



Road Safety Index

FRAMEWORK

WITH THE SUPPORT OF



FOUNDATION

This presentation contains or may contain proprietary information of Fédération Internationale de l'Automobile (FIA). Please do not reproduce, disclose or share these presentation/materials/information without the prior written consent of the FIA



TABLE OF CONTENT

SUMMARY	5
INTRODUCTION	8
0. CONTEXT AND VALUE CHAIN ANALYSIS	12
0.1 VALUE CHAIN INTRODUCTION AND CONTEXT	13
0.2 CRITERIA FOR SUPPLY CHAIN LIMITATIONS	14
0.3 CRITERIA FOR INCLUSION OF PRODUCTS/SERVICES RELATED TO ROAS SAFETY	14
1. COMMITMENTS AND POLICIES	16
1.1 COMMITMENTS AND POLICIES - INTRODUCTION AND CONTEXT	17
1.2 THE ROLE OF COMMITMENTS AND POLICIES	17
1.3 ROAD SAFETY TARGET SETTING	19
1.4 POLICIES	21
2. SAFETY FOOTPRINT	24
2.1 SAFETY FOOTPRINT INTRODUCTION AND CONTEXT	25
2.2 THE ROLE OF OUTCOME STATISTICS AND FOOTPRINTS	26
2.3 EXAMPLES OF TRAFFIC SAFETY INJURY-RELATED DEFINITIONS	27
2.4 THE CONTENT OF A TRAFFIC SAFETY FOOTPRINT	27
3. PLANNING	32
3.1 PLANNING	33
3.2 SAFETY PERFORMANCE FACTORS	33
4. MONITORING	36
4.1 MONITORING OF SAFETY PERFORMANCE	37
5. SAFETY CULTURE	40
5.1 SAFETY CULTURE	41
6. THE OVERALL CONTENT OF THE FIA ROAD SAFETY INDEX	42
REFERENCES	44



The FIA Road Safety Index (FIA RS Index) is a rating system aiming to show the impact of traffic safety on an organisation's value and supply chain, and vice versa. Using the FIA RS Index helps an organisation, irrespective of size and sector, to increase its insights on what would be beneficial to improve concerning road transport and road safety. Furthermore, it is getting an objective benchmarking of its results and efforts in protecting employees, third parties and for some organisations also their customers or clients. This index is presenting an organisation's performance as a score or as a star rating. The FIA RS Index system is described in three documents:

1. FRAMEWORK DOCUMENT

The Framework contains background and cited sources for the different parts of the index. It presents what components should be included and how they relate to international standards and principles.

2. THE FIA RSI MANUAL

The FIA RSI Manual contains the scoring system with criteria based on the components identified in the framework. The first version of the manual includes the two components Commitment and Footprint. Later the manual will also contain the areas Plans, Monitoring and Safety Culture.

3. GUIDANCE FOR USE

The Guidance for use document is supporting the use of the manual with examples and additional information. It also includes a calculation sheet supporting users in generating the score and star rating. Guidance for use is a document that is designed to evolve over time.

SUMMARY

Worldwide each year, approximately 1,19 million people are killed by the road transport system, and around 50 million are injured. Among children and young adults aged 5-29 years of age, globally road crashes are the most common cause of death. The only way to reduce and finally eradicate this public health problem is to apply scientifically sound and proven treatment across the road transport system. In this mission, many stakeholders must be involved, both public and private.

According to the Agenda 2030 and its safety goals, it is expected that all organisations commit to traffic safety and incorporate it as a part of their core operations in their entire value chain, from the sourcing of raw materials to the use of their services and/or products. In the Stockholm Declaration of Road Safety, it is explicitly stressed, that all organisations should apply safe system principles, and report on their safety performance. The FIA Road Safety Index is a tool for any organisation to improve its safety performance, and to report on its plans and progress in a structured way.

By using the FIA RS Index, organisations are able to stimulate the progress of reaching ambitious goals, giving them business value or other indirect values. It is expected that organisations contribute to improved road safety within their full sphere of influence. Furthermore, organisations are expected to report on road safety actions and progress to the community, business partners, the financial markets and their customers/clients/users.

The FIA RS index can be used as a tool for any organisation, irrespective of size, governance and ownership, to measure their maturity toward more sustainable road traffic and help them generate insights into the traffic safety field. The index can help organisations by establishing measurable and tangible targets and a robust monitoring process.

