
FERSI supports EC policy on Key Performance Indicators (KPIs)

Key Performance Indicators for road safety

The common and most direct indicator of the level of road safety is the number of road crashes or road crash victims. Unfortunately, crash and injury data only tell part of the story. Due to severe underreporting of road crashes, these data are very incomplete. In addition, these data give incomplete information about how crashes originate. Therefore, the European Commission has indicated that it aims to use additional indicators for road safety by introducing what they call Key Performance Indicator or KPIs.¹ KPIs, also known as Safety Performance Indicators (SPIs), can be defined as '*any measurement that is causally related to crashes or injuries [...]*'.² The EC has indicated to look for suitable KPIs in the five areas of the *Decade of Action for Road Safety 2011-2020*³: road safety management, road infrastructure, vehicles, road user behaviour, and post-crash response.

An indispensable tool in a proactive safe system approach

FERSI, the Forum of European Road Safety Research Institutes fully supports the EC policy on road safety KPIs. It emphasizes that KPIs that cover all five areas of the road transport - road, road user behaviour, vehicle, post-crash, and road safety management - can be of great help for both monitoring road safety developments, and identifying the most promising interventions. As such FERSI considers the use of KPIs an indispensable tool in an integrated, proactive safe system approach (see Box).

Proven relationship with road safety

Currently, Member States are debating the selection of KPIs in the different areas. Selecting the right KPIs is not an easy job. An absolute requirement is that the selected KPIs have a proven relationship with road safety. Only then a KPI can be used as an indicator for road safety. Another requirement is that the selected KPIs can be measured in a valid and reliable way. From a more practical point of view, the actual measurement of KPIs must be relatively easy and cheap to ensure that measurements can take place at a regular basis. The European SafetyNet project has delivered several documents that provide guidance to the use of performance indicators for road safety.⁴

KPIs for proactive management by objectives

Defining and monitoring KPIs in different areas of the road transport system have substantial benefits for European, national, and regional road safety policy makers. KPIs provide information about the level of road safety and developments over time which is much more

¹ EC (2018) [Road Safety Newsletter 29, January 2018](#)

² ETSC (2001) [Transport Safety Performance Indicators](#). European Transport Safety Council (citing page 11)

³ WHO (2010) [Global Plan for the Decade of Action for Road Safety 2011-2020](#)

⁴ [ERSO SafetyNet Safety Performance Indicators](#)

complete than crash data. KPIs form a good basis for additional targets, similar to targets for road casualties, for defining the road safety policies to meet these target, and for identifying the responsible parties. This is called management by objectives, and already common practice in Sweden⁵. Moreover, KPIs indicate which elements of the road system have most potential for improvement in order to prevent crashes or serious injuries. Hence, KPIs form the basis for a proactive and system-wide road safety policy with shared responsibilities.

KPIs for motivation and inspiration

KPIs offer an excellent opportunity to compare the performance in different parts of the country or between different countries, provided that definitions and data collection methods are similar. This form of benchmarking can motivate policy makers to take action to bring their performance in line with comparable neighbouring regions or countries. In addition, understanding why the performance differs can be a source of inspiration for updating exiting policies and taking new actions. Obviously, the interpretation of KPI measurements and their developments always needs to be based on a thorough understanding of other relevant developments, e.g. changes in legislation, mobility, modal shift et cetera, and considered in combination with other related KPIs.

FERSI support and concern

In many FERSI endorsed projects the concepts of safe system, safety performance indicators and target setting have been studied and shown to be effective. Therefore, FERSI clearly supports the EC approach in this matter. It explicitly emphasizes though, that a KPI policy will only be successful if the agreed KPIs have a proven relationship with the occurrence or consequences of road crashes and if Members States are prepared to collect the required data on a regular basis, and in an agreed format. FERSI's concern is that the current discussion on the selection of KPIs might end up in a compromise where practical feasibility overrides the theoretical prerequisites of a proven road safety relationship and good data quality. FERSI is more than willing to actively support this European process towards KPIs and give its view on concrete KPI proposals and advise on data collection methods.

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11 April 2019

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5. Swedish Transport Administration (2018) [Analysis of road safety trends 2017. Management by objectives for road safety work towards the 2020 interim targets.](#)

The safe system approach

Integrated and human-centred

A key characteristic of a safe system approach is that it is an integrated and human-centred approach. It recognizes that crashes are often the result of an unfortunate combination of circumstances related to road user behaviour, the vehicle, the road and other circumstances (e.g. bad weather). It also recognizes that humans are physically vulnerable and not 'built' to survive high-energetic impacts. Moreover, it recognizes that humans are cognitively and motivationally imperfect. All of us make unintended errors and many of us, more or less knowingly, commit traffic violations. A safe system approach treats all elements of the road system - vehicle, road, road user - in an integrated, human-centred way, taking account of what humans are capable of, and assuring that even if a crash is inevitable, the physical consequences are limited.

Proactive and shared responsibilities

Other key characteristics of a safe system approach are that it is proactive in nature and requires shared responsibility. It aims at interventions in the system that *prevent* crashes rather than *repair* the system once crashes have occurred. It explicitly states that a safe system is a shared responsibility between the designers of the system (policy makers, vehicle manufacturers, road engineers, road authorities) and the users of the system. Even if human failure is at the basis of the majority of crashes, this certainly does not mean that the human also has to be the focus of interventions. It is often much more effective to (re)design roads and vehicles in such a way that they are resilient to human imperfections.