory, around one quarter of road deaths in the EU are alcohol-related, while drivers who have consumed alcohol have a substantially higher risk of being involved in a fatal crash than sober drivers. The risk is further increased when alcohol is combined with drugs: the European evidence indicates that the combination of alcohol and psychoactive substances can multiply crash risk considerably. For this reason, European road safety policy promotes a combination of strict legal limits, random roadside testing, effective sanctions, rehabilitation and awareness programmes, rather than relying on legislation alone. The European Commission also recommends particularly strict or zero-alcohol limits for novice drivers, recognising their increased vulnerability during the first years of driving.

The experience of Belgium demonstrates the importance of combining legislation with systematic enforcement. Vias' 2024 national behavioural measurement, based on 8,370 car drivers and 411 police alcohol controls, found that 1.4% of tested car drivers were above the legal alcohol limit. The figure increased substantially during weekend nights (7.2%) and weekday nights (3.6%), compared with daytime driving. At the same time, Belgium's BOB enforcement campaign has progressively increased the scale of roadside testing: during the 2024–2025 winter campaign, more than 605,000 drivers were tested, with 1.2% testing positive. These findings illustrate an important policy principle for PAGE: the effectiveness of legislation depends not only on the level of the legal limit or severity of penalties, but also on the perceived probability of detection and the combination of enforcement, social norms and preventive education.

Sources – 9.6. Driving Under the Influence of Alcohol and Drugs

- European Commission / European Road Safety Observatory, **Alcohol and Drugs – Thematic Report.**
- European Commission, **Alcohol – EU Road Safety Policy.**
- European Commission, **Prevention of driving under the influence of alcohol and drugs.**
- Vias Institute, **National Behavioural Measurement “Driving Under the Influence of Alcohol” 2024.**
- Vias Institute, **BOB Winter Campaign 2024–2025.**

9.7. Penalties, Enforcement and Prosecution

Penalties and enforcement are a critical part of the road safety system because legislation can only influence behaviour when road users perceive that violations are detectable and followed by credible consequences. The European Commission identifies speeding, drink-driving, failure to use seat belts and mobile-phone use among the main offences requiring enforcement, and recommends combining traditional roadside controls with automated technologies such as speed and red-light cameras.

Effective enforcement should be sufficiently visible to deter potential offenders while also using less predictable controls to increase the perceived likelihood of detection. EU policy also facilitates cross-border enforcement of road-safety-related offences, allowing authorities to pursue certain traffic violations committed by drivers in another Member State. This is particularly important in an increasingly mobile European population, where the effectiveness of national enforcement should not depend solely on where a vehicle is registered.

Available national evidence shows substantial enforcement activity across the PAGE countries, but also highlights the difference between the existence of sanctions and their practical deterrent effect. In Greece, for example, Hellenic Police enforcement operations recorded 14,541 traffic violations in June 2024, including 1,899 speeding offences, 164 drink-driving offences and 120 mobile-phone offences. In August, 12,459 violations were recorded, including 1,648 speeding, 118 drink-driving and 62 mobile-phone offences.

Belgium similarly combines police controls with extensive automated enforcement and behavioural monitoring; its recent alcohol campaigns have involved hundreds of thousands of roadside tests. The European evidence therefore suggests that prosecution and penalties should not be assessed only by their formal severity: their road-safety value depends on consistent application, detection probability, speed of processing, proportionality, repeat-offender management and whether sanctions actually lead to safer subsequent behaviour.

Sources – 9.7. Penalties, Enforcement and Prosecution

- European Commission, **Enforcement – EU Road Safety Policy**.
- European Commission / European Road Safety Observatory, **Traffic Law Enforcement – Thematic Report**.
- European Commission, **EU Road Safety Legislation and Cross-Border Enforcement**.
- Hellenic Police, **Monthly Road Safety Enforcement Report – June 2024**.

- Hellenic Police, **Monthly Road Safety Enforcement Report – August 2024.**
- Vias Institute, **National Behavioural Measurement – Driving Under the Influence of Alcohol 2024.**

9.8. Identified Legislative and Implementation Gaps

Although the EU and national frameworks of Greece, Bulgaria and Belgium provide extensive regulation of the main road-safety risks, the research indicates that the existence of legislation does not automatically translate into safe behaviour or effective prevention. A recurring gap is therefore found between formal legal requirements and their consistent implementation. The European Commission identifies speeding, alcohol- and drug-driving, distraction and failure to use protective equipment as major road-safety risks and stresses that enforcement must be systematic, sufficiently visible and accompanied by effective sanctions.

At European level, there is also still room to improve the consistency and effectiveness of enforcement instruments across Member States, particularly in relation to cross-border enforcement. The continuing differences in road-fatality performance between countries further demonstrate that having broadly comparable rules does not necessarily produce comparable safety outcomes.