As many organisations have value chains spreading across several jurisdictions and even worldwide, the impact of improving road safety in these value chains can have significant positive effects. Both the use of the road transport system as well as products/services related to road safety can improve, also in Low and Middle-Income Countries. Exploration and understanding of value chains are an essential part of the FIA RS Index.

Occupational Health and Safety contains significant road safety elements. Most large organisations already collect and publish statistics on workplace fatalities and severe injuries and are familiar with the collection and reporting process. However, when dealing with severe injuries to third parties and other injuries that may occur in road crashes within the value chain, there is currently no robust and transparent process in place. The FIA RS Index offers a classification of the affected individuals within a value chain, including employed, contracted, third parties and customers/clients. Together, fatalities and severe injuries to these groups constitute the organisation's safety footprint.

The FIA RS Index is a step-by-step rating system which helps to evaluate to what extent an organisation manages its safety impact. A manual including a toolbox guides the user through the procedure.

The FIA RS Index is presenting an organisation's performance as a score or as a FIA RS Index star rating. An organisation would as part of the system have an estimate of its road safety footprint.

The FIA RS Index is for some organisations a dual rating system. All organisations have a generic supply chain, but for organisations that also produce/market/manage products and/or services that are related to road safety, there is a second rating added.

The FIA RS Index may be used in a stepwise approach. More or less all organisations would have to initially apply commitments, actions and monitoring gradually across the value chain. The FIA RS Index would allow an organisation to pick just parts of the supply or value chain and even allow an organisation to have several ratings done, as long as the organisation can show and estimate to what extent the FIA RS Index is applied. In the final step of the FIA RS Index, the majority of the value chain must though be covered (at least 80%).

There are six elements, introduced below, that the FIA RS Index is built around.

0. VALUE CHAIN ANALYSIS

The preparatory of process is to define the organisation's entire value chain relevant to road safety. The physical supply chain structure is used to find the sphere of influence for an organisation. The supply chain is considered to exist for all organisations but the added value is only relevant for the index if the product and/or service is related to traffic safety.

1. COMMITMENT – POLICY, TARGETS, SAFETY PERFORMANCE FACTORS

In the commitment step, the organisation is expected to make commitments in describing what responsibility the organisation is willing to take within its value chain as well as its approach to reduce its impact on road safety. A policy commitment of an organisation is essential as a start in the process of developing meaningful road safety actions. The FIA RS Index defines the framework and is an important help in setting targets and monitoring the process. Safety performance factors (SPF) for speed, vehicle safety, fitness to drive and the use of protective gear are introduced as a tool to improve these important elements of road safety.

2. FOOTPRINT – INCLUDES EMPLOYED, CONTRACTED, THIRD PARTIES AND FOR ROAD SAFETY RELEVANT PRODUCTS AND SERVICES, CUSTOMERS/CLIENTS/USERS

This step focuses on the deaths and serious injuries as a result of road crashes in the organisation's value chain. This element will give some examples of what data to

collect and present as a safety footprint. The safety footprint consists of the numbers of fatalities and serious injuries to employed including contracted, customers/clients/users and third parties resulting from road crashes. The safety footprint approach is inspired by the carbon footprint concept.

3. PLANNING – DEVELOPING AN ACTION PLAN

In the planning step, plans with specific details are developed to describe what the organisation intends to do for improving road safety. The actions should be in line with the organisation's commitments and be transparent enough to show how and when actions will be taking place. The management progress of traffic safety is based on several safety performance factors (SPF) related to the risk of a crash with a fatal or serious outcome (speed, vehicle safety, driver fitness and use of protective gear). The use of SPFs is also a fundamental tool in the ISO 39001 road safety management system standard.

