

# Vision Zero in EU Policy: An NGO Perspective

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#### Abstract

This chapter documents the roots of Vision Zero in EU road safety policymaking and is written from the perspective of the European Transport Safety Council, an NGO that has been deeply engaged in the topic for more than 25 years, from the very beginning of EU road safety policy in the mid-1980s to its first adoption in 2011 and on to the present day. The chapter shows that the Vision Zero approach is now integrated into the new EU road safety strategy. The presence of elements of Vision Zero during the different timeframes is presented. These include ethics, shared responsibility, the philosophy of building a system which allows for error and, finally, creating a mechanism for change. The current EU road safety strategy, which adopts these elements, is reviewed in more detail. More recent implementation is illustrated by references to Vision Zero within two recent, important pieces of road safety legislation, on infrastructure and vehicle safety.

This chapter is written by ETSC and based on the organization's interest and key role in the discussions. It refers to EU official documents going back to 1984, ETSC's own reports and the institutional experience of ETSC and of the two authors. Despite every effort being made to be as objective as possible, the chapter is written from the perspectives of two active participants in the discussions and is therefore not a truly independent account. However, it is hoped that the material presented is useful nonetheless.

#### Keywords

European Union · Road Safety · Vision Zero · European Parliament · European Transport Safety Council · Target · Strategy

#### Introduction

This chapter documents the roots of Vision Zero in EU road safety policymaking, from the very beginning of EU road safety policy in the mid-1980s to its first adoption in 2011 and on to the present day. The chapter shows that the Vision Zero approach is now integrated into the new EU road safety strategy. The presence of elements of Vision Zero during the different timeframes is presented. These

include ethics, shared responsibility, the philosophy of building a system which allows for error and, finally, creating a mechanism for change. The current EU road safety strategy, which adopts these elements, is reviewed in more detail. More recent implementation is illustrated by references to Vision Zero within two recent, important pieces of road safety legislation, on infrastructure and vehicle safety.

Written by ETSC, thus, the perspective is based on EU official documents and ETSC's own published documents from 1984 which predate the personal experiences of the two ETSC authors, to present day. As this is written by authors who were in part influencing the process of adopting and implementing Vision Zero in Europe, this impacts on the views expressed in the chapter.

This chapter will start with a definition of Vision Zero; this section of this chapter is a summarized extract of a text entitled *Vision Zero*: *from Concept to Action* published by the Swedish Road Administration in 1999 and cited in the important report by the OECD/ITF entitled "Towards Zero: Ambitious Road Safety Targets and the Safe System Approach" (Swedish Road Administration in OECD/ITF (2008)). The aim is to frame the entire chapter on EU policy with a clear definition.

# Sweden's Vision Zero: Not Just Zero Fatalities and Zero Serious Injuries

Recognizing that the road transport system is one of the most dangerous technical systems humanity has created, the elected members of the Swedish Parliament in autumn 1997 adopted a new traffic safety policy, known as "Vision Zero." This new policy expresses a new long-term goal and is based on four elements: *ethics*, *responsibility*, *a philosophy of safety* and *creating mechanisms for change* (Swedish Road Administration in OECD/ITF (2008)).

Human life and health are paramount ethical considerations. According to Vision Zero, life and health should not be allowed to be traded off against the benefits of the road transport system, such as mobility. Rather than placing responsibility for crashes and injuries on the individual road user, the responsibility under Vision Zero is shared between the providers of the system and the road users. The road user remains responsible for following basic rules, such as obeying speed limits and not driving while under the influence of alcohol. The system designers and enforcers – such as those providing the road infrastructure, the car-making industry and the police – are responsible for the functioning of the system. In the event that road users make errors or even fail to follow the rules, the responsibility reverts to the system designers to ensure that these failings do not result in death or serious injuries.

# **Vision Zero Philosophy**

The Vision Zero philosophy is based on two premises: human beings make errors, and there is a critical human body limit beyond which survival and recovery from an injury are not possible. The safety philosophy recognizes that a system that

combines human beings with fast-moving, heavy machines will be very unstable, and a human tragedy can occur if a driver loses control for just a fraction of a second.

The road transport system should therefore be able to take account of human failings and absorb errors in such a way as to avoid deaths and serious injuries. Collisions and minor injuries, on the other hand, need to be accepted. The chain of events that leads to a death or disability must be broken, and in a way, that is sustainable, so that over the longer time period loss of health is eliminated. The limiting factor of this system is the human body's tolerance to mechanical force. The components of the road transport system – including road infrastructure, vehicles and systems of restraint – must therefore be designed in such a way that they are linked to each other. The amount of energy in the system must be kept below critical physical limits, by ensuring that speed is restricted.

### **Driving Mechanisms for Change**

While society as a whole benefits from a safe road transport system in economic terms, Vision Zero relates to the citizen as an individual and his or her right to survive in a complex system. It is therefore the demand from the citizen for survival and health that is the main driving force. In Vision Zero, the providers and enforcers of the road transport system are responsible to citizens and must guarantee their safety in the long term. In so doing, they are necessarily required to cooperate with each other, because simply looking after their own individual components will not produce a safe system.

While Vision Zero does not say that the ambitions on road safety historically have been wrong, the actions that would have to be taken are partly different. The main differences probably can be found within how safety is being promoted; there are also some innovations that will come out as a result of the vision, especially in infrastructure and speed management.

This chapter of the handbook will identify when the different elements of Vision Zero, as defined by Sweden and listed below, started to appear in EU road safety policy and give some examples of Vision Zero philosophy and its practical application.

# The Four Key Elements of Vision Zero

- 1. Ethics: no trade-off of safety for mobility.
- 2. Responsibility: shared between road users, authorities and industry.
- 3. Philosophy of safety: system absorbs errors.
- 4. Creating mechanisms for change: targets, strategy, governance and adopting measures. (Swedish Road Administration in OECD/ITF (2008))

# **EU Decision-Making in Road Safety**

This first section of this chapter provides a brief overview of the European Union's policymaking, legislative and regulatory procedures. Right from the start in the mid-1980s, the EU's decision-makers have had a variety of measures at their

disposal to improve road safety and start to realize Vision Zero. This short explanation of the procedure is most relevant in understanding how the EU can use the "mechanism for change" element of Vision Zero. EU procedures have evolved since the 1980s. This brief general overview gives an outline of present-day EU decision-making, which builds upon structures and procedures, mostly already in place in the 1980s, when EU road safety policy started to be formulated.

### **Policymaking: A Cyclical Process**

The EU's policymaking process can best be visualized as a cycle of stages. Legislation finds its origins in commitments made in political declarations or strategies, such as the ones documented in this chapter, or in requirements in existing legislation or lastly in the evaluation of existing measures. After the preparation stage, decision-making stage and implementation stage of the measure, it is evaluated, following which the results may feed into a revision that marks the start of a new cycle.

While the concept of the policymaking process as a cycle will help visualize and understand the sections below, it is important to keep in mind that this concept is a simplification of reality. For example, the cycle's stages might overlap. Another example would be a change of political leadership with the beginning of a new mandate, with a change of political leadership in the European Commission and in the European Parliament following elections which may result in changes to the policy direction.

### The Treaty on the Functioning of the European Union (TFEU)

The Treaty on the Functioning of the European Union (TFEU) updated last in 2009, originally in place as of 1958, together with the 1992 Treaty on the European Union (TEU), is the constitutional basis of the European Union (European Union 2012). It lays down the structure and powers of the EU institutions and sets out the law-making processes, such as the ordinary legislative procedure.

Moreover, it sets out the EU's competences for different policy areas. There are three main types of competences: exclusive competences, shared competences and supporting competences. For policy areas in the exclusive competences, the EU has the sole right to legislate – for example, in the case of the customs union.

For policy areas in the shared competences, the EU has the right to legislate; however, Member States may do so as well on issues where the EU has not legislated. Transport and the internal market are policy areas where the EU shares its competencies with Member States.

Every legislative measure taken by the EU needs to have a legal basis in the TFEU. Most road safety measures have their legal basis in Article 91 TFEU, which allows the EU to adopt measures on the implementation of the common transport policy and which explicitly mentions the improvement of transport safety.

However, this is not always the case. For example, the legal basis for the General Safety Regulation (GSR) is Article 114 TFEU, which allows the EU to adopt

measures aimed at the functioning of the internal market. Therefore, although the GSR improves the safety of vehicles, road safety itself is not the legal basis. Instead, the first recital of the GSR explains that it lays down the administrative provisions and technical requirements for the type approval of motor vehicles "with a view to ensuring the proper functioning of the internal market" (European Union 2012). Only as a second point is the level of safety and environmental performance mentioned in the legal text.

### The European Union's Legal Acts

The TFEU also sets out the EU's legal acts. Regulations and directives are the two main legal acts used by the EU. A regulation is a binding EU law that applies directly all across the EU as of its date of entry into force. A directive, on the other hand, is a binding EU law that sets out goals, which every Member State subsequently has to transpose into their own national legislation. The Member States have the freedom to decide how they transpose the directive's goals into their own laws in order to achieve these goals.

### Strategies, Work Programs, Conclusions and Own-Initiative Reports

Nowadays, the European Commission usually sets out its envisaged actions in strategies and work programs, usually per work area or theme including, for example, the most recent EU road safety strategy setting out its own commitment to Vision Zero, as presented in the previous section. Although non-binding and non-legal, these documents provide an outline of the measures and actions the European Commission intends to take in the upcoming few years in order to address certain problems and issues. The documents therefore reflect and give an insight into the policies the European Commission pursues.

Similarly, the Council may adopt "conclusions" on topics to express its vision for an area of EU policy, whereas the European Parliament may adopt own-initiative reports for the same purpose. Both conclusions and own-initiative reports may call on the European Commission to come forward with legislation or regulation on certain topics. They have frequently done so since the mid-1980s in the area of road safety in general and specifically have called, for example, for the adoption of Vision Zero since the late 1990s as illustrated in this chapter.

# The Ordinary Legislative Procedure

The main legislative procedure used in the European Union's decision-making process is the ordinary legislative procedure (OLP), previously also known as the co-decision procedure, and is used for the adoption of regulations and directives (European Union 2012).

The European Commission has the exclusive right to initiate legislation, meaning that only the European Commission is allowed to present a legislative proposal. It can therefore already decide on which policy options are included in the legislative proposal. Once the European Commission presents the proposal, the European Parliament and the Council will separately establish their informal positions on the proposal. They will then together discuss the final text of the legislative act during informal negotiations known as "trilogue negotiations." If an agreement is reached between the two co-legislators, the act will then be formally adopted by both institutions and subsequently published as a new law.