A second important gap concerns young and novice drivers specifically. European research shows that this group is disproportionately exposed to risks such as speeding, alcohol, night-time driving, distraction and peer influence, yet legal interventions cannot address all of these behaviours effectively on their own. The European Road Safety Observatory highlights the need for stronger combinations of supervised driving experience, protective measures during the first period of independent driving, effective enforcement and improved driver education.

It also notes that enforcement aimed exclusively at young drivers can create legal and practical difficulties, making universal measures particularly important. This creates a clear opportunity for PAGE: rather than treating legislation as information to be memorised, the project can help young people understand the rationale behind the rules, recognise the consequences of violations and practise safer decision-making in realistic scenarios.

Sources – 9.8. Identified Legislative and Implementation Gaps

- European Commission, **Enforcement – EU Road Safety Policy.**
- European Commission / European Road Safety Observatory, **Country Profiles – 2026 versions (2024 data).**
- European Commission / European Road Safety Observatory, **Novice Drivers.**
- European Commission / European Road Safety Observatory, **Young Novice Drivers – Effective Countermeasures.**
- European Commission / European Road Safety Observatory, **Specific Post-Licence Measures for Novice Drivers.**
- European Commission / European Road Safety Observatory, **Prioritizing Measures for Young and Novice Drivers.**

10. Educational Needs Assessment

The findings of the research demonstrate that the educational needs of young drivers extend beyond basic knowledge of traffic rules and legislation. Across Greece, Bulgaria and Belgium, young drivers need to strengthen their risk perception, hazard anticipation, decision- making and ability to translate safety knowledge into actual behaviour. Particular learning needs concern speeding, alcohol- and drug-impaired driving, distraction and mobile-phone use, fatigue, seat- belt use, peer influence and overconfidence.

The country analysis, however, also identifies differences in the relative importance of these risks and in the national legal and enforcement environments. The educational needs assessment therefore provides the basis for developing a common PAGE learning framework while allowing country-specific examples, scenarios and legal content to reflect the realities faced by young drivers in Greece, Bulgaria and Belgium.

10.1. Identified Learning Needs of Young Drivers

Greece

Young drivers in Greece require learning interventions that move beyond the simple transmission of traffic rules and focus primarily on risk perception, hazard anticipation and safer decision-making in real-life driving situations. The research indicates a particular need to address speeding, alcohol-impaired driving, distraction, fatigue and the consistent use of protective measures, while also helping young drivers understand how these risks can interact and escalate in combination. Given the comparatively high road fatality rate in Greece, learning content should place particular emphasis on recognising potentially dangerous situations before they develop into crashes, understanding the consequences of excessive speed and impaired attention, and challenging the tendency to underestimate risks during night-time, social or emotionally charged driving.

Young drivers also need stronger competences in dealing with peer pressure, passenger influence, impulsive decisions and overconfidence, as these factors can affect their willingness to engage in risky behaviours. Therefore, PAGE should provide realistic scenarios, interactive decision-making exercises, quizzes, simulations and personal testimonies that allow young drivers to experience the consequences of different choices and develop practical strategies for safer behaviour. This approach is consistent with the findings of the Greek road safety research and with existing experiential initiatives using crash, fatigue and intoxication simulations, which demonstrate the value of experiential rather than purely theoretical learning.

Bulgaria

For young drivers in Bulgaria, the main learning needs concern speed management, hazard perception, protective behaviour and the development of sound judgement in situations where limited driving experience combines with social or situational pressure. The research points to the importance of strengthening understanding of why speeding, inadequate seat-belt use, alcohol-impaired driving and other risky behaviours create substantially greater consequences for novice drivers, rather than relying solely on knowledge of the applicable rules.

Educational content should therefore help young drivers recognise hazards earlier, assess the level of risk associated with different driving environments and understand how apparently minor decisions can contribute to a serious crash. Particular attention should also be given to situations involving passengers, night-time driving, unexpected road hazards and the temptation to combine driving with alcohol or other forms of impairment.

PAGE should consequently use realistic scenarios, interactive challenges, immediate feedback, case studies and personal testimonies to transform theoretical knowledge into practical decision-making skills, while encouraging young drivers to resist peer influence and develop personal responsibility for their own safety and that of passengers. The learning approach should complement existing Bulgarian campaigns and road-safety initiatives by providing a continuous, youth-oriented educational environment rather than isolated awareness messages.

Belgium

Young drivers in Belgium require learning interventions that strengthen risk perception, self-regulation and the ability to translate awareness of road-safety risks into consistent behaviour, particularly regarding speeding, alcohol, distraction and fatigue. Although Belgium performs comparatively better than Greece and Bulgaria in several road-safety indicators, research shows that young drivers remain particularly exposed to risky behaviours: younger age groups report higher levels of speeding, non-use of seatbelts, distracted and fatigued driving, while studies of young and novice drivers highlight the combined influence of inexperience, night-time driving, loss of vehicle control, alcohol, passengers and emotional factors.