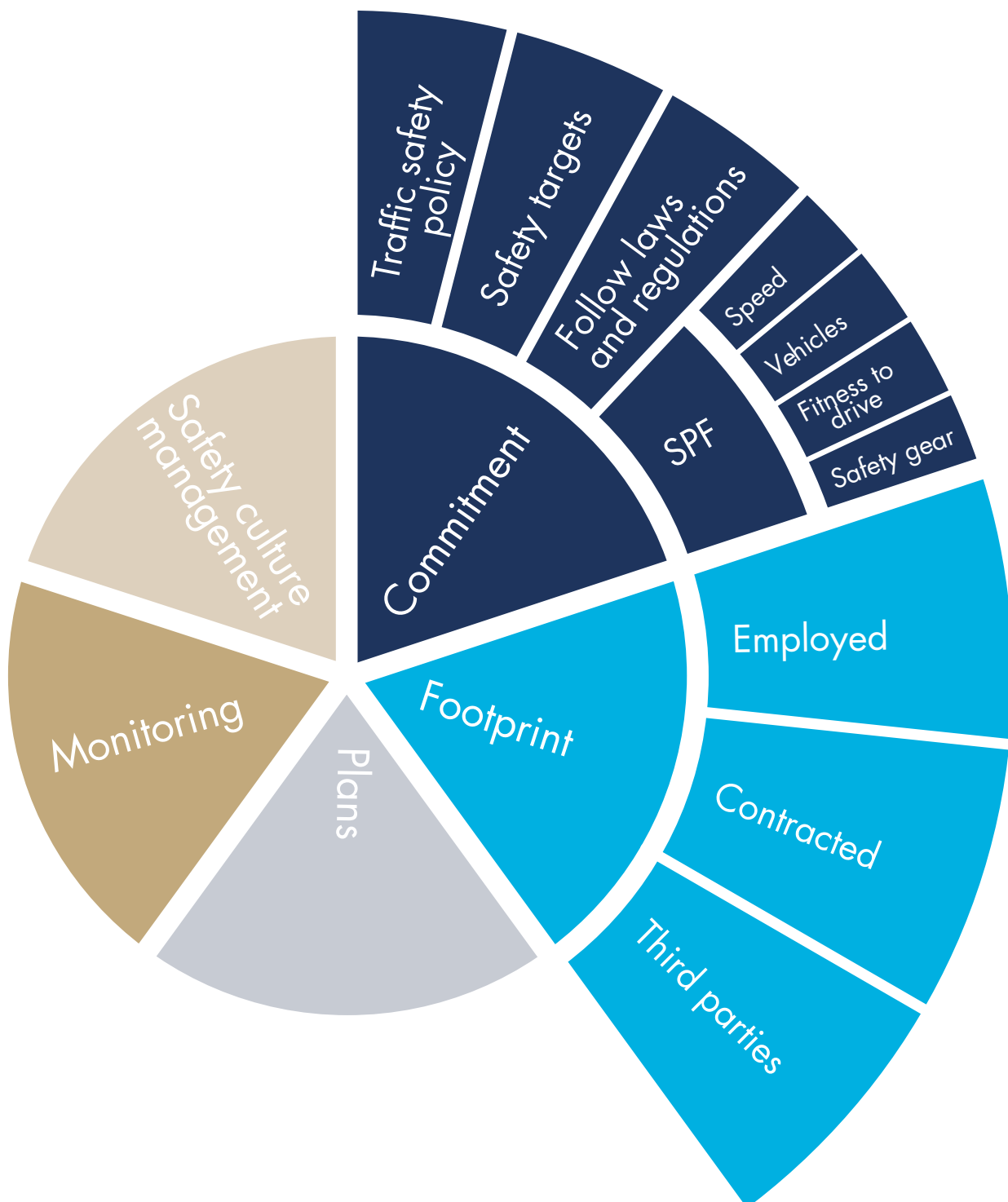
4. MONITORING OF SAFETY PERFORMANCE – MEASURING THE PROGRESS OF ACTIVITIES

This step describes the monitoring of road safety performance. Monitoring is one of the most crucial ways to ensure potential progress. The role of monitoring is to present results and evaluate the progress of the safety management and actions within the organisation's entire value chain. The monitoring will show the progress of the safety performance factors (SPF). Changes in SPFs are closely linked to the organisation's activities and can rapidly indicate if these were relevant and efficient.

The monitoring should mirror the definitions, targets and measurements of the commitments, policies and plans laid out.

5. SAFETY CULTURE MANAGEMENT – ENGAGING THE ENTIRE ORGANISATION

The final step deals with the safety culture of the organisation. Good safety culture is built on the engagement of all employed and partners. Safety culture relates to how well the organisation can adapt, correct and monitor progress as an integrated chain when real or possible noncompliances or nonconformities occur. The organisation is also expected to show the impact of its innovations and new ways to improve and maintain road safety. Sharing data and experiences, and conducting and/or funding scientific research are examples of important ways to support the community and other stakeholders.



INTRODUCTION

Since 2004, the road safety situation is described worldwide as a major public health problem. The lack of road safety is currently placed as the 9th most common cause of death globally. Each year, approximately 1,3 million road users are killed by the road transport system, and around 50 million are injured.