### **Implementing Measures**

While a new regulation or directive sets out the main requirements, the technical and administrative details of those requirements are subsequently set out in delegated and implementing acts prepared by the European Commission. The importance of delegated and implementing acts should not be underestimated, as their technical requirements will dictate the required minimum (e.g., safety) performance that is expected. In some policy areas, the European Union wishes to harmonize technical standards at a global level, usually to facilitate trade. It may therefore be the case that the legislation or implementing acts refer directly to these international standards or contain the same requirements.

### Roots of Vision Zero in Europe 1984-2000

With this EU policymaking overview in mind, this chapter will now track the development of EU road safety policy with a focus on the roots of Vision Zero.

In 2018, 26,000 people died on European roads. But in the 1980s and early 1990s, when there were fewer vehicles, road transport was much more lethal than today. Sixty thousand died on European roads in 1980; by 1990, the figure was still more than 50,000 (ETSC 2019d).

Road collisions clearly represented a major challenge to European public health and the economy. The Council of Transport Ministers of Member States gave the first real political commitment to road safety in 1984. In 1986, there were some activities within the first ever framework of the European Road Safety Year. The late 1980s saw the first attempts by the European Commission to develop EU legislation on road safety. The European Commission tested the waters for support for a directive to introduce a common low-level drink-driving limit across the EU. In a similar vein, they also considered adopting a directive on "appropriate speed limits" in January 1987 for road safety, pollution and fuel efficiency reasons. Both attempts were not supported by enough Member States. A first package of legislative measures was put forward in 1989 by the European Commission. This was followed by the publication of the "Gerondeau" Report on road safety, prepared by a group of high-level experts (European Commission 1991). One of the first and important

pieces of EU road safety legislation to be adopted was the introduction of the legal obligation to wear a seat belt in 1991 (European Council 1991).

The first formal recognition of the need to take more holistic action on road safety at European level came with the Treaty of Maastricht, signed on 7 February 1992 by the then twelve members of the European communities. The treaty, for the first time, made improving transport safety a formal competence of the European institutions (European Union 1997). The White Paper on the Future Development of the Common Transport Policy (European Commission 1992) contained a commitment to adopt a Community Road Safety Action Program proposing an integrated approach based on qualitative targets and the identification of priorities.

The first EU road safety action plan was adopted in 1993, which effectively marks the beginning of an EU policy on road safety, thus indicating the increased political importance attached to the topic. The Transport Council also adopted council conclusions on the new action plan. In the same year, the European Transport Safety Council (ETSC) was founded. It was to be an independent, member-based organization established as a Belgian international non-profit organization. The stage was set for EU action on road safety. Thus, the development of a succession of road safety plans prepared by the European Commission with input from the European Parliament and Council followed, all under the watchful and critical eye of civil society organizations including ETSC. This also paved the way for the eventual adoption of Vision Zero in 2011 nearly 20 years after the first EU Road Safety Action Program.

Following the adoption by the EC of the new road safety plan in 1993, the European Parliament welcomed the plan with a resolution in 1994. In the area of target setting, note that an increasing number of Member States are setting "percentages by which they aim to reduce the number of deaths and injuries on the roads" adding that the European Parliament wanted "to see a 20% reduction in the number of road deaths by the year 2000" (European Parliament 1994).

Early on, ETSC also recognized the need for strategic road safety targets and strategies. An ETSC report, "A Strategic Road Safety Plan for the European Union," was crucial in laying out proposals for the second official road safety program which also came later in 1997 (ETSC 1997b). In the report, ETSC floated the idea of the EU adopting Vision Zero the same year as Sweden: "It has been suggested that it is unethical to accept anything other than a zero casualty target. While the long-term objective can only be the reduction of all fatalities known as the 'zero vision,' the setting of numerical targets acknowledges that this will not happen overnight and that good progress can be achieved by a step-by-step approach." The 1997 EU Action Program developed by the European Commission, with input from the European Parliament and the Council, paved the way for European road safety targets and eventual adoption of Vision Zero, first adopted by the EU in 2001 and renewed in 2011 and 2018.

As mentioned previously, elected members of the Swedish Parliament adopted a new traffic safety policy, known as "Vision Zero" in 1997. Shortly after, Sweden reduced speed limits in densely populated areas, changed the education system for drivers and introduced new standards for work-related road safety and public

procurement. ETSC was monitoring the developments in Sweden and in its 1997 annual overview entitled "Visions, Targets and Strategies" reported that "While no time goal is set to achieve the long-term objective of Vision Zero, ETSC believes that the principles laid down in this exciting new strategy indicate that Sweden clearly continues to mean business in its road safety work" (ETSC 1997b).

The same 1997 ETSC annual overview also reported on a debate of the EU ministers at the Council on the Second Road Safety Action Program stating that "It is clear that Vision Zero for EU road safety work as a whole is a long way off. With the EU transport Council of Ministers failing to countenance even a short-term casualty reduction target to demonstrate that political will for effective actions exists, despite the encouragement given by the Dutch EU Presidency" (ETSC 1997b).

In February 1998, the European Parliament adopted a report on the communication from the Commission, "Promoting Road Safety in the EU: The Program for 1997–2001." There was no mention of Vision Zero. However, the MEPs gave their strong support for a target: "The EU should establish a numerical target to reduce the annual deaths from the current level of 45 000 to a maximum of 25,000 by the year 2010." Furthermore, "considers that such a target would provide a stimulus to all parties involved in the promotion and improvement of road safety and would contribute to mobilizing their efforts further."

Setting numerical targets to reduce road deaths and serious injuries is an interim step in realizing the long-term Vision Zero (Swedish Road Administration in OECD/ITF (2008)).

In sum, the described key elements of Vision Zero were to be found in the early days of EU road safety policy development. ETSC and others were following the adoption of Vision Zero in Sweden with interest. So point 1 on "ethics" was starting to attract interest. The first steps of "creating mechanisms for change" were taking root. The European Parliament and ETSC were calling for the setting of a numerical target and political will by decision-makers. There were the first efforts at adopting EU legislation on road safety.

# 2001–2010: The First Numerical Target to Reduce Road Deaths – Still No Vision Zero

Toward the end of the Second Road Safety Action Program in the year 2000, the Commission published a communication in the form of a progress report on fulfilling the actions of the last program (European Commission 2000). The Council adopted a resolution in 2000 also supporting the "wisdom of setting a target figure for a reduction in the total number of victims on the roads of the Community" (European Council Resolution 2000). This was significant, as the European Commission had the support of the Council to proceed and adopt a target. ETSC continued to call for "a proposal for an EU numerical target to reduce deaths to a maximum of 25,000 annually by the year 2010" (ETSC 2000). Finally, after years of work, the first EU target to reduce road deaths was adopted by the European Commission in 2001 in its White Paper. "In the battle for road safety, the European Union needs to set itself an ambitious goal to

reduce the number of people killed between 2000 and 2010. The Commission plans to marshal efforts around the target of halving the number of road deaths over that period" (European Commission 2001). Thus by 2001, one of the key framework elements of Vision Zero, "creating mechanisms for change," was put in place: Europe's first target to reduce road deaths.

ETSC welcomed the new road safety target but with a note of caution: "ETSC welcomes the fact that the White Paper sets, for the first time, a numerical aspirational target to cut road deaths" (ETSC 2001). ETSC strongly supported "the Commission's intention to set an ambitious goal, but notes that the targeted level of safety performance is more challenging than has ever been achieved by even the best performing Member States or proposed by the European Parliament and safety organisations" (ETSC 2001).

### The Third Action Program in 2003 and ETSC's Response

The EU's Third Road Safety Action Programme was adopted in 2003 and was a much more comprehensive document than previous ones, encompassing a total of 62 measures. It reiterated the target set out in the Transport White Paper, namely, to cut EU road deaths by 50% between 2000 and 2010. The program explained that targets can mobilize action and that "It is broadly accepted that targeted road safety programs are more beneficial in terms of effectiveness of action, the rational use of public resources and reductions in the number of people killed and injured than non-targeted programmes" (European Commission 2003). The European Commission also stressed that the target needed to be monitored closely and reviewed especially with the upcoming enlargement of the EU. Performance indicators could also be used in a next stage, although their adoption finally came in 2019 for use in the new 2021–2030 program.

With the adoption of the Third Action Programme in 2003, one of the key framework elements of Vision Zero, "creating mechanisms for change," was put in place including a strategy, a target and some elements of European road safety governance as well as lots of measures.

The European Commission's 2003 program mentioned the Swedish Vision Zero in passing when elaborating possible action in the area of public procurement: "In 1997 Sweden adopted a road safety program to combine the efforts of the State, the regions, the towns, the private sector and individuals to aim to achieve zero death and serious injuries on the road" (European Commission 2003). But the adoption of Vision Zero as a guiding road safety philosophy for Europe was still a way off.

The 2003 EU Action Program was entitled "Halving the Number of Road Accident Victims in the European Union by 2010: A Shared Responsibility," thus clearly including the second key element of Vision Zero on sharing responsibility amongst road users and the authorities (European Commission 2003). The strategy also called for "a shift in thinking among both those with responsibility for the traffic system and users about how people use the roads and how they can be used safely" (European Commission 2003).

The third element of Vision Zero – "philosophy of safety: a system absorbs errors" – was also included: "Since human beings frequently and inevitably make mistakes, the system of infrastructure, vehicles and drivers should be gradually adapted to protect users more effectively against their own shortcomings" (European Commission 2003), citing influence from "the approach in other modes of transport and safety at work" (European Commission 2003).

ETSC's response papers to the new European Commission program included a subtitle of "A Strategy without a Bite?," repeating the concern about the ambitious target (ETSC 2003). ETSC called for the need for more action at EU level and also for the new EU member states set to join the EU in order to reach the new target (ETSC 2003). ETSC also raised a concern that there was no vision included in the action programme. ETSC said that a targeted road safety programme should be accompanied by a vision, such as the Vision Zero in Sweden (ETSC 2003). Specifically, it said that motivating change needs a common vision. "To achieve the necessary shift in the mind-set of decision-makers and stakeholders, the vision needs to be further-reaching and medium to long-term, looking beyond what is immediately achievable" (ETSC 2003).

# 2004: The European Parliament Proposes to Endorse Vision Zero for the First Time

The European Parliament adopted its resolution on road safety in 2004 as a response to the new EC Action Program, welcoming the new EU target to reduce road deaths (European Parliament 2004). The report also called "on the Commission to develop a long-term road safety concept, going beyond 2010 and describing the required steps leading to the avoidance of all fatalities and serious injuries caused by road accidents ('zero vision')" (European Parliament 2004). In the explanatory statement, it added that "the very long-term objective is the Nordic Vision Zero" (European Parliament 2004).