Learning content should therefore challenge the perception that young drivers can compensate for risk through confidence or driving ability, and should demonstrate how alcohol, fatigue, distraction and excessive speed directly affect attention, reaction time, hazard recognition and decision-making.

PAGE should particularly develop scenario-based and interactive learning around realistic situations such as driving after social events, responding to peer pressure, using a mobile phone, driving while tired or choosing an inappropriate speed, combined with immediate feedback and reflection on alternative decisions.

This would build on the Belgian experience with behavioural monitoring, prevention initiatives and educational programmes using victim testimonies, while placing greater emphasis on active participation and repeated practice of safer decision-making.

Sources – 10.1

- European Commission, **European Road Safety Observatory – Novice Drivers / Contributing Factors to Crash Risk.**
- Vias Institute, **Thematic File Road Safety No. 12 – Young People (15–24).**
- Vias Institute, **Young and Aging Drivers – ESRA3 Thematic Report No. 5.**
- Vias Institute, **The Impact of Alcohol on Driving among Young/Novice Drivers.**
- Vias Institute, **Belgian Road Safety Status Report 2024.**

10.2. Identified Needs of Youth Workers and Educators

Greece

Youth workers and educators in Greece require stronger practical, methodological and digital competences to address road safety as a behavioural and experiential learning issue rather than only as a topic of traffic rules and awareness. The research indicates a need for accessible educational resources that enable educators to explain complex risk factors such as speeding, alcohol, distraction, fatigue, peer influence and overconfidence through realistic situations that are relevant to young people's everyday lives.

They also need guidance on how to facilitate scenario-based learning, simulations, interactive discussions, quizzes and reflective activities, particularly when addressing sensitive issues such as impaired driving and peer pressure. The experience of Greek road-safety initiatives using crash simulators and intoxication/fatigue simulation equipment demonstrates the value of experiential approaches, while also highlighting the organisational challenge of delivering practical activities to large groups of young people. Therefore, PAGE should equip Greek youth workers with structured digital materials, ready-to-use scenarios, case studies, personal testimonies, assessment tools and facilitation guidance that can

Bulgaria

Youth workers and educators in Bulgaria need structured and practical educational tools that can help them transform existing road- safety information and national awareness messages into engaging learning experiences for young people. Particular needs concern the ability to address speeding, seat-belt use, alcohol-impaired driving, hazard perception and inexperienced-driver risks through methods that encourage active participation and personal reflection rather than passive reception of information. Educators also need stronger competences in facilitating discussions around peer pressure, passenger influence, risk-taking and decision-making, as these factors can be difficult to address effectively through conventional classroom teaching.

The broader European evidence indicates that effective novice-driver education should move beyond basic vehicle control towards hazard recognition, realistic self-assessment and safer decision-making, while the quality and teaching skills of educators are themselves important determinants of training effectiveness. PAGE can therefore respond to this need by providing Bulgarian youth workers with a flexible digital toolkit containing ready-to-use scenarios, interactive exercises, quizzes, testimonies, feedback mechanisms and methodological guidance, allowing them to deliver consistent road- safety education while adapting activities to different youth groups and local contexts.

Belgium

Youth workers and educators in Belgium require tools and competences that enable them to move from information-based road safety education towards behavioural and attitudinal change, particularly when working with young people who may already possess considerable knowledge of traffic rules. Their needs therefore include effective methods for addressing speeding, alcohol, distraction, fatigue, self-confidence and the interaction between these risks, while helping young people critically assess their own behaviour and limitations. Educators also need practical guidance on using victim testimonies,

peer learning, realistic scenarios, digital activities and reflective exercises in a way that generates personal relevance without becoming purely emotional or awareness-based. European research on novice- driver education stresses the importance of engaging learners personally and emotionally, developing realistic self-assessment and focusing on higher-level decision-making rather than only technical driving skills.

At the same time, European work on youth-worker education highlights the need for flexible, practice-oriented, competence-based and digitally supported training adapted to different national and local contexts. PAGE should therefore provide Belgian educators with a structured methodology, adaptable digital content, facilitation guidance and assessment tools that allow them to use the platform not simply as a repository of information, but as a practical resource for sustained behavioural and attitudinal road-safety education.

Sources – 10.2

- European Commission / European Road Safety Observatory, **Content of Training: Best Practice.**
- European Commission / European Road Safety Observatory, **Training Method – Young People.**
- European Commission, **Novice Drivers.**
- Council of the European Union, **Education and Training of Youth Workers.**
- European Road Safety Charter, **Road Safety and Urban Mobility Actions 2024–2026 – Region of Eastern Macedonia and Thrace.** European Commission, **EU Road Safety Observatory – Young People.**

10.3. Knowledge Gaps Related to Road Safety

The research conducted across Greece, Bulgaria and Belgium identifies a number of knowledge gaps that should be addressed through PAGE, particularly in the transition from theoretical awareness to practical understanding and safer behaviour. Although young drivers generally have access to information about traffic rules and major risk factors,

there remains insufficient understanding of how different risks interact in real driving situations, how quickly apparently manageable situations can escalate, and how personal limitations, overconfidence and peer influence affect decision-making. European evidence highlights that conventional driver education still tends to prioritise vehicle control and basic traffic participation, while comparatively less attention is given to higher-order competences such as hazard perception, realistic self-assessment, risk management and strategic decision-making.

A further gap concerns the practical application of knowledge. Young drivers may know that speeding, alcohol, fatigue, distraction or failure to use seat belts are dangerous, but this knowledge does not necessarily translate into appropriate decisions when they face social pressure, emotional situations, time pressure, night-time driving or unexpected hazards.

There is therefore a need for learning that demonstrates not only *what* the risks are, but *how* they influence attention, reaction time, judgement and safety margins, and how several risk factors can combine. This is particularly relevant for novice drivers, whose hazard perception and ability to accurately assess their own competence are still developing.

Finally, the research reveals a gap in accessible, engaging and evidence-informed educational tools capable of addressing these issues continuously rather than through isolated awareness campaigns. Existing evidence supports a shift towards scenario-based, experiential and personally engaging approaches, while also indicating that digital tools and new technologies should be used carefully and linked to meaningful learning outcomes rather than simply adding entertainment.

PAGE can address this gap by bringing together research-based knowledge, realistic driving scenarios, interactive exercises, gamification, feedback, case studies and testimonies within one learning environment. In this way, the platform can help close the gap between knowing the rules, recognising the risk and actually making the safer decision.

Sources – 10.3

- European Commission / European Road Safety Observatory, **Content of Training: Best Practice.**
- European Commission / European Road Safety Observatory, **Training Method – Young People.**
- European Commission / European Road Safety Observatory, **Novice Drivers.**
- European Road Safety Charter, **Novice Drivers and Road Safety: Managing Risks in the First Years.**
- World Health Organization, **Road Safety – Children and Young People / Risk Factors.**

10.4. Attitudinal and Behavioural Gaps

The research identifies a persistent gap between what young drivers know about road safety and how they actually behave in traffic. Knowledge of rules and awareness of risks do not necessarily translate into safe decisions, particularly when young drivers are exposed to real-life pressures and situations. ESRA3 shows that younger drivers report higher levels of risky attitudes and a stronger perception that they can control the vehicle while speeding, using a mobile phone or driving after alcohol consumption.

This indicates that the problem is not simply a lack of information, but also concerns risk perception, perceived behavioural control, personal responsibility and social acceptability of risky behaviours. Young drivers may recognise that a behaviour is objectively dangerous while simultaneously believing that they can manage the associated risk themselves.

A particularly important gap concerns overconfidence and the underestimation of personal limitations. European research on novice drivers shows that driving confidence can develop faster than actual driving competence, leading young drivers to select smaller safety margins and overestimate their ability to manage complex traffic situations. This can become more pronounced in the presence of peers, where social expectations and passenger influence may encourage risk-taking or make behaviours such as speeding appear more acceptable. Consequently, young drivers need learning experiences that do not simply tell them that risky behaviour is dangerous, but actively challenge their assumptions about control, competence and acceptable risk.

A further behavioural gap concerns the difficulty of maintaining safe choices when several risk factors occur simultaneously. Alcohol, fatigue, distraction, passengers and night-time driving can interact with inexperience and increase crash risk, while young drivers may attempt to compensate for impairment without fully understanding its limitations.

PAGE should therefore address these gaps through realistic scenarios, decision-making exercises, immediate feedback, gamification and reflective activities that place learners in situations where they must choose between safer and riskier behaviours. The objective is to move learners from *knowing what is safe* to recognising risk, questioning their own assumptions and consistently choosing the safer option, thereby addressing the attitudinal and behavioural dimensions of road safety alongside knowledge acquisition.

Sources – 10.4

- ESRA3, **Young and Aging Drivers – Thematic Report No. 5**, 2024. ESRA3, **Global Road Safety Insights – Synthesis from the ESRA3 Survey**, 2024.
- European Commission / European Road Safety Observatory, **Novice Drivers**.
- European Commission / European Road Safety Observatory, **Impairment among Young and Novice Drivers**.
- European Road Safety Charter, **Novice Drivers and Road Safety: Managing Risks in the First Years**.
- European Commission / European Road Safety Observatory, **Road Safety Thematic Report – Novice Drivers**.

10.5. Need for Interactive and Experiential Learning

The research demonstrates a clear need to move young-driver education from passive information delivery towards interactive and experiential learning, particularly because safe driving requires the ability to recognise hazards, assess risk and make appropriate decisions

under realistic conditions. European Road Safety Observatory guidance recommends shifting the focus of novice-driver education beyond basic vehicle control towards higher-order competences such as hazard perception, recognition of personal limitations and management of safety margins. Interactive approaches such as scenario-based exercises, prediction tasks, simulations, quizzes and immediate feedback can place learners in situations where they must actively assess a developing hazard and decide how to respond.

For example, the European Road Safety Charter's *Hazard Perception Training for Novice Drivers* uses videos of potentially dangerous situations in which young people predict what will happen before receiving feedback from an experienced driver, explicitly promoting active participation, personal relevance and self-reflection. Recent systematic evidence also indicates that interactive media, gamification and VR can support improvements in road-safety knowledge, attitudes and behaviour, although their effectiveness depends on how they are integrated pedagogically. At the same time, the evidence does not justify treating simulation as a substitute for real-world driver training: a 2024 systematic review found immediate improvements in some simulated driving skills, but insufficient evidence regarding transfer to real-world driving and long-term safety outcomes.

Therefore, PAGE should use interactive and experiential elements as complementary learning mechanisms, combining realistic driving scenarios, decision-making, hazard anticipation, gamification, feedback, reflection and case-based learning with evidence-based theoretical content. The objective is not simply to make road-safety education more engaging, but to allow young drivers to practise recognising risk, experience the consequences of different choices and develop safer decision-making habits in a controlled learning environment.

Sources – 10.5

- European Commission / European Road Safety Observatory, **Novice Drivers**.
- European Commission / European Road Safety Observatory, **Content of Training: Best Practice**.

- European Road Safety Charter, **Hazard Perception Training for Novice Drivers.**
- Nawaz et al. (2026), **Road Safety Education for Children and Adolescents: A Systematic Review of Effectiveness, Methods, and Challenges.**
- Krasniuk et al. (2024), **The Effectiveness of Driving Simulator Training on Driving Skills and Safety in Young Novice Drivers: A Systematic Review of Interventions**, *Journal of Safety Research*, 91, 20–37.
- Review of **Hazard Anticipation Training Programs for Young Drivers.**

10.6. Priority Educational Topics

Based on the statistical, behavioural, legal and educational evidence examined throughout the Research Database, the priority educational topics for PAGE should focus on the main risk factors that disproportionately affect young and novice drivers, while also addressing the underlying competences required to manage these risks. The first priority should therefore be speeding and speed management, including understanding how speed affects reaction time, stopping distance, loss of vehicle control and crash severity.

This should be followed by alcohol, drugs and other forms of impairment, with emphasis on the reduced ability of young drivers to recognise their own impairment and the increased risks when impairment is combined with passengers or other risk factors. Distraction, particularly mobile-phone use, passengers and other in-vehicle distractions, should constitute another core topic, alongside fatigue and night-time driving, which are particularly relevant to young drivers.

A second group of priority topics should address protective behaviour and hazard management, including seat-belt use, anticipation of hazards, maintaining safe distances, appropriate responses to unexpected road situations and loss-of-control prevention. European evidence identifies lack of experience, weak hazard perception, inappropriate speed management and distraction as major contributors to young-driver crash risk, indicating that these topics should be taught through practical decision-making rather than only through theoretical explanations.

PAGE should also address peer pressure, passenger influence, overconfidence, risk perception and self-assessment, because young-driver safety is strongly influenced by social and psychological factors as well as technical driving skills.

Finally, the educational content should include legal responsibilities, enforcement, consequences of traffic violations, emergency response and basic post-crash behaviour, while introducing young drivers to the limitations and safe use of modern vehicle technologies and driver-assistance systems.

The overall priority structure should therefore move from *recognising the risk* to *understanding its consequences* and finally to *making the safer decision*. This reflects the European Road Safety Observatory's recommendation that novice- driver education should progress beyond basic vehicle control and traffic-rule knowledge towards hazard recognition, risk awareness and higher-order decision-making.

Priority Educational Topics for PAGE

- 1.Speeding and Speed Management**
- 2.Alcohol, Drugs and Driving Impairment**
- 3.Driver Distraction and Mobile-Phone Use**
- 4.Fatigue and Night-Time Driving**
- 5.Hazard Perception and Risk Recognition**
- 6. Seat Belts and Protective Behaviour**
- 7. Peer Pressure and Passenger Influence**
- 8.Risk Perception, Overconfidence and Self-Assessment**
- 9.Decision-Making and Responsible Driving**
- 10.Loss of Vehicle Control and Emergency Situations**
- 11.Traffic Laws, Penalties and Enforcement**
- 12.Post-Crash Behaviour and Basic Emergency Response**
- 13.Safe Use and Limitations of Driver-Assistance Technologies**

Sources – 10.6

- European Commission / European Road Safety Observatory, **Novice Drivers.**
- European Commission / European Road Safety Observatory, **Impairment.**
- European Commission / European Road Safety Observatory, **Prioritizing Measures.**
- European Commission / European Road Safety Observatory, **Road Safety Thematic Report – Novice Drivers.**
- European Road Safety Charter, **Novice Drivers and Road Safety: Managing Risks in the First Years.**
- ESRA3, **Young and Aging Drivers / Risk Perception / Distraction and Fatigue / Speeding / Impairment** thematic reports.

10.7. Educational Needs Across the Partner Countries

The analysis of Greece, Bulgaria and Belgium demonstrates that, despite differences in road-safety performance, enforcement systems, national policies and educational practices, the core educational needs of young and novice drivers are remarkably consistent across the three partner countries. In all three contexts, the challenge extends beyond a lack of knowledge of traffic rules and concerns the ability to recognise hazards, assess personal limitations, manage risk and translate knowledge into safe decisions. Speeding, alcohol and other forms of impairment, distraction, fatigue, insufficient use of protective equipment, limited driving experience, peer influence and overconfidence emerge as recurring areas requiring educational attention.

European evidence similarly indicates that traditional driver education tends to place greater emphasis on vehicle control and basic traffic participation, while higher-order competences such as hazard perception, risk awareness, self-assessment and strategic decision-making require greater attention. The country analysis nevertheless shows different degrees of emphasis: the particularly high fatality burden and enforcement challenges identified in Greece and Bulgaria strengthen the need for education addressing fundamental risk

awareness and responsible behaviour, while the Belgian context places greater emphasis on maintaining safe behaviour despite comparatively stronger road-safety performance and addressing persistent behavioural risks such as speeding, alcohol, distraction and fatigue. Consequently, PAGE should establish a common transnational educational framework while allowing country-specific examples, legal information, statistics and scenarios to reflect the realities of each partner country.

The findings also demonstrate that the educational response should not be limited to providing more information, but should focus on how young people learn to make safer decisions in realistic situations. Across the partner countries, there is a clear need for interactive, experiential and behaviour-oriented learning that allows young drivers to practise hazard recognition, anticipate possible outcomes, evaluate alternative choices and reflect on their own attitudes and limitations. This is particularly important because experience develops gradually, while confidence may develop faster than actual competence, creating a risk of overestimating driving abilities and selecting insufficient safety margins.

At the same time, the research demonstrates that youth workers and educators require accessible methodologies and ready-to-use tools capable of translating road-safety evidence into engaging non-formal learning activities. PAGE can therefore serve as a common European learning environment adapted to the three national contexts, combining theoretical knowledge with realistic scenarios, hazard-perception exercises, quizzes, gamification, immediate feedback, case studies and testimonies. The overall educational pathway emerging from the research is consequently not simply *knowledge of road safety*, but knowledge → risk recognition → self-assessment → decision-making → safer behaviour, providing the conceptual bridge between the Research Database and the subsequent development of PAGE's educational content and e-learning tool.

Sources – 10.7

- European Commission / European Road Safety Observatory, **Content of Training: Best Practice.**
- European Commission / European Road Safety Observatory, **Novice Drivers.**
- European Commission / European Road Safety Observatory, **Lack of Driving Experience.**
- European Road Safety Charter, **Novice Drivers and Road Safety: Managing Risks in the First Years.**
- European Road Safety Charter, **Hazard Perception Training for Novice Drivers.**
- European Commission / European Road Safety Observatory, **Road Safety Thematic Report – Novice Drivers.**

11. Key Research Findings and Conclusions

The research conducted within the PAGE project demonstrates that road safety among young and novice drivers is a multidimensional challenge that cannot be addressed through information, legislation or awareness campaigns alone. Across Greece, Bulgaria and Belgium, young drivers remain exposed to a combination of behavioural, social and situational risks, with speeding, alcohol and other forms of impairment, distraction, fatigue, insufficient protective behaviour, peer influence, limited experience and overconfidence repeatedly emerging as key concerns.

At the same time, the comparative analysis shows important differences in national road safety performance, enforcement systems and policy implementation: Belgium records a substantially lower fatality rate and stronger recent progress, Bulgaria continues to face the highest mortality rate despite significant improvement, while Greece combines a high fatality rate with comparatively limited progress since 2019.

The research further demonstrates that comprehensive legislation and enforcement mechanisms are already present across the three countries, but their existence does not automatically result in safe behaviour. The central conclusion is therefore that the remaining challenge is increasingly behavioural and educational: young people need to develop stronger risk perception, realistic self-assessment, hazard recognition and decision-making skills, while youth workers require practical methods to support this process.

This conclusion is consistent with European evidence identifying lack of higher-order driving skills and risk-taking tendencies as fundamental reasons for the over-representation of young novice drivers in crashes.

11.1. Main Findings

The first major finding is that young drivers constitute a particularly vulnerable road-user group not because of a single behavioural deficiency, but because several risk factors interact with limited experience and developing higher-order driving competences. The research consistently identifies speeding, alcohol and drug impairment, distraction, fatigue, night-time driving, peer and passenger influence, overconfidence and inadequate risk perception as interconnected rather than isolated problems. This is reflected both in the European evidence and in the country-level research: Greece shows particularly strong concerns around speeding, distraction, alcohol and overconfidence;

Bulgaria faces important challenges in speed compliance and protective behaviour; while Belgium, despite its comparatively stronger overall performance, continues to experience persistent behavioural risks, particularly involving speeding, alcohol and distraction. The statistical evidence reinforces the significance of these findings: the three countries recorded markedly different road-fatality levels in 2024, while the longer-term reduction in fatalities was approximately 27% in Belgium, 24% in Bulgaria and only 3% in Greece.

A second and particularly important finding is that the central educational problem is not simply a lack of knowledge, but the difficulty of converting knowledge into safe behaviour. Young people may know that speeding, drink-driving or mobile-phone use are dangerous while still engaging in these behaviours when confronted with peer pressure, social situations, overconfidence, fatigue or unexpected hazards.

The research therefore points towards a need for education that develops practical risk-management competences rather than merely transmitting additional information. This means helping young people recognise hazards, understand their own limitations, anticipate consequences and practise safer decisions in realistic situations. The finding also explains why the existing combination of legislation, enforcement and awareness campaigns should be

complemented by a more interactive, experiential and youth-centred educational approach. European evidence similarly recommends moving novice-driver education beyond basic vehicle control and towards hazard perception, risk awareness and calibration of driving abilities. For PAGE, this provides the direct evidence base for combining educational material with practical exercises, quizzes, digital simulations, gamification, scenarios and personal experiences within the e-learning tool. The research thus establishes a clear progression from knowledge and awareness towards risk recognition, responsible decision-making and sustained behavioural change.

11.2. Common Patterns and Trends

The country analyses of Greece, Bulgaria and Belgium reveal a consistent behavioural pattern among young and novice drivers despite significant differences in national road safety performance and policy environments. Speeding emerges as a common and particularly important risk across all three countries, while alcohol-impaired driving, distraction, fatigue and inadequate protective behaviour repeatedly appear as contributing factors. The research also points to a broader pattern in which risky behaviour is closely connected to limited driving experience, insufficient hazard perception, overconfidence and difficulties in assessing personal limitations.

These factors are reinforced by social and situational conditions, including peer and passenger influence, night-time driving and the tendency of young people to accept smaller safety margins. The European evidence supports this pattern, identifying lack of experience, inappropriate speed management, distraction and psychoactive substances among the principal factors behind the over-representation of young novice drivers in crashes.

A second common trend concerns the gap between the existence of road-safety policies and the achievement of consistently safe behaviour. All three countries have established national strategies, legislation, enforcement mechanisms and awareness initiatives, yet the research shows that substantial behavioural risks remain. The nature of the response differs: Belgium combines behavioural monitoring, automated enforcement and long-running prevention campaigns;

Greece is increasingly strengthening digital enforcement within its National Strategic Road Safety Plan; while Bulgaria combines national strategic planning with police-led prevention campaigns and enforcement. Nevertheless, the comparison suggests that legislation and awareness activities alone have limited capacity to change behaviour when young drivers lack opportunities to practise risk recognition and decision-making. This creates a common need across the three countries for more continuous, interactive and youth-centred road safety education, capable of connecting knowledge with realistic driving situations and personal choices.

11.3. Critical Road Safety Challenges

The most critical challenge identified across the country analyses is the persistent combination of high-risk behaviours with the specific vulnerabilities of young and novice drivers. Speeding, alcohol or drug impairment, distraction, fatigue and inadequate protective behaviour are not independent problems; their impact can increase when combined with limited experience, night-time driving, passengers and peer pressure. This is particularly important because novice drivers have not yet developed the higher-order skills needed to anticipate hazards and accurately judge their own capabilities.

evidence confirms that young novice drivers are disproportionately represented in single-vehicle, loss-of-control and night-time crashes, with speeding and poor hazard perception playing a significant role. The country research therefore indicates that the critical issue is not simply reducing individual violations, but reducing the accumulation of risk factors within real-life driving situations.

A second critical challenge is the persistent gap between formal safety systems and actual behavioural outcomes, which is visible to different degrees in all three partner countries. Greece combines a high fatality rate with limited improvement since 2019, Bulgaria records the highest fatality rate despite substantial recent progress, while Belgium has achieved stronger overall performance but continues to face significant behavioural risks, particularly related to speeding and alcohol. At the policy level, the research similarly shows that the three countries already regulate the principal risky behaviours, meaning that

the main challenge is increasingly one of effective implementation, deterrence, behavioural internalisation and education rather than simply the absence of rules. For young drivers in particular, this highlights the need to complement enforcement and awareness campaigns with educational interventions that develop risk perception, self-assessment, hazard anticipation and responsible decision-making. PAGE therefore addresses a critical gap identified across the country analyses: helping young people move from knowing the rules and recognising risks to consistently applying safer behaviours in real-world situations.

11.4. Priority Areas for Intervention

The research identifies five priority areas for intervention that should form the core of PAGE's educational response. First, young drivers need stronger competences in risk perception and hazard anticipation, particularly in situations involving excessive speed, distraction, alcohol or other impairment, fatigue, night-time driving and unexpected hazards. Second, education should strengthen self-assessment and responsible decision-making, addressing overconfidence, limited driving experience and the tendency to underestimate personal limitations. Third, particular attention should be given to social and situational influences, including peer pressure, passengers, emotional states and the normalisation of risky behaviours.

Fourth, PAGE should reinforce understanding and consistent use of protective behaviours, especially seat belts and other appropriate safety measures. Finally, the research points to the need for behaviour-oriented and experiential learning, using realistic scenarios, interactive exercises, simulations, quizzes, immediate feedback, gamification, case studies and personal testimonies rather than relying primarily on the transmission of traffic rules. These priorities reflect the common behavioural core identified across Greece, Bulgaria and Belgium, while allowing national examples and scenarios to address country-specific needs.

A second priority concerns the way road safety education is delivered. The country analysis shows that all three countries already have legislation, national strategies, enforcement mechanisms and awareness campaigns, yet risky behaviours continue to be observed. PAGE should

therefore function as a complementary educational layer, connecting formal knowledge with practical behavioural competence. Its learning pathway should progressively move from knowledge to risk recognition, self-assessment, decision-making and safer behaviour, while remaining accessible to youth workers and adaptable to different national contexts. This also means that digital and gamified elements should serve a clear pedagogical purpose rather than operate as standalone entertainment.

Sources – 11.4.

- European Commission / European Road Safety Observatory – *Novice Drivers and Content of Training: Best Practice.*
- ESRA3 – *Global Road Safety Insights.*
- Krasniuk et al. (2024), *The effectiveness of driving simulator training on driving skills and safety in young novice drivers.*
Malekpour et al. (2024), *The effect of intervention programs on road traffic injury prevention among adolescents and young people: A systematic review.*

11.5. Conclusions of the Research Activity

The research activity confirms that road safety among young drivers cannot be reduced to a problem of insufficient knowledge of traffic rules. The country analyses of Greece, Bulgaria and Belgium reveal a common pattern in which speeding, alcohol-impaired driving, distraction, fatigue, insufficient protective behaviour and social pressure interact with limited driving experience, overconfidence and weaknesses in hazard perception.

At the same time, the three countries demonstrate different levels of road safety performance and different institutional contexts. Belgium records the strongest overall performance and the largest reduction in fatalities between 2019 and 2024, while Bulgaria continues to face the highest fatality rate despite substantial progress; Greece combines a comparatively high fatality rate with much more limited progress over the same period.

Overall, the research indicates that the critical gap is increasingly between knowing what is safe and consistently behaving safely. Existing national strategies, legislation, enforcement measures and campaigns provide an important foundation, but the persistence of risky behaviour demonstrates the need for educational approaches that address the cognitive, behavioural and social dimensions of driving. The findings therefore provide a clear evidence base for PAGE: the e- learning tool should combine reliable road-safety knowledge with practical decision-making, hazard perception, realistic scenarios, interactive exercises, simulations, gamification and personal experiences. In this way, PAGE can complement existing national efforts and provide a common transnational educational framework that is sufficiently flexible to respond to the specific realities of Greece, Bulgaria and Belgium.

Sources – 11.5.

- European Commission / European Road Safety Observatory – *Novice Drivers*.
- European Road Safety Charter – *Novice Drivers and Road Safety: Managing Risks in the First Years*.
- ESRA3 – *Global Road Safety Insights*.



RESEARCH DATABASE AND ANALYSIS

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