Deaths and serious injuries, constituting the core road safety problem, are considered to be preventable and are subject to a global target of being eradicated (Vision Zero or Safe System). Such ambitions are only achievable if the entire society is involved in the mission and if evidence-based actions are used. Both the public and private sectors need to engage in short- and long-term implementation of effective management, practices and actions in line with the demands for a sustainable society.

The FIA Road Safety Index (FIA RS Index) analyses the impact of traffic safety from a value and supply chain perspective on an organisation, and vice versa. The FIA RS Index is developed as a response to the United Nations 2030 Agenda, the 3rd Global Ministerial Conference on Road Safety and the conference's Stockholm Declaration and finally the United Nations General Assembly's resolution 74/299 on improving Global Road Safety.

These milestones express that all corporations, in particular large corporations, should apply "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 2020). The FIA RS Index is a response to the pledges expressed in the Stockholm Declaration and the UN resolution 74/299, is offering a framework to identify road safety footprint, measure progress and also to report on plans and results for an organisation. This index can be used along the entire value chain across all regions and jurisdictions, both on the supply chain as well as for products and/or services relevant to road safety. It also allows a step-by-step implementation sequence.

The aim of FIA RS Index is to help an organisation irrespective of size and sector, to increase its insights on what would be beneficial to improve in relation to road transport and road safety. At the same time, the FIA RS Index is helping organisations to get an objective benchmarking of their results and efforts in protecting employees, third parties and for some organisations also their customers or clients. The

index is a rating system generating a score and a star rating. It allows a benchmarking and valuation of the ambitions, actions and results that an organisation reaches. In the long run, an organisation can thus communicate with customers, business partners, and society as a whole on an objective and standardized basis.

The FIA RS Index has a step-by-step approach in that:

1. almost all complex organisations would have to apply commitments, actions and monitoring gradually across the value chain.
2. Initially, this index would allow an organisation to choose just parts of the supply or value chain.
3. It even allows an organisation to have several ratings done in different parts, as long as they can show and estimate to what extent the index is applied.
4. In the final step of the FIA RS Index, at least 80% of the value chain though must be covered (ideally the entire value chain).

The FIA RS index is mainly built on commonly used standards and principles for reporting on workplace safety and differentiating workplace safety related to road traffic. Additionally, it also identifies the impact on third parties, in essence: the individuals who are victims of the road traffic generated in the value chain of an organisation.

All organisations have a generic supply chain. The FIA RS Index values the safety of this generic supply chain. For those organisations producing or managing road safety-related products, or performing services that are road safety-related, also the traffic safety of the customers/clients and their third parties are included. A separate valuation of products/services results in a second rating.

More than one rating can also be used if an organisation has significantly different approaches and performance in different parts of its value chain or different regions. If the organisation prefers not to work with more than one rating it will be judged on a lower performance.

The overall concept used in the FIA RS Index for management of traffic safety is aligned with the PDCA loop (Plan-Do-Check-Act) and the ISO standards for the management of quality (ISO 9001), environment (ISO 14001) workplace safety (ISO 45001), and in particular traffic safety (ISO 39001). However, while these standards are based on absolute fulfillment of criteria, the FIA RS Index is a rating system that step-by-step values to what extent an organisation

has taken on to manage its safety impact. It is a tool to stimulate progress, from the lowest to the highest level of safety management. It is applicable to organisations of all sizes and in all stages of the development of systematic road safety practices.

The FIA RS Index presents an organisation's performance as a score or as a FIA RS Index star rating. As part of the system, an organisation would have an estimate of its road safety footprint.

TO DO:

The starting point for an organisation's use of the FIA RS Index is to analyse its entire value chain and define what parts, activities and products/services significantly offer possibilities to improve road safety. This is in essence the limitation to the sphere of influence that the organisation has.

A further natural step is to consider the relationship between the organisation and its sphere of influence, and to what extent the organisation takes on the responsibility to use its instruments to reduce the harm within its sphere of influence. It is also a natural initial step to analyse and collect data to frame the size of the safety footprint of the supply and/or value chain.

Following the organisation's definition of its sphere of influence, commitment to road traffic safety and calculation of its safety footprint, the organisation is expected to plan how to improve performance in a way that can be subject to targets and monitoring. Plans and monitoring of performance are based on safety performance factors (SPF). SPFs allow for constant management and follow-up of the progress of these factors that are directly linked to road safety.

Further in safety management is when an organisation can identify and analyse non-compliance and harmful events. As a result, organisations can improve knowledge and further improve road safety as well as develop the relation to other interested parties so that they can support the safety within its supply and/or value chain.

Specific instructions are currently available for some specific sectors, vehicle and vehicle component producers, transport service providers, roads and streets infrastructure providers and finally traffic safety/training/consulting providers. More elements can be developed in the future.

READER GUIDELINES:

This framework document consists of six main chapters, reflecting the content of the FIA RS Index.

The first chapter; Context and Value chain analysis deals with the definitions, criteria and reporting on the size and content of an organisation's value chain related to road traffic safety.

The second chapter; Commitments and Policies, deals with the top management's explicit policies regarding traffic safety and the targets set up by the organisation.

The third chapter; Safety Footprint, focuses on the definitions and categorization of those who were killed or seriously injured in an organisation's value chain.

The fourth chapter, Planning, deals with detailed plans for the organisation's progress in road safety.

The fifth chapter, Monitoring of Safety Performance, consists of measuring the progress towards targets.

The sixth and final chapter, Safety culture, deals with the organisation's maturity, resilience and innovation.

Generally, this document describes all parts of the FIA RS Index and gives the background to the Manual of the Index.





0. CONTEXT AND VALUE CHAIN ANALYSIS



0.1 VALUE CHAIN INTRODUCTION AND CONTEXT

A supply chain refers to the system and resources required to move a product or service from supplier to customer. The value chain concept builds on this to also consider how value is added along the chain, both to the product/service and the actors involved. According to Cambridge Institute for Sustainability Leadership, (2021), from a sustainability perspective, the value chain has more appeal, since it explicitly references internal and external stakeholders in the value-creation process.

To be able to establish and maintain solid measurement and tracking of a road safety index on a selected company's behalf, it has to be defined and agreed on what is the base for such a measurement. That base consists of the total supply chain for that company, both upstreams, to involve the supplier and sub-supplier network, internal activities within the own company, and downstream considering the distribution activities, all the way to the end customers. To that end, we will also be interested in the re-use and destruction activities.

The Supply chain for a global industry company or service provider is vast and considers thousands of suppliers, not to mention the complexity of the distribution and customer activities. Therefore, finding criteria for what to include and exclude when defining the sphere of influence for road safety measuring is crucial.

When that base is defined, all the defined contribution activities that are provided by internal and external stakeholders along the supply and demand chain can be added on. In this stage, some limitations based on stakeholder characteristics, such as personnel directly employed by the company, employed by 1st tier suppliers, or even end customers can be made.

When the prerequisites for defining the supply chain are agreed upon and connected to a defined sphere of influence, we would also like to understand what activities are provided by each actor and how these contribute to the total business value. In other words, we have defined how the supply chain, completed with all these contributions from all these actors builds up to the value chain.



0.2 CRITERIA FOR SUPPLY CHAIN LIMITATIONS

Once an organisation gets significant in size, the size and complexity of the supply- and distribution networks grow even more, especially when the organisation starts to reach over different businesses and geographical borders. Larger organisations might want to introduce their FIA RS Index step-by- step. Some bases for potential initial limitations can be identified to concretize what really should be defined and measured in each specific case.

UPSTREAM: WHAT TIERS TO INCLUDE

The first criterion is how deeply the supplier network can be involved in the measuring. It is not completely obvious that all first-tier suppliers must be included, depending on role, volume, number of shipments, and so forth. On the other hand, a significant second or even third-tier relation can carry considerable volumes and transports, with high traffic exposure.

INTERNAL ACTIVITIES WITHIN THE COMPANY: WHAT TO INCLUDE REGARDING DIVISIONS, LOCAL ORGANISATIONS, PRODUCTION SITES, OR OTHER DEFINED PARTS OF THE ORGANISATION

Some companies have global organisations with vast representation over product/ service areas as well as geographical representation. Different parts of a global organisation might have different conditions regarding how the supply chain is organised including how to get information about all the activities. The total picture can be hard to capture at first.

DOWNSTREAM: WHAT TO INCLUDE IN THE DISTRIBUTION STRUCTURE INCLUDING POSSIBLE RECYCLING

An organisation's responsibility will reach out even down streams to the whole distribution structure, with its local stocks, agents, wholesalers, warehouses, pick-up points for e-commerce, and even end customers. For some businesses, it is also of great interest to cover after-sales activities such as service, returns and reclamations, maintenance, and spare parts distribution. Furthermore, possible re-use business and all the way to destruction can be of interest in some cases. What activities to include in this aspect is an important part of the sphere of influence description.

EXPRESSIONS OF RESPONSIBILITY OF TRANSPORT AGREEMENTS AND HOW THEY ARE CARRIED OUT

To be able to be held accountable for the preventive risk handling in the transportation network, it is interesting to understand the formal responsibility stated in the transport agreements regarding incoming and outgoing shipments.

It is always possible to require a certain level of transportation undertakings from a supplier, regardless of chosen demands (incoterms) in the agreement. The question is how to formalize this criterion to be used as input to the road safety activities.

One kind of flow, that might be considered, is the flow of end consumers that are involved in the demand chain in several businesses that handle consumer goods. In this category, we also find employees on their way to/from work. These flows are not involved in any formal agreement between partners, but in some cases fall within the sphere of influence of the organisation.

DIRECT/INDIRECT FLOWS AND HOW THEY ARE DEFINED

Usually, in supply and demand chain discussions, the focus is on the flow of goods connected to the main business, such as raw material, components, or final products in industrial or service providing flows, providing the customers on the market.

However, there are some transports performed outside that definition:

- Employees on their way to/from work mentioned above, in particular, if the organisation takes some role in the employed's commuting to/ from work.
- The supply of necessities is not connected to direct flows of materials or services.
- Other surrounding activities that are connected to the organisation.

KINDS OF BUSINESS TO INCLUDE

One area for possible limitation is the kind of performed business. Normally, when talking about supply and demand chains in the industry, the focus is on the operational fulfillment of the customer's needs on the customer order basis.

However, it is clear that organisations also have activities in different kinds of projects surrounding the operational order fulfillment, such as expanding production facilities or building new distribution centers. These kinds of activities, as an example to increase the production capacity, can be connected with significant traffic exposure and should be included in the total sphere of influence.

Some businesses are deeply project-oriented, such as construction and infrastructure businesses. For these organisations, the project-oriented flows might represent the dominating part of the sphere of influence and should not be forgotten in the value chain description. For a typical industry or service-providing organisation, the share of this kind of traffic can be of less importance, and possibly out of scope in the first step.

0.3 CRITERIA FOR INCLUSION OF PRODUCTS/SERVICES RELATED TO ROAD SAFETY

For those organisations that produce/supply/administer

products and/or services related to road safety, the FIA RS Index product/service rating is relevant. Eventually, it is up to the organisation to choose and motivate if a product/service or other activity can be considered relevant and significant for road safety and therefore is within the sphere of influence.

There are products and services that without further consideration fall within the organisation's sphere of influence for road safety. For those products/services, there are predefined modules in the FIA RS Index.

Vehicles and safety-related vehicle components/systems have a separate module. Passenger transport services and rental/lease of vehicles also have a module, as they influence the safety of customers and not only employees and third parties to employees.

Road infrastructure and maintenance are also natural deliveries to the community that falls under the definition of value shaping for road safety, as does training, education and enforcement of road users.

There are more complex activities and roles in the community that might have an impact on traffic safety. Insurance and also investments in other organisations that impact road safety are some examples.

Potentially modules for more types of organisations will be developed in the future.

In essence, the FIA RS Index for products and/or services deals with the safety of customers/clients. It also includes third-party casualties related to the product/service. For a vehicle manufacturer, the definition would cover those killed or seriously injured in (on) or by the vehicles produced. Both passengers and crash partners like occupants of an opponent vehicle or an unprotected road user would be included.

The same would apply to personal transport, with the exemption that a driver, as well as third-party victims, would be covered by the definitions of the supply chain, as the driver would be employed or contracted by the organisation.

For a consultancy, the customer or client would also be the subject for the sphere of influence, but that could often lead to their customers' customers or clients that would benefit from improved safety. In such cases, the reporting organisation would have to show how such an indirect value occurs.

1. COMMITMENT AND POLICIES



1.1 COMMITMENT AND POLICIES - INTRODUCTION AND CONTEXT

The nature of road traffic safety is complex and involves many factors, stakeholders and actions. It is a long time since road traffic crashes were seen as solely an issue for drivers of vehicles and their behavior. Today, road traffic safety is seen as a structured combination of many safety factors. It is possible to have most of them controlled systematically. To achieve efficient progress road infrastructure, vehicles, connectivity, protective gears, and rules/routines to follow must be combined in a structured way, based on science and evidence-based knowledge. Blame, amateurism and common sense have no room in a serious attempt to eliminate death and serious injuries in road crashes.

Any organisation that generates, conducts, or has some relations to the road transport system can significantly influence and even control safety.

The organisation can choose vehicles, their technical standard and how they are being used. The organisation can also make sure that the transports that they can influence, are made in a way that follow safety standards, and road rules, as well as conducting corrective actions when it detects noncompliance.

It is not evident for all organisations that there is a full range of traffic safety implications of their activities. Based on knowledge and insights an organisation can influence and contribute to a substantial improvement of traffic safety and the related norms applied in the wider community.

Some organisations can do even more far-reaching actions.

- If the organisation produces road traffic-relevant products such as vehicles or components for vehicles, it can develop safer solutions and make sure they are used in a safe way.
- If the organisation conducts transport services it can develop its services so they are safe.
- If the organisation owns, builds and maintains road infrastructure it would be natural to make this infrastructure safe.

All products and services related to the road transport system can contribute to improved road traffic safety.

With the introduction of the United Nations 2030 Agenda, traffic safety has been incorporated into the global sustainability agenda. It is expected that organisations systematically contribute to sustainability and apply sustainable practices across their entire value chain. It is also expected that the organisation looks beyond its direct control and sees the potential to contribute in its full sphere of influence. To do this, it is expected the organisation understands its traffic safety role and also have dialogue with related organisations.

The starting point for an organisation is to openly commit to

traffic safety and see traffic safety as a core dimension of its operations and part of its entire value chain. This is what is nowadays expected as a result of road traffic safety being an element of the United Nations 2030 Agenda and the strategic development goals. The United Nations General Assembly resolution A74/299 clearly expresses the role of organisations, both public and private, to apply safe systems solutions to their entire value chain.

An organisation would also be expected to openly present the effects of its value chain in terms of the numbers of fatalities and serious injuries. The safety footprint is a starting point for long and short-term target setting as well as plans and monitoring of its progress.

1.2 THE ROLE OF COMMITMENTS AND POLICIES

Generally, policy statements, commitments, and codes of conduct from corporations and organisations have always been in use. Formerly, those were mainly statements about product and service standards and quality directed toward the organisation's customers. Since financial reports became legally or formally binding to publish, these reports have also become one way for a corporation to communicate with the financial sector. The financial sector would look very seriously at statements made by the top management, as it might have financial short- and long-term implications for the success and value of the corporation.

Gradually, financial analysis has started to include other information than purely economical. Issues like human rights, occupational health and safety, environment, and climate are considered as business risks if not handled in accordance with societal expectations. Child labor, poor treatment of staff safety, poor environmental record, and nowadays no plan for a carbon-neutral future would be a risk to the brand image. This can potentially be detrimental to the valuation of the future earnings of any corporation. Therefore, information about such issues must be accessible, clear, true, and possible to audit.

COMMITMENTS IN OTHER 2030 AGENDA AREAS - COMPARISON WITH HEALTH, EQUITY, AND CLIMATE

Commitments and policies for climate, health, and equity vary and have different histories. There are internationally accepted standards to work with and report on many of these areas nowadays.

For environment and occupational health and safety, there are even ISO standards for what a policy statement should pick up. For other areas, there are guidelines and mainstream practices along the same lines. In particular reporting on commitments to climate change and actions to contribute to the reduction of it has become prominent along with human rights and equity.

Occupational Health and Safety (OHS)

Occupational health and safety has a long tradition and has lately been formulated in an international management system standard from ISO. Below is an excerpt from the

guide on how to fulfill the requirement of ISO 45001, a management system standard for occupational health and safety (replacing OHSAS 18001).

From OH&S ISO 45001, clause 5.2

The OH&S policy is the mechanism by which top management formally articulates its commitment to OH&S.

- At a minimum, these commitments are required:
- Provide safe and healthy working conditions for the prevention of work-related injury and ill-health which are appropriate to the specific nature of the OH&S risks to which workers and others are exposed;
- Provide a framework for setting the OH&S objectives; Include a commitment to fulfill legal and other requirements;
- Include a commitment to eliminate hazards and reduce OH&S risks;
- Include a commitment to continual improvement of the OH&S management system;
- Include a commitment to consultation with and participation of workers, and, where they exist, workers' representatives.

The above requirements in ISO 45001 are by no means seen as radical nowadays. In practice, the statement about fulfilling legal and other requirements is often complemented by clarifying that such requirements are seen as a minimum level. Another OHS related statement often made and seen as crucial, is about targets and aspirations that conflict/ compete. In these cases safety should have priority.

It is also normal for a large corporation, with a large value chain including many suppliers to include significant and relevant parts of the value chain in their OHS policy. Even if road-related injuries and fatalities constitute a significant part of the OHS casualties, they are frequently neglected as the significant working life problem they are. What might be surprising is that neither legislation nor policies within the occupational health and safety field emphasize the risk of employed persons physically harming third-party individuals as a result of the employed person being involved in a road traffic crash.

Equity and Human Rights

The United Nations Global Compact is a non-binding United Nations pact to encourage businesses and firms worldwide to adopt sustainable and socially responsible policies and to report on their implementation.

United Nations Global Compact guide to policy for organisations has the following minimum levels:

All policies – whether stand-alone or integrated – should at a minimum comprise:

- An explicit commitment to respect all internationally recognized human rights standards – understood, at a minimum, as the International Bill of Rights and the ILO's Declaration on the Fundamental Principles and Rights at Work
- Stipulations concerning the company's expectations of personnel, business partners, and other relevant parties
- Information on how the company will implement its commitment

Sites within the entire value chain might also be checked (due diligence), and codes of conduct are mandatory for all suppliers and business partners in relation to working conditions and equal treatment of staff, customers, and the wider society.

Climate

Managing and reporting on climate change issues can be seen as moving a step further into detail. In today's sustainability reporting, it is expected to present metrics, prognoses, and detailed targets when climate-neutral operations and products are possible to reach in reality. No doubt, policies related to greenhouse gases and climate change are more diversified than other sustainability issues and would cover many aspects of a corporation's value chain.

However, transport seems to have had a marginal role in the policies of large corporations, unless they are more or less dealing only with transport services. The policies and policy guidelines for climate issues are the most developed and far-reaching of all sustainability issues.

These headings suggest that the entire chain from identifying accountability, being serious, creating results, and being transparent needs to be demonstrated to earn a legitimate position as a corporation caring for climate and hence stay aligned to the Paris treaty on global warming. Not using scientific methods, or not creating any meaningful results would lead to a lost legitimacy as there are controlling functions both in the financial and the customer advocacy sectors as well as in the scientific community. Reporting is a fundamental piece of transparency.

In summary, corporate policies in health, equity and climate show generally that there is a great deal of responsibility from the corporations that are expected to be expressed. The consequences of the activities and products resulting from the value chain of an organisation would not stop with the employees or contracted organisations but cover third parties, customers/clients, and the whole community. Following rules, legislation and international standards seem

to be at a minimum level.

Making sure that the top management sort out potential conflicts between safety and production/delivery, etc. is fundamental to workplace safety. The long-term targets should be communicated both inside as well as outside the organisation. It is also apparent that the accountability that the organisation wishes to take on, is far-reaching, serious and communicated. For climate policies and operations, the use of scientific knowledge and practices is a core quality.

For the FIA RS Index, the reporting on commitment reflects the ambitions and details of OHS commitments. There are good reasons for this, since in many respects, traffic safety is a subset of occupational health and safety, with the main difference that also third-party victims and customers/clients are included. There are standards for management systems, ISO 45001 for OHS and ISO 39001 related to traffic safety. In terms of top management roles and requirements these management standards are similar, if not more or less identical. The OHS management standard is directed towards the employed. The FIA RS Index demands the addition of third-party and customers/clients directly affected by an organisation and its products and/or services. This addition, would not seem to create any major hurdles. The reason is that the protection of these categories would be based on the same prevention strategies and tools as the protection of employed persons.

Policies on climate and the ambitions to limit climate warming involve the road transport system, and many strategies and actions will benefit both safety, accessibility and climate at the same time. To align road safety with the climate issues, therefore, makes sense both in overall approaches as well as in some details. The climate sector standards also have a more developed policy content than workplace safety and human rights standards as it points to both the use of scientific knowledge and methods as well as pointing out the need to be transparent.

Adding to the above reasons, there is also a natural connection between many of the management standards as they nowadays build on the same ISO structure demanding and clarifying the involvement and responsibility for the top management of a corporation. This also applies to traffic safety (ISO 39001). One of the most important features of the ISO management standards is that they focus on results and how future targets are managed rather than concentrating on activities and how they are performed. In particular, ISO 39001 guide the user to be concentrating on safety factors that are known to produce better safety outcome.

A mix between all policy advice and requirements for health