# The Verona Process: Commitment of the Transport Council on Road Safety 2003–2006

It was during this time also that transport ministers met more regularly to discuss road safety. The first occasion was on the initiative of the Italian EU Presidency and hosted by the mayor of Verona, who was very keen to see more action on road safety. EU transport ministers confirmed the urgent need for action on road safety and proposed a number of measures. In the first ministerial declaration from 2003, ministers stated that "the huge amount of human victims on the roads is too high a price and that, the situation being such, the eradication of this scourge is a top priority on their political agenda" (European Council 2003).

Within this context, ETSC was aiming to capitalize on the political leadership shown by the Italian Presidency and others by suggesting the launch of the so-called Verona Process (ETSC 2003a). ETSC's recommendation was to use the EU policymaking method of open coordination, which would lead to regular ministerial meetings on road safety.

This process had already been successfully applied in other sectors, for instance, in the "Lisbon Process" on economic development. ETSC argued that "this new process would serve primarily to create the political leadership needed for action on road safety through an annual review based on performance indicators" (ETSC 2003a). This didn't really catch on, but successive EU Presidency holders have continued to demonstrate their commitment to road safety to the present day, thus fulfilling some of the other elements of Vision Zero such as taking shared responsibility for road safety and supporting a 'mechanism for change.'

At the second meeting in December 2004, again hosted by Verona, European transport ministers formally adopted the conclusions from their second Verona meeting on road safety. In these conclusions, ministers again outlined priorities for enhancing road safety by improving road design, compliance with rules and vehicle safety (European Council 2004). As regards the funding of road safety work, ministers proposed the creation of a European road safety fund, drawing on a percentage of vehicle taxes, motorway tolls, insurance premiums or traffic fines.

Yet, "the Commission distanced itself from the Ministers' conclusions, stating it would act only in accordance with the right of initiative given to it by the treaties" according to ETSC's "Safety Monitor" (ETSC 2004b). In a declaration attached to the document, the Commission warned against "anticipatory effects" for measures which are difficult to implement, such as the "establishment of specific funds to finance measures to improve road safety" (as cited in ETSC 2004b). At this moment in the EU's road safety history, the European Commission was not in step with the level of political ambition demonstrated by the Council.

A third Verona meeting was held in November 2005. Transport ministers adopted conclusions in which they committed to promoting road safety policies in their respective countries, based notably on improving driver training, provisional driving licenses for young drivers and additional training for repeat offenders (as cited in ETSC 2005b). The conclusions also placed an emphasis on tougher sanctions. This was just ahead of an informal council on road safety hosted by the Austrian government under their EU Presidency in Bregenz in March 2006.

The focus of the meeting in Bregenz was on E-Safety with a practical demonstration on a track allowing ministers to try out vehicles fitted with new safety technologies. During the meeting, the European Commission presented the mid-term review of the Third Road Safety Action Program and as ETSC reported "took the Council's pulse" before preparing to present new legislation on topics such as cross-border enforcement and infrastructure in 2006 (ETSC 2005a). After this, the more regular council meetings dedicated to road safety had a hiatus. But elements of Vision Zero here were also starting to take root, shown by the political ambition of EU transport ministers to hold regular meetings with road safety as a focus.

### **ETSC PIN Program**

It was within this context that ETSC launched its Road Safety Performance Index program (PIN). Since 2006, the Road Safety Performance Index program (PIN) has presented an annual award to the European country making the best progress in reducing road deaths. The annual PIN ranking of progress has inspired many poor performing countries to up their game. The PIN is a policy tool to help EU Member States improve road safety. By comparing Member States' performance, it serves to identify and promote best practice in Europe and bring about the kind of political leadership that is needed to create a road transport system that maximizes safety.

The PIN program covers all relevant areas of road safety including road user behavior, infrastructure and vehicles, as well as road safety policymaking more generally. National research organizations and independent researchers from 32 countries participate in the programme and ensure that any assessment carried out within the program is based on scientific evidence and is effectively communicated to European road safety policymakers.

Since the beginning of the program, cross-national comparisons have addressed a wide range of road safety themes and indicators. The PIN program includes a number of Vision Zero's key elements. The ethics of not having a trade-off of safety for mobility, supporting the creation of a system which absorbs errors and sharing responsibility between road users, authorities and industry are integrated into their annual reports and data-led reports, as is element four on "creating mechanisms for change" tracking country's developments and adoptions of targets, strategy and governance.

One of the later reports looking at this aspect was the "Road Safety Management" flash report published in 2012 (ETSC 2012). It presented a snapshot of the Road Safety Management frameworks in terms of key elements inspired by best practice and innovative experience in Member States. The PIN report stressed that "systematic and strategic thinking, complemented by actions on the lines recommended are vital for the sustained medium- and longer-term reductions in death and injury on the roads" (ETSC 2012). The overview was based on questions linked to the ETSC publication from 2006: "A methodological approach to national road safety policies" (ETSC 2006a).

# 2006: Mid-term Review of the Transport White Paper and the Fourth Road Safety Action Program

The next significant milestones were the mid-term reviews of the Transport White Paper and the Third Road Safety Action Program in 2006. ETSC repeated its previous call for the adoption of a road safety vision: "A prerequisite for effective action to reduce death and injury in traffic collisions radically is a strongly felt and lasting motivation for change which is sufficient to root out and overcome deep-seated tolerance of disproportionate numbers of people being killed or injured on the

roads" (ETSC 2006b). Adding that, "one way of generating and communicating such a motivation for change is by promoting an inspiring vision of safer road use" (ETSC 2006b). The mid-term review of the Transport White Paper just reaffirmed the new target and created an annual road safety day (European Commission 2006a).

The European Commission's mid-term review of the Road Safety Action Programme listed the actions taken and traced the reduction trends. Some elements of the "Vision Zero" approach such as that of the 'system absorbing the errors' found their ways into the thinking. For example, under the vehicle section, "all road users are liable to make mistakes. Given the potential seriousness of these mistakes, we must limit their consequences (passive safety) or prevent them from occurring in the first place (active safety)" (European Commission 2006b), concluding that "faster progress is being made than in the past, but it is patchy and there is still a lot of room for further improvement" (European Commission 2006b). Emphasis was put on the newly adopted concept of "shared responsibility." another important element of Vision Zero.

ETSC's 2000 response urged for renewed action in delivering stalled legislative priorities and demanding a tighter interpretation of "sharing responsibility" (ETSC 2006b). ETSC also stressed that "More than sharing responsibility, Member States, the European Commission and the automotive industry should 'take' their responsibilities. The development of guidelines on implementing best practice by Member States should not replace the need for an EU directive on any given matter, but should instead represent a step toward concise legislation at EU level" (ETSC 2006b).

In 2006, the European Parliament repeated their calls for the adoption of Vision Zero that had first been mentioned in 2004. In their contribution to the mid-term review of the Road Safety Action Program in 2007, MEPs called for "the Commission to develop a long-term road safety strategy beyond 2010 and setting out the steps required for the avoidance of all fatalities and serious injuries caused by road accidents ('Vision Zero')" (European Parliament 2007), thus continuing to mention Vision Zero by name as well as including many of the key elements such as the "mechanism for change" calling for a strategy with targets.

### Ahead of the Adoption of Vision Zero in 2011

Following the mid-term reviews of both the Transport White Paper of 2001 and the Road Safety Action Program of 2003, ETSC then set about preparing the main input to the next Road Safety Action Program (ETSC 2008). ETSC's 2008 blueprint document recalled that every far-reaching road safety program needs a vision. Taking inspiration from Sweden but not Vision Zero, ETSC proposed that "every citizen has a fundamental right to, and responsibility for, road traffic safety. This right and responsibility serves to protect citizens from the loss of life and health caused by road traffic." This citizen's right was adopted in the Tylősand Declaration at the annual Swedish conference on traffic safety in 2007 (Tylősand Declaration 2007) and then adapted by ETSC, strengthening the responsibility component.

Ahead of the adoption of Vision Zero in the EU Transport White Paper, the European Parliament report provided input but did not repeat its call for a Vision Zero from 2006. However, MEPs did stress that road safety and the new target for 2020 should be an important part. Calling for "a 40 % reduction in the number of deaths of and serious injuries to active and passive road transport users, with this target being laid down in both the forthcoming White Paper on Transport and the new Road Safety Action Programme" (European Parliament 2010).

### Adoption of the Third Road Safety Action Program in 2010

ETSC was very critical of the adoption of the Third Road Safety Action Program which came in 2010, just ahead of the landmark Transport White Paper which finally adopted Vision Zero (ETSC 2010), mainly because of the dilution of the European Commission's previously expressed ambition and what it viewed as a downgrading of road safety as a priority for EU transport policy.

Moreover, ETSC did not yet know what was just around the corner, i.e., the EU's adoption of Vision Zero. ETSC wrote that the "Towards a European Road Safety Area: policy orientations on road safety 2011-2020' include some elements of an Action Programme, yet its scope, structure and name are very different from the three previous European Road Safety Action Programm" (ETSC 2010), although a new target to halve road deaths was set for 2020.

ETSC said that the decision of the European Commission to adopt "policy orientations" with a weak set of objectives and actions instead of a new far-reaching European Road Safety Action Program called seriously into question the chances of reaching the target (ETSC 2010). Moreover, the road safety community had hoped for a new EU 10-year action program providing a vision, priorities and a detailed road map against which performance could be measured and delivery made accountable. ETSC concluded that "the adopted Communication falls short of these expectations" (ETSC 2010). In terms of a vision, there was no clearly defined vision in the document, only "principles" (ETSC 2010).

The 2010 EC Action Plan stated that "Road Safety policy has to put citizens at the heart of its action: it has to encourage them to take primary responsibility for their safety and the safety of others. The Road Safety Policy aims at raising the level of road safety, ensuring safe and clean mobility for citizens everywhere in Europe" (European Commission 2010).

These are principles, which ETSC also viewed with a critical eye. ETSC recognized "the important responsibilities of road users but believes that it is just as important for the traffic system to be adapted to their needs, errors and vulnerability. Putting the citizen at the heart of the action should not mean moving responsibilities from authorities to citizens, but emphasising the human role as a measure of EU policy actions." Here, the European Commission's new road safety program did not encompass one of the key elements of Vision Zero regarding sharing responsibility nor building a system which can absorb errors.

ETSC was also skeptical of the bold statement in the Road Safety Policy Orientations communication and what it said regarding new legislation that "with over a dozen legislative instruments on road safety, the EU acquis are essentially in place" (ETSC 2010). ETSC said that this revealed a disturbing complacency about the legislative foundation for action for the next decade (ETSC 2010). The European Commission stated that it "intends to give priority to monitoring the full and correct implementation of the EU road safety acquis by Member States" (European Commission 2010). ETSC argued that there was still a great deal that should still be done in the next decade in the field of EU legislation to improve road safety (ETSC 2010).

Another area of disappointment was that, although the European Commission included a new emphasis on serious injuries, it did not yet set a target (ETSC 2010). ETSC called for the swift adoption of a detailed road map, saying that its absence may result in the situation in which slower Member States hold back those already prepared to work with a standardized definition (ETSC 2010). ETSC was stressing that this process was bound to take time and that an interim target should be set in terms of countries' existing definitions of serious injury (ETSC 2010).

Although the new program had some of the elements of Vision Zero, it was weak under the part on "creating mechanisms for change: targets, strategy, governance and adopting measures." A strategy was there in parts including a target to reduce deaths, but not yet serious injuries, and the measures were much reduced, especially in light of the challenges to reach the new road death reduction target by 2020.

There was more EU action to come in 2011 with the adoption of the new Transport White Paper. In 2010, ETSC had said that the Commission "should consider the need to include a strong section in the white paper on road safety, reiterating there the new 2020 target to reduce road deaths by 50%" (ETSC 2010).

### The Groundbreaking Adoption of Vision Zero in the 2011 Transport White Paper

With the background of the 2010 Road Safety Policy Orientations and ETSC's critical input, the adoption of "Vision Zero" in the Transport White Paper the following year came as a surprise to the road safety community (European Commission 2011).

One of the ten goals for achieving a competitive and resource-efficient transport system was set as "By 2050, move close to zero fatalities in road transport. In line with this goal, the EU aims at halving road casualties by 2020" (European Commission 2011).

Including a "Vision Zero" for road safety was recognized as a new and potentially groundbreaking visionary goal for 2050 by ETSC, complementing the "Road Safety Policy Orientations 2011–2020" target of halving road deaths by 2020 (ETSC 2011a).

ETSC congratulated the European Commission on this new long-term vision and welcomed the White Paper's renewed commitment for an EU target to reduce road deaths by 50% by 2020 (ETSC 2011a). The transport safety section of the Transport White Paper was entitled "Acting on Transport Safety: Saving Thousands of Lives" and subtitled "Towards a 'zero-vision' on road safety" and contained a summary of

the actions from the previously adopted Road Safety Policy Orientations (European Commission 2011).

However, what was missing at the time was a root and branch reorganization of the EU's road safety management structure and governance in line with all of the elements of "Vision Zero." The White Paper did not elaborate the idea of sharing responsibility between the different actors nor the principle of building a system which absorbs errors. The "chapeau" heading of "Vision Zero" included some intended measures but was not supported by the necessary actions.

### Vision Zero Supported by the European Parliament

Just after the adoption of Vision Zero in the 2011 Transport White Paper, the European Parliament also adopted a new report in 2011, entitled European Road Safety 2011–2020 (European Parliament 2011). MEPs shared some of ETSC's criticisms of the EC's 2011 "policy orientations" stating that "The EU must make a start on the work of turning this vision into reality and developing a strategy which looks beyond the 10-year time frame" (European Parliament 2011).

In an opening section in the report on "ethical aspects," MEPs warned that "a complementary, long-term strategy is needed which goes beyond the period covered by the communication under consideration here and has the objective of preventing all road deaths ('Vision Zero')" (European Parliament 2011). This view had been supported by ETSC in a briefing for MEPs (ETSC 2011b). A whole section of the report was dedicated to "Vision Zero" explaining that 15,000 deaths in 2020, though an improvement, were still not acceptable:

Your rapporteur wholeheartedly supports the objective of halving the number of road deaths by 2020. This means, however, that in 2020 some 15,000 people would still lose their lives in road accidents. The price EU citizens pay for their mobility would thus still be shockingly high. If even one person is killed or injured in a road accident it is one too many. Although absolute safety is an impossibility, the objective of only halving the number of road deaths – however ambitious it may be given the period – is ethically questionable. The Commission should therefore finally acknowledge Parliament's call and set as the long-term aim the prevention of all road deaths ("Vision Zero"), as a number of Member States have already done (European Parliament 2011).

The appeal of the EP to consider the ethical implications of setting short-term targets and appealing for longer-term planning embodies one of the elements of Vision Zero.

### **Corporate Sustainability Reporting**

The EU is an influential leader in setting global sustainability reporting standards. A little later in 2014, the EU also adopted a directive requiring large companies to disclose certain information on the way they operate and manage social and

environmental challenges (European Union 2014). The thinking was that this can help investors, consumers, policymakers and other stakeholders to evaluate the non-financial performance of large companies and encourages these companies to develop a responsible approach to business. The so-called Non-financial Reporting Directive 2014/95 (NFRD) lays down the rules on disclosure of non-financial and diversity information and amends the accounting Directive 2013/34/EU. Although there is no specific reference to road safety, health and safety at work are included. This links into the idea of Vision Zero that responsibility is shared beyond the public sector in delivering on social and environmental goals, which could also include road safety.

According to the legislation, companies with more than 500 employees are required to include non-financial statements in their annual reports from 2018 onward. Under Directive 2014/95/EU, large companies have to publish reports on the policies they implement in relation to environmental protection, social responsibility and treatment of employees (including health and safety at work), respect for human rights, anti-corruption and bribery as well as diversity on company boards. The EC adopted guidelines to elaborate reporting under the directive in 2017 (European Commission 2017), further updated in 2019 (European Commission 2019a). The directive is also due for revision under the European Green Deal with a consultation for the revision underway in February 2020 to strengthen sustainable investment even further (European Commission 2020e).

The Stockholm Declaration of 2020 on road safety includes a recommendation which calls upon "businesses and industries of all sizes and sectors to contribute to the attainment of the road -safety-related SDGs by applying Safe System principles to their entire value chain including internal practices throughout their procurement, production and distribution process, and to include reporting of safety performance in their sustainability reports" (Stockholm Declaration on Road Safety 2020). This is explained further in the report of the Academic Expert Group for the Stockholm Declaration (Stockholm Declaration on Road Safety Academic Expert Group 2020). Global supply chains associated with multinational corporations account for over 80% of global trade and employ one in five workers (Thorlaksen et al. 2018).

# Mid-term Review of the Transport White Paper and Road Safety Policy Orientations

At the halfway point of the target period for 2020, in early 2015, the European Commission undertook a review of the Road Safety Policy Orientations and the Transport White Paper, with the European Parliament undertaking an Own Initiative Report on the White Paper. The European Commission opened a public consultation on progress on the Road Safety Policy Orientations at the end of 2014 and on the Transport White Paper shortly afterward. In its contribution to both of these reviews, ETSC called upon EU policymakers to redouble European efforts in the field of road safety and to strengthen and expand the scope of action needed to reach the 2020 target (ETSC 2015a).

The European Parliament in its contribution to the mid-term review of the Transport White Paper had a strong section on road safety under "Placing people at the heart of transport policy." The Resolution stressed that "although significant improvements have been achieved in road safety over the past years, differences between Members States still persist and further measures are needed to attain the long-term Vision Zero objective" (European Parliament 2015).

MEPs called for a raft of different actions, very much in line with ETSC's recommendations at the time, including for the European Commission to come forward with a revision of vehicle safety legislation (the GSR 2009/661), to improve HGV safety and to mandate the "greater application in new passenger cars and commercial vehicles of driver assistance safety systems such as overridable intelligent speed adaptation (ISA)" (European Parliament 2015). Already then, they were calling for a revision of Directive 2008/96/EC on road infrastructure safety management, calling for an extension of its four main measures to other parts of the road network, including all parts of motorways and rural and urban roads. They were also calling for the European Commission to review driving license legislation to, for example, introduce a second phase to obtain the full license and a harmonized EU blood alcohol concentration limit of 0.0 for professional drivers and for new drivers in the first 2 years. These latter measures have still not happened to date.

# The Adoption of an EU Serious Injury Target and Its Importance for Vision Zero in Europe

In its 2015 resolution, the European Parliament called for "the swift adoption of a 2020 target for a 40% reduction in the number of people seriously injured, accompanied by a fully-fledged EU strategy" (European Parliament 2015). Furthermore, MEPs called on "the Member States to provide without delay all relevant statistical data so as to enable the Commission to set that target and strategy" (European Parliament 2015). But the EU had to wait until 2019 for the final adoption of such a target. This is significant for Vision Zero in Europe as it illustrates the difficulties in adopting targets beyond reducing deaths, an important part of the Vision Zero philosophy.

The mid-term review of both the Road Safety Policy Orientations and the Transport White Paper came just after the start of the mandate of the new European Commissioner for Transport Violeta Bulc. The road safety community had high hopes for new action, and the new commissioner made a promising start. ETSC was especially looking forward to the adoption of an EU target for reducing serious injuries, which had been long promised. Although a common EU definition of seriously injured casualties was adopted in 2013 (European Commission 2013), the EU had previously missed the opportunity to adopt a target and measures to achieve it.

ETSC had long argued for the need for a separate pan-European target to reduce serious road injuries, to complement the targets that have been in place since 2001 to reduce deaths. Since 2010, the European Commission committed to introducing

such a target. In 2013, the crucial common definition of the types of injuries to be recorded and tracked was approved (European Commission 2013). A target was finally expected to be set in the first half of 2015, having been promised "shortly" in a Commission press release in 24 March 2015. But the European Commission backtracked, and the target was placed in limbo. ETSC convened an expert meeting in March 2015 to discuss a priority list of measures for EU action to reduce serious injury (ETSC 2016a).

A step was taken when the European Commission published, for the first time, a figure in April 2015 for the estimated number of people seriously injured on Europe's roads: 135,000 in 2014 (European Commission 2015).

ETSC then launched an official campaign entitled "Let's Go for a European Serious Injury Target to Reduce Road Injuries" calling on the Commission to publish a target by the end of 2015 (ETSC 2015b).

More than 70 experts and representatives of road safety organizations and victims groups from across Europe together with 12 members of the European Parliament wrote to the European Commission President Jean-Claude Juncker urging him to reverse the decision to drop the target. Public health groups and medical experts from across Europe joined the call along with transport ministers from across the EU. Also in 2015, ETSC worked with the Luxembourg Presidency who arranged a debate on the Transport White Paper at the October Council and a lunch debate on road safety at the December Council. Both debates included the serious injury topic. In February 2016, ETSC met with both President Juncker and Transport Commissioner Bulc to hand over the banner from the campaign and press the case for setting a target (ETSC 2016b).

A group of MEPs launched the initiative to sign a "written declaration" on the importance of the serious injury target. The declaration was signed by 275 MEPs.

# The Valletta Declaration and the Adoption of an EU Serious Injury Target

One of the key milestones in the run-up to the adoption of the serious injury target was the adoption of the Valletta Declaration on road safety (EU Council Valetta Declaration 2017). Malta held the EU Presidency in the first half of 2017 and wanted to contribute to improving road safety. The Maltese Presidency organized a high-level conference and an Informal Ministerial Transport Council on the 28th and 29th of March 2017 where the Valletta Declaration on road safety was officially adopted.

ETSC participated in a preparatory meeting organized by the European Commission and sent initial written input to both the European Commission and the Maltese Presidency on the draft declaration. Ahead of the meeting in January, ETSC contacted all EU 28 Member States to present their priorities for inclusion. The main request from ETSC was for EU Member States to endorse an EU target for serious injuries.

The Valletta Declaration was adopted on 28 March, including a call for the adoption of an EU serious injury target. In June 2017, European Union transport

ministers formally agreed to set a target of halving the number of serious injuries on roads in the EU by 2030 from their 2020 level (EU Council 2017). In their council conclusions, ministers formally endorsed the Valletta Declaration on improving road safety, issued at the informal meeting organized by the Maltese Presidency on 29 March 2017. Ministers called on the European Commission to come forward with a new road safety strategy for the decade 2020–2030 including targets for reducing deaths and serious injuries (ETSC 2017a). The road safety community still had to wait until 2018 until the targets were finally adopted within the new strategy.

# EU Road Safety Action Policy Framework: Next Steps Towards Vision Zero

In June 2019, the European Commission published the EU Road Safety Policy Framework 2021–2030: Next Steps Towards "Vision Zero" (European Commission 2019). The publication was a follow-up to a shorter action plan published in May 2018 (European Commission 2018a), as part of the Mobility Package III, which included two new road safety regulations on vehicle and infrastructure safety standards. In its launch press release, the European Commission stated that "These two measures [on vehicle and infrastructure safety] could save up to 10,500 lives and avoid close to 60,000 serious injuries over 2020-2030, thereby contributing to the EU's long-term goal of moving close to zero fatalities and serious injuries by 2050 ('Vision Zero')" (European Commission 2018b). A strong link to Vision Zero was repeated by Commissioner Bulc: "Today the Commission has completed its agenda for safe, clean and connected mobility. New decisive steps towards #"VisionZero: 0 fatalities on EU roads, 0 pollution, 0 paper by 2050" (European Commission 2018c). Throughout her tenure, Commissioner Bulc was a strong advocate of Vision Zero and was sure to include it in her many speeches and updates on road safety.

ETSC was broadly positive of the new strategy and welcomed that the long-term Vision Zero would guide the announced EU Road Safety Policy Framework for 2021–2030 and embody the "Safe System Approach" (ETSC 2019e) and also that it included a new target to halve road deaths between 2020 and 2030 as well as, for the first time, a target to reduce serious injuries by the same amount. Thus, it enshrined the targets adopted in the Valletta Declaration.

#### **Ethics**

Looking at the inclusion of the Vision Zero elements of ethics, philosophy, shared responsibility and mechanism for change, in the new document, all could be interpreted as being present in some form.

In terms of ethics and vision, the introduction says "the EU has reaffirmed its ambitious long-term goal, to move close to zero deaths by 2050 ('Vision Zero')" (European Commission 2019c). They speak of "the mind-set of 'Vision Zero'" which "needs to take hold more than it has so far, both among policy makers and

in society at large." The European Commission makes an oft-cited parallel with air traffic. "Road crashes are 'silent killers,' in that they often go virtually unnoticed in the public sphere, even though, taken together, they kill as many people – around 500 – as fit into a jumbo jet every week, in Europe alone" (European Commission 2019c). Then also in line with the original Vision Zero, "We do not accept deaths in the air, and we should no longer accept them on the road – the premise that no loss of life is acceptable needs to inform all decision making on road safety" (European Commission 2019c). This is supported by the adoption of the Safe System Approach: "The core elements are ensuring safe vehicles, safe infrastructure, safe road use (speed, sober driving, wearing safety belts and helmets) and better post-crash care, all long established and important factors in the Safe System approach" (European Commission 2019c).

### **Shared Responsibility**

A whole section of the new strategy is dedicated to "shared responsibility" which states that for "the Safe System approach to work, experience shows that all actors need to play their part in a coordinated manner" (European Commission 2019c) and also that the overarching theme of the Safe System Approach "involves multisectoral and multi-disciplinary action and management by objectives, including timed targets and performance tracking" (European Commission 2019c).

ETSC stresses that "Road safety policy needs to be supported by effective institutional management in order to achieve long-term effects on road safety" (ETSC 2019e). Moreover, "clear institutional roles and responsibilities should be set up with strong political leadership from the Commissioner for Transport" (ETSC 2019e). The European Commission has since worked to enhance the mandate of the High-Level Group on Road Safety, which is made up of representatives of EU member states, and will now organize "results conferences" every 2 years. The European Commission has also appointed a European Coordinator for Road Safety and expressed the intention to coordinate at senior level involving all DGs with policies relevant to road safety. ETSC however is still calling for more, for example, "the development of a more complete framework which should include clear priority measures for action and a detailed road map against which performance is measured and delivery made accountable to specific bodies. As an example of such an approach ETSC referred to the Irish Road Safety Strategy" (Ireland Road Safety Strategy 2013).

Moreover, ETSC is critical of the efforts to "share responsibility" with industry. A part of the proposed actions in the Commission's road safety action plan comes in the shape of "voluntary commitments" from stakeholders, for example, the Vision Zero pledge from ACEA (ACEA 2018). ETSC says that "although such commitments can be welcome, especially in new areas as a precursor to legislation, it is less favourable as the action may not end up being completed without the legislative obligation" (ETSC 2019e).

### Philosophy of Safety

The part of the Vision Zero and Safe System philosophy about building a system which absorbs errors is also included in the new EU strategy. For example, in the introduction:

According to the Safe System approach, death and serious injury in road collisions are not an inevitable price to be paid for mobility. While collisions will continue to occur, death and serious injury are largely preventable. (European Commission 2019b)

The strategy goes on:

The Safe System approach aims for a more forgiving road system. It accepts that people will make mistakes, and argues for a layered combination of measures to prevent people from dying from these mistakes by taking the physics of human vulnerability into account. (European Commission 2019b)

In terms of the different elements of the system:

Better vehicle construction, improved road infrastructure, lower speeds for example all have the capacity to reduce the impact of crashes. Taken together, they should form layers of protection that ensure that, if one element fails, another one will compensate to prevent the worst outcome. (European Commission 2019b)

Under, for example, the section on infrastructure:

Well-designed and properly maintained roads can reduce the probability of road traffic accidents, while "forgiving" roads (roads laid out on Safe System principles e.g. with median safety barriers to ensure that driving errors do not need to have serious consequences) can reduce the severity of accidents that do happen. (European Commission 2019b)

# **Mechanisms for Change**

Under the section in the strategy entitled "Safe System approach at EU level," the European Commission presents a framework including targets and key performance indicators and also examines how to change the structures to deliver and improve road safety policy at EU level.

An example of a very new "mechanism for change" is the plan to develop new key performance indicators (KPIs) for road safety, linked to outcome targets already announced by the European Commission in May 2018 (European Commission 2018a).

According to a 1993 directive, EU Member States are legally obliged to report to the European Commission on the number of road collisions that result in injury or death. These new KPIs should give a more detailed sense of how Member States are performing in terms of reducing some of the most important risks. However, the

reporting on KPIs will be voluntary, thus putting in place some new parts of the Vision Zero structure: "creating a mechanism for change."

ETSC in its response to the new strategy stated that "strong measures and a wider coverage of existing and emerging road safety issues will be essential to addressing the recent stagnation in progress on reducing road deaths in the EU" (ETSC 2019e).

ETSC said that although the Commission's analysis of the current state of road safety in Europe was correct, the planned policy approach would need renewed effort if it will result in the needed rapid and far-reaching improvement (ETSC 2019e).

In particular, rapidly evolving technologies such as micromobility and automated driving need substantial regulatory efforts now to avoid creating new and unforeseen risks. Long-term research into these, and other areas, is welcome – but robust legislation following the precautionary principle and the Safe System Approach will be needed sooner rather than later (ETSC 2019e).

The new EU strategy was adopted in the midst of a road safety crisis in Europe, a drastic slowdown in the positive trend of reducing road deaths and the realization that the 2020 EU road death reduction target would not be reached.

Since 2010, the average annual progress in reducing the number of road deaths in the EU is 2.8%, a 21% reduction between 2010 and 2018. Most of that progress was made in 2011, 2012 and 2013. A 6.7% year-to-year reduction was needed over the 2010–2020 period to reach the 2020 target (to halve road deaths in a decade) through consistent annual progress. Since 2013, the EU as a whole has been struggling to reach a breakthrough. The number of road deaths declined by only 4% in the 5 years since 2013. For the EU to reach the 2020 target, road deaths now need to be reduced by around 20.6% annually in 2019 and 2020 – an unprecedented and highly unlikely possibility.

# Renewal of Vision Zero plus the Safe System Approach: Is This Enough to Deliver Vision Zero in Europe?

Since the adoption of Vision Zero in 2011, the new EU strategy for 2021–2030 has had more elements of the Vision Zero integrated than in the original 2011 road safety strategy and White Paper, especially in the areas of "ethics" and "governance," although more could still be done to strengthen, for example, the governance structure.

ETSC has repeatedly called for the setting up of an EU agency for road safety, as exist for other transport modes. Such an agency could be "responsible for the collection and analysis of data, helping speed up developments in road safety and providing a catalyst for road safety information and data collection" (ETSC 2019e). The agency could also come up with new safety standards for vehicles as well as overseeing and coordinating EU input to the UNECE process (ETSC 2019e).

In themselves, the implementation of all of the planned actions in the EU strategy will not be enough to deliver the long-term Vision Zero nor possibly

the new 2030 targets. ETSC has commented on the possible causes of the recent stagnation in the EU. "The economic recovery, and consequent increase in road transport usage, partly explains the lack of progress. As do cuts to transport police numbers and infrastructure maintenance budgets by Member States as road safety fell down the political priority list in some countries" (ETSC 2019e).

Other explanations could be about the possible consequences of EU and Member State inaction and delay of adopting new life-saving policies in its PIN Annual Report (ETSC 2019d). "But the EU must also shoulder some of the responsibility for waiting almost until the end of its five-year political cycle to deliver its biggest and boldest road safety initiatives: an update to minimum vehicle safety standards and a significant increase in the scope of infrastructure safety management rules" (ETSC 2019). These eventually came in May 2018, with final political agreements reached in the last few months of 2019. ETSC recognizes that this was a massive achievement, which will save thousands of lives. But it will be several years before we see the full impact (ETSC 2019e).

The EU will have to show strong political will from the start of the new mandate, including from the newly appointed EU Transport Commissioner Ms. Vălean, if it wants to reach the new 2030 targets.

In her opening statement at her hearing in the European Parliament, Ms. Vălean said, "25 000 [deaths] per year is simply unacceptable. We should share the objective of halving the number of road deaths and serious injuries by 2030 compared to 2020." Later at the same hearing, she affirmed that "for road safety we are committed to zero vision, zero deaths in 2050. We put a strategy in place and I plan to promote it strongly. With strategy comes actions" (ETSC 2019f).

This is mirrored at a higher level in the "mission letter" to the new transport commissioner, from the European Commission President Mrs. von der Leyen: "Cutting across all of your priorities is the need for the highest safety standards. This is becoming all the more important as traffic increases and security threats become ever more complex" (European Commission 2019d). Together, this implies the intended willingness to act of the new commissioner with competence for road safety and the president of the European Commission.

The EU will need to fulfil, as a minimum, all of the planned actions in the EU realm of implementation.

ETSC in its response says that the planned actions are not sufficient and in its response document puts forward more possible actions under the different priority actions saying that there is "room for improvement and increased ambition" (ETSC 2019e). Yet, it needs also to go above and beyond and work to encourage EU Member States to place road safety high on the political agenda. ETSC wrote in its response to the new EU strategy that "as well as putting forward legislation, in the next decade the European Commission must continue to fulfil its crucial role in supporting and motivating EU Member States to act" (ETSC 2019e). Moreover, it must now also rise to the challenge of dealing with the Covid-19 pandemic and probable economic downturn.

### **Examples of Vision Zero in Action at EU Level**

New legislation on infrastructure and vehicle safety was finally adopted in 2019; both are due to have a substantial impact on reducing deaths and serious injuries and the implementation of Vision Zero. This next section will show how these examples of legislation have been adopted since the inclusion of Vision Zero in the Transport White Paper of the EU in 2011 and the EU road safety strategy.

# Adoption of the General Safety Regulation on Minimum Vehicle Safety Standards in the EU

Already in 2010, the European Commission indicated in its communication on "Policy Orientations on Road Safety 2011–2020" that it would make proposals to encourage progress on the active and passive safety of vehicles (European Commission 2010). ETSC much welcomed the priorities set by the European Commission at the time to focus on technologies tackling speeding and drink driving. In particular, the inclusion of "in-vehicle systems providing real-time information on prevailing speed limit" was recognized as a potential first step to introducing Intelligent Speed Assistance (ETSC 2010). This was a long-standing important priority of ETSC; ISA was recognized as an important life-saving measure and part of the Vision Zero philosophy of safety, creating a system which absorbs errors (ETSC 2010), in this case speeding, often a simple error of overseeing a speed limit sign. Other types of in-vehicle safety technologies such as Advanced Emergency Braking Systems and Lane Keeping Assist could also be classed in the same way. These were also finally included in the final adopted legislation. But it would take another 8 years until a legislative proposal was made.

In late 2016, the European Commission presented its report "Saving Lives: Boosting Car Safety in the EU," which listed 19 priority measures for improving vehicle safety. Its preface stated that "In order to reach the EU strategic target of halving the number of road deaths from approximately 31,000 in 2010 to 15,000 in 2020, as stated in the Policy Orientations on Road Safety 2011–2020, additional efforts are needed as it is entirely likely that the target is not going to be reached" (European Commission 2016). ETSC was very supportive of the chosen measures and called for the swift adoption of the regulation.

The report was however not accompanied by a legislative proposal that would take even longer. This long delay was heavily criticized by ETSC who, together with thirteen other stakeholders, formed a strong coalition to make the case for bringing it forward (ETSC 2017b). Member States were also demanding action. The Valletta Declaration on Road Safety of 2017 by all EU transport ministers included a call to accelerate work on new vehicle safety standards (Valletta Declaration 2017). This followed a letter sent in February by eight ministers of transport, asking for better car and truck safety and for new vehicle safety measures to be published before the end of 2017.

Still, the proposal did not come. In the meantime, the European Parliament increased the political pressure. It adopted an own-initiative report responding to the Commission's report, in which it primarily set out its vision for the improvement of vehicle safety in the context of the revision of the GSR (European Parliament 2017). It repeated the same appeal for increased action to reach the 2020 target but also added a call for a Vision Zero goal. "Every year on Europe's roads around 25 500 people die and some 135 000 are seriously injured, so that more – and more effective – measures need to be taken, in consultation with Member States, if the vision zero goal of 'no fatalities' is to be achieved' (European Parliament 2017).

After a long wait and pressure from all sides, the European Commission finally presented its proposal revising the General Safety Regulation on 17 May 2018 as part of the Mobility Package III (European Commission 2018d). The proposal included a set of new vehicle safety measures, including mandatory installation of new driver assistance technologies, as well as revised minimum crash testing standards and measures to protect pedestrians and cyclists, to be introduced from 2022. Although repeating the need to improve road safety in Europe, the proposal did not make a specific reference to its contribution to Vision Zero nor any of the four key elements. Although there was no specific reference, as this legislation is about new vehicle safety requirements to be delivered to European consumers by industry, it does fit under "shared responsibility." Thus, industry will have to build safer vehicles, which contribute to the longer-term fulfilment of Vision Zero. As mentioned previously, industry itself has taken on the Vision Zero language with, for example, the Vision Zero pledge from ACEA (2018).

The GSR text missing a reference to the EU's Vision Zero as set out in its road safety strategy is in contrast to the Road Infrastructure Safety Management Directive proposal presented below where there was a strong reference in the introduction as well as other supporting elements such as "forgiving roads."

The GSR was drafted by DG GROW, whereas the Road Infrastructure Safety Management Directive was drafted by DG MOVE, who are also the primary authors of the EU's road safety strategy which fully adopts the Vision Zero philosophy.

Stakeholders including the consultants TRL who were charged by the EC with preparing the proposal were encouraging an approach which would embrace Vision Zero also within the important area of the EU's vehicle safety legislation. DG GROW did stand by the principles of Vision Zero, by defending an ambitious list of mandatory safety technologies against strong pressure from industry who tried to water it down prior to publication and during the negotiations. The new GSR mandates vehicle safety improvements, which will benefit the safety of those outside vehicles, such as pedestrians and cyclists. For example, better direct vision standards will help truck drivers see more cyclists and pedestrians around their cabs.

ETSC supported all of the proposed measures, in particular those with the most potential to reduce death and injury such as overridable Intelligent Speed Assistance (ISA) and Automated Emergency Braking (AEB). Both of these technologies were already available on the market, but regulation was needed to make sure the benefits are extended to all new vehicles as standard. To garner political support for the new

standards, ETSC ran a campaign during 2018 and 2019 called "Last Night the EU Saved My Life" (ETSC 2018a).

The Council adopted its informal position on 29 November 2018 (European Council 2018), which was warmly welcomed by ETSC as a "massive step for road safety" (ETSC 2018b). The European Parliament adopted its informal position on the proposal on 21 February 2019. This included two proposed amendments to include Vision Zero.

Firstly in a preamble, "The Union shall do its utmost to reduce these figures drastically aiming at the Vision Zero goal of 'no fatalities' and also proposing, under the review clause recommendations, in order to support the developments towards Vision Zero driving" (European Parliament 2019), though, regrettably, these proposed references to Vision Zero were not included in the final agreed text.

ETSC welcomed the new safety proposals and also the fact that MEPs argued that the new rules should be fast-tracked and the request that eCall should also be fitted to lorries and buses in the future (ETSC 2019).

The institutions then conducted a series of informal negotiations and reached an agreement on the file on 29 March 2019 (European Parliament 2019). ETSC called the new rules "a big leap forward for road safety" and praised the leadership of EU decision-makers in concluding the negotiations (ETSC 2019b). Following the formal adoption by the co-legislators, the revised General Safety Regulation was officially published in mid-December 2019 (European Council 2019b).

The new GSR requires, as of July 2022, that all new vehicle types have to be fitted with Intelligent Speed Assistance (ISA) and all new vehicles as of July 2024. Besides a handful of high-level requirements, the new GSR however does not specify exactly how ISA is supposed to function and perform. These technical requirements are instead to be set out in a delegated act prepared by the European Commission.

The technical requirements for many of the safety measures and systems required by the GSR will be set out in UN Regulations developed by the United Nation Economic Committee for Europe's World Forum for Harmonization of Vehicle Regulations (UNECE's WP.29).

# **Adoption of the Infrastructure Safety Directive**

The EC published a proposal to revise the Road Infrastructure Safety Management Directive in 2018 (European Commission 2018e). Included within it is a clear reference to Vision Zero and the importance of implementing the Safe System Approach for infrastructure. As one of the first pieces of legislation proposed by the EC in the area of road safety, alongside the GSR, since the adoption of Vision Zero, this inclusion was significant:

It is the strategic objective of the Union to halve the number of road deaths by 2020 compared to 2010 and to move close to zero fatalities by 2050 ("Vision Zero"). However, progress towards achieving these objectives has stalled in recent years. (European Commission 2018e)

The proposal also emphasized the importance of infrastructure safety design in preventing road traffic collisions, in line with the "Safe System Approach" and also embracing the main elements of the Vision Zero.

According to the Safe System approach, death and serious injury in road accidents is largely preventable. It should be a shared responsibility at all levels to ensure that road crashes do not lead to serious or fatal injuries. In particular, well-designed and properly maintained roads should reduce the probability of road traffic accidents, whilst "forgiving" roads (roads laid out in an intelligent way to ensure that driving errors do not immediately have serious consequences) should reduce the severity of accidents. (European Commission 2018e)

In its position paper, ETSC called upon EU Member States to work toward similarly high levels of safety on all Trans-European Transport Network (TEN-T) roads, motorways and main rural and urban road networks (ETSC 2018c).

ETSC recognized that the measures in the original infrastructure safety and tunnel safety directives helped to reduce deaths in the early part of the 2010 decade. A study commissioned by the European Commission found that the impact has been positive for road safety in a number of key areas (TML 2014).

According to the European Commission, the proposed updated measures would save over 3,200 lives and avoid more than 20,700 serious injuries over the decade 2020–2030 (European Commission 2018e). ETSC's main priorities for the revision of the directive included the extension of the scope to other roads, ensuring that any road funded or co-funded from the EU budget must also be covered by EU safety rules and adapting the instruments to ensure that all road users including cyclists, pedestrians and motorcyclists are prioritized for safety measures.

The European Parliament endorsed the inclusion of Vision Zero in the outset of the proposal and also called for more ambition in various elements of the original EC proposal (European Parliament 2018).

The Council was more conservative in its position, attempting to water down the new requirements and give the Member States the possibility to designate which roads would be covered by the new directive. This was strongly criticized by ETSC as it was thought that this might reduce the safety impact should Member States choose only a small number of roads (ETSC 2018).

A compromise was struck in most areas in February 2019 with the final legislative text being published in October 2020 (ETSC 2019c). A revised version of the rules agreed extends the infrastructure safety measures from the ten TEN-T network to all motorways, all "primary roads" and all non-urban roads that receive EU funding. ETSC, and other organizations, called for all main urban and rural roads to be covered. But EU policymakers representing the European Commission, Parliament and Member States did not agree to extend the scope of the mandatory rules that far, though countries will still be able to go further if they wish.

The final text adopted included all of the original Vision Zero elements proposed by the EC. It covers shared responsibility and creating a system which absorbs errors especially with the inclusion of "forgiving roads." Regarding "providing a mechanism for change," the directive also asks governments to prepare "prioritised action plans to ensure that....the findings of the network-wide road safety assessment

should be followed up either by targeted road safety inspections or, if possible and cost-efficient, by direct remedial action aimed at eliminating or reducing the road safety risks" (European Council 2019).

#### Conclusion

This chapter documents the roots of Vision Zero in EU road safety policymaking, from the very beginning in the mid-1980s to present day, showing that the Vision Zero approach is now integrated into the new EU road safety strategy. First examples of implementation are illustrated by references within recently adopted pieces of important road safety legislation. Yet, road safety policy needs to be supported by effective institutional management in order to achieve long-term effects on road safety and Vision Zero.

More capacity will be needed to fully expand the EU's road safety governance structures. In the area of governance, there are still some missing elements. Of help could be the creation of a cross-DG coordination group reporting both to the relevant commissioners, the road safety coordinator, and to the European Commission's High Level Group on Road Safety.

DG MOVE's lead road safety unit capacity also needs to be strengthened particularly in any further developments of its road safety strategy and targets, coordination, monitoring and evaluation functions.

The creation of a European Road Safety Agency would also aid in this regard. It could be responsible for the collection and analysis of data, helping speed up developments in road safety and providing a catalyst for road safety information and data collection.

The EU Strategic Action Plan proposes a new package of funding measures which will be further supported by the 2021–2027 EU budget, once adopted. This will also support implementation of measures on the ground to help further progress toward Vision Zero.

Specific measures need to be introduced to reduce serious injuries, in light of the new target for 2030. Specific policy measures, not just further research, are also needed on important areas such as distraction and drug-driving enforcement. There is an urgent need for a comprehensive EU regulation for vehicles with automated driving systems on-board.

Full implementation of Vision Zero is still a way off. Institutional changes are essential to make sure that commitment to Vision Zero is not just lip service to road safety. However, there are reasons to be more cautiously optimistic for the decade to come on progress, not only in reaching the 2030 road safety targets in the EU but also implementing all of Vision Zero's elements: the setting up of key performance indicators, targets and a plan for 2030 as well as the creation of a post of road safety coordinator within the European Commission. The adoption of the two latest regulations on vehicle and infrastructure safety once implemented should also bring progress. The renewed political will at the level of the European Commissioner Vălean at the start of the new political mandate should also help in working toward Vision Zero in Europe.

### References

- ACEA Press Release. (2018). https://bit.ly/2m2jsRD
- ETSC. (1997a). A strategic road safety plan for the European Union.
- ETSC. (1997b). Visions, targets and strategies.
- ETSC. (2000). ETSC's response to the EC Communication priorities in EU road safety –PRO-GRESS report and ranking of actions COM (2000)125 final. http://archive.etsc.eu/documents/pre\_27may00.htm
- ETSC. (2001). ETSC response to the Commission's White Paper "European Transport Policy For 2010: Time to decide. http://archive.etsc.eu/documents/pre 19march02.pdf
- ETSC. (2003a). ETSC response to the Third Road Safety Action Programme towards reduced road risk in a larger Europe providing for a fairer distribution of safety across the EU. http://archive.etsc.eu/documents/pre 30sept03.pdf
- ETSC. (2004a). Press release and memorandum: ETSC calls for a Verona process. http://archive.etsc.eu/documents/Verona%20PR%20and%20Memorandum.pdf
- ETSC. (2004b). Safety monitor. http://archive.etsc.eu/documents/Safety%20Monitor%2055.pdf
- ETSC. (2004c). Safety monitor. http://archive.etsc.eu/documents/Safety%20Monitor%2057% 20new.pdf
- ETSC. (2005a). Safety monitor. http://archive.etsc.eu/documents/Safety Monitor 62.pdf
- ETSC. (2005b). Safety monitor. http://archive.etsc.eu/documents.php-did=2.html
- ETSC. (2006a). A methodological approach to national road safety policies. https://etsc.eu/wp-content/uploads/A-methodological-approach-to-national-road-safety-policies1.pdf
- ETSC. (2006b). ETSC response to the Commission's Consultation document on the White Paper "European transport policy for 2010": Time to act. http://archive.etsc.eu/documents/ETSC\_response WP consultation.pdf
- ETSC. (2006c). Third Road Safety Action Programme mid term review. http://archive.etsc.eu/documents/Briefing 3RSAP.pdf
- ETSC. (2008). ETSC Blueprint for a 4th Road Safety Action Programme. https://etsc.eu/wp-content/uploads/Blueprint for a 4th-Road Safety Action Programme ETSC Sept-08.pdf
- ETSC. (2010). Response to the EC policy orientations. http://archive.etsc.eu/documents/ETSC\_Response EC Policy Orientations Sept2010.pdf
- ETSC. (2011a). Response to transport white paper roadmap to a single European transport area Towards a competitive and resource efficient transport system. http://archive.etsc.eu/documents/ETSC%20Response%20to%20the%20White%20Paper%20on%20Transport%206%20June%202011.pdf
- ETSC. (2011b). MEP briefing European Parliament own initiative report on road safety. http://archive.etsc.eu/documents/ETSC Briefing Draft Koch report.pdf
- ETSC. (2012). 6th Annual Road Safety Performance Index (PIN) report chapter 2 on road safety management. https://etsc.eu/6th-annual-road-safety-performance-index-pin-report/
- ETSC. (2015a). Mid term review of the European Commission Transport white paper 2011–2020. https://etsc.eu/wp-content/uploads/2015\_02\_mtr\_transport\_white\_paper.pdf
- ETSC. (2015b). Campaign let's go for a European target to reduce serious road injuries. https://etsc.eu/campaign-lets-go-for-a-european-target-to-reduce-serious-road-injuries/
- ETSC. (2016a). Position paper: a strategy to reduce the number of people seriously injured on EU roads. https://etsc.eu/position-paper-a-strategy-to-reduce-the-number-of-people-seriously-injured-on-eu-roads/
- ETSC. (2016b). Road Safety Campaigners Meet Juncker to ask for EU serious injury reduction targets. https://etsc.eu/road-safety-campaigners-meet-juncker-to-ask-for-eu-serious-injury-reduction-target/
- ETSC. (2017a). EU sets new target to cut serious injuries. https://etsc.eu/eu-sets-new-target-to-cut-serious-road-injuries/
- ETSC. (2017b). GSR coalition letter. https://etsc.eu/wp-content/uploads/2017-05-23-gsr-coalition-letter-final.pdf

- ETSC. (2018a). Last night the EU saved my life. https://etsc.eu/last-night-the-eu-saved-my-life/
- ETSC. (2018b). ETSC press release. https://etsc.eu/eu-member-states-give-a-mixed-response-to-road-safety-proposals/
- ETSC. (2018c). Position on revision of the road infrastructure safety management directive 2008/96 and tunnel safety directive 2004/54. https://etsc.eu/wp-content/uploads/ETSC-Position-on-Infrastructure-Directive-2008.96.pdf
- ETSC. (2018d). Press release EU transport ministers aiming to weaken new road infrastructure safety rules. https://etsc.eu/transport-ministers-aiming-to-weaken-new-road-infrastructure-safety-rules/
- ETSC. (2019a). Press release MEPs back new road and vehicle safety rules. https://etsc.eu/meps-back-new-road-and-vehicle-safety-rules/
- ETSC. (2019b). Press release ETSC welcomes provisional deal on new vehicle safety standards. https://etsc.eu/etsc-welcomes-provisional-deal-on-new-vehicle-safety-standards/
- ETSC. (2019c). Press release ETSC welcomes deal of safer EU road rules. https://etsc.eu/european-transport-safety-council-welcomes-deal-on-safer-eu-road-rules/
- ETSC. (2019d). Annual PIN Report. https://etsc.eu/wp-content/uploads/AR\_2019-Final.pdf
- ETSC. (2019e). ETSC Response to the EU road safety policy framework 2021–2030 next steps towards 'vision zero'. https://etsc.eu/wp-content/uploads/ETSC\_response\_EU\_strategic\_action\_plan\_road\_safety.pdf
- ETSC. (2019f). Press release new EU Transport Commissioner commits to halve road deaths and serious injuries by 2030. https://etsc.eu/new-eu-transport-commissioner-commits-to-halve-road-deaths-and-serious-injuries-by-2030/
- European Commission. (1992). The future development of the common transport policy A global approach to the construction of a Community framework for sustainable mobility COM 92 494 Final. http://aei.pitt.edu/1116/1/future transport policy wp COM 92 494.pdf
- European Commission. (2000). Communication: "Priorities in EU road safety: Progress report and ranking of actions" /\* COM/2000/0125 final \*/. https://eur-lex.europa.eu/legal-content/PL/TXT/?uri=celex:52000DC0125
- European Commission. (2001). Transport white paper European transport policy for 2010: Time to decide. https://ec.europa.eu/transport/themes/strategies/2001 white paper en
- European Commission. (2003). European Road Safety Action Programme: Halving the number of road accident victims in the European Union by 2010: A shared responsibility /\* COM/2003/0311 final \*/. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex% 3A52003DC0311
- European Commission. (2006a). Mid-term review of the transport white paper keep Europe moving. https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0314:FIN:EN: PDF
- European Commission. (2006b). European Commission Action Programme on road safety mid term review. https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0074:FIN: FN:PDF
- European Commission. (2010). Policy orientations towards a European road safety area: policy orientations on road safety 2011–2020. https://ec.europa.eu/transport/road\_safety/sites/roadsafety/files/pdf/com 20072010 en.pdf
- European Commission. (2011). Transport White Paper Roadmap to a Single European Transport Area Towards a competitive and resource efficient transport system. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0144&from=EN
- European Commission. (2013). Commission Staff Working document: On the implementation of objective 6 of the European Commission's policy orientations on road safety 2011–2020 –First milestone towards an injury strategy. https://ec.europa.eu/transport/road\_safety/sites/roadsafety/files/pdf/ser\_inj/ser\_inj\_swd.pdf
- European Commission. (2015). Serious injuries summary. https://ec.europa.eu/transport/road\_safety/sites/roadsafety/files/ersosynthesis2015-seriousinjuries-summary5 en.pdf
- European Commission. (2016). Report "saving lives: Boosting car safety in the EU". https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016DC0787

European Commission. (2017). Guidelines on non-financial reporting (methodology for reporting non-financial information) (2017/C 215/01). https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017XC0705(01)&from=EN

European Commission. (2018a, May). Annex to the Communication Europe on the move.

European Commission. (2018b,May). Annex to the communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Regions: Europe on the Move Sustainable Mobility for Europe: safe, connected and clean, Annex I: Strategic Action Plan on Road Safety. https://eur-lex.europa.eu/resource.html?uri=cellar:0e8b694e-59b5-11e8-ab41-01aa75ed71a1.0003.02/DOC 2&format=PDF

European Commission. (2018c, May). Press release mobility package III. https://ec.europa.eu/commission/presscorner/detail/en/IP 18 3708

European Commission. (2018d, May). Commissioner Bulc on Twitter. https://twitter.com/Bulc\_ EU/status/997060318194012160

European Commission. (2018e). Proposal for a REGULATION OF THE EUROPEAN PARLIA-MENT AND OF THE COUNCIL on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/... and repealing Regulations (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009. https://eur-lex.europa.eu/legal-content/EN/TXT/? uri=celex:52018PC0286

European Commission. (2018f). Proposal for a directive amending directive 2008/96/EC on road infrastructure safety management. https://goo.gl/EkRnsh

European Commission. (2019a). EC guidelines on reporting climate related information. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019XC0620(01)

European Commission. (2019b, June). EU Road Safety Policy Framework 2021–2030 Next steps towards 'Vision Zero'. https://ec.europa.eu/transport/themes/strategies/news/2019-06-19-vision-zero en

European Commission. (2019c, June). EU Road Safety Policy Framework 2021–2030 Next steps towards 'Vision Zero'. https://ec.europa.eu/transport/themes/strategies/news/2019-06-19-vision-zero en

European Commission. (2019d). Mission letter to Adina Valean from Ursula von der Leyen Transport. https://ec.europa.eu/commission/sites/beta-political/files/president-elect\_von\_der\_leyens mission letter to adina valean 1.pdf

European Commission. (2020). Consultation on revision of 2014/95 directive on NFRD. https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12129-Revision-of-Non-Finan cial-Reporting-Directive/public-consultation

European Council. (2017, June). EU sets new target of halving the number of people seriously injured on our roads. https://www.consilium.europa.eu/en/press/press-releases/2017/06/08/tte-serious-injuries-road/

European Council. (2018). Safer cars for safer roads. https://www.consilium.europa.eu/en/press/press-releases/2018/11/29/safer-cars-for-safer-roads-council-agrees-to-tougher-rules-on-vehicle-safety/

European Council. (2019). Regulation (EU) 2019/2144 of the European Parliament and of the Council of 27 November 2019 on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/858 of the European Parliament and of the Council and repealing Regulations (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009 of the European Parliament and of the Council and Commission Regulations (EC) No 631/2009, (EU) No 406/2010, (EU) No 672/2010, (EU) No 1003/2010, (EU) No 1005/2010, (EU) No 1008/2010, (EU) No 1009/2011, (EU) No 19/2011, (EU) No 458/2011, (EU) No 65/2012, (EU) No 130/2012, (EU) No 347/2012, (EU) No 351/2012, (EU) No 1230/2012 and (EU) 2015/166 (Text with EEA relevance). PE/82/2019/REV/1 OJ L 325, 16.12.2019, pp. 1–40. https://eur-lex.europa.eu/eli/reg/2019/2144/oj

- European Council Conclusions, Verona (2003) as cited in WHO (2004) Preventing road traffic injury: A public health perspective for Europe. http://www.euro.who.int/\_\_data/assets/pdf\_file/0003/87564/E82659.pdf
- European Council Conclusions Verona 2. (2004). http://archive.etsc.eu/documents/Verona% 20conclusions.pdf
- European Council Directive 91/671/EEC of 16 December 1991 on the approximation of the laws of the Member States relating to compulsory use of safety belts in vehicles of less than 3,5 tonnes, *Official Journal of the European Union JOL\_*1991\_373\_R\_0026\_013. https://op.europa.eu/en/publication-detail/-/publication/a8caecfa-a111-4233-a91c-c095ba986530/language-en
- European Council Malta EU Presidency. (2017). Valletta declaration on improving road safety. https://www.eu2017.mt/en/Documents/Valletta Declaration on Improving Road Safety.pdf
- European Council Resolution. (2000). On the improvement of road safety OJ JOC\_2000\_218\_R\_0001\_01. https://op.europa.eu/en/publication-detail/-/publication/5c5080b4-e05d-41ff-b238-ec987f47dd69/language-en
- European Parliament. (1998). Resolution on Road Safety Resolution on the Commission's Communication Promoting road safety in the EU the programme for 1997–2001(COM(97)0131 C4-0180/97). https://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A4-1998-0065+0+DOC+XML+V0//EN
- European Parliament. (2004). Resolution on the European Road Safety Action Programme: Halving the number of road accident victims in the European Union by 2010: A shared responsibility. https://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A6-2005-0225&language=EN
- European Parliament. (2007). Resolution on the mid term review of the Third Road Safety Action Programme 2006/2112(INI). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ. CE.2007.244.01.0034.01.ENG&toc=OJ:C:2007:244E:TOC#CE2007244EN.01022001
- European Parliament (2010) Resolution of 6 July 2010 on a sustainable future for transport (2009/ 2096(INI)) https://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P7-TA-2010-0260
- European Parliament. (2011). Report on European road safety 2011–2020. https://www.europarl.europa.eu/sides/getDoc.do?reference=A7-2011-0264&type=REPORT&language=EN&redirect
- European Parliament. (2015). Resolution on implementation of the 2011 transport white paper. https://www.europarl.europa.eu/doceo/document/TA-8-2015-0310\_EN.html
- European Parliament. (2017). Resolution of 14November 2017 on saving lives: boosting car safety in the EU (2017/2085(INI)). https://www.europarl.europa.eu/doceo/document/TA-8-2017-0423 EN.pdf
- European Parliament. (2018). Report on the proposal for a directive of the European Parliament and of the Council amending Directive 2008/96/EC on road infrastructure safety management (COM(2018)0274 C8-0196/2018 2018/0129(COD)). https://www.europarl.europa.eu/doceo/document/A-8-2019-0008\_EN.html
- European Parliament. (2019a). Report on the proposal for a regulation of the European Parliament and of the Council on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/.... and repealing Regulations (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009 (COM(2018)0286 C8-0194/2018 2018/0145(COD)). https://www.europarl.europa.eu/doceo/document/A-8-2019-0151 EN.html
- European Parliament. (2019b). Common Position on The proposal for a regulation of the European Parliament and of the Council on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/.... and repealing Regulations (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009. https://www.europarl.europa.eu/RegData/commissions/imco/lcag/2019/03-29/IMCO\_LA(2019)003075\_EN.pdf

European Parliament Resolution on Action Programme on Road Safety 1994 OJ C 91, 28.3.1994, p. 304. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:1994:091: FULL&from=EN

European Union. (1997). Consolidated version of treaty establishing the European Community (1997) *Official Journal C 340, 10/11/1997 P. 0205 – Consolidated version.* https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A11997E071

European Union. Consolidated version of the Treaty on the Functioning of the European Union, 26 October 2012, OJ L. 326/47-326/390; 26.10.2012. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN

Gerondeau Report. (1991). Report of the High Level Expert Group for an European policy for road safety. [EU Commission - Working Document]. http://aei.pitt.edu/33263/

Ireland Road Safety Strategy. (2013–2020). https://goo.gl/gopwNe

Stockholm Declaration on Road Safety. 2020. https://www.roadsafetysweden.com/contentassets/b37f0951c837443eb9661668d5be439e/stockholm-declaration-english.pdf

Stockholm Declaration on Road Safety Academic Expert Group Report. 2020. https://www.roadsafetysweden.com/contentassets/c65bb9192abb44d5b26b633e70e0be2c/200113\_final-report-single.pdf

Swedish Road Administration in OECD/ITF. (2008). Towards zero: Ambitious road safety targets and the safe system approach. https://www.itf-oecd.org/sites/default/files/docs/08towardszeroe.pdf

Thorlakson, T., de Zegher, J. F., & Lambin, E. F. (2018). Sustainability in global supply chains. *Proceedings of the National Academy of Sciences, 115*(9), 2072–2077. https://doi.org/10.1073/pnas.1716695115. Cited in Academic Expert Group Report. https://www.roadsafetysweden.com/contentassets/c65bb9192abb44d5b26b633e70e0be2c/200113 final-report-single.pdf.

TML. (2014). Study of the effectiveness and on the improvement of the EU legislative framework on road infrastructure safety management (Directive 2008/96/EC), Ex-Post Evaluation. https://goo.gl/nhPiDs

Tylősand Declaration adopted at the annual Swedish conference on Traffic Safety in (2007). https://trafikverket.ineko.se/Files/sv-SE/11804/RelatedFiles/89044 Tylosandsdeklarationen.pdf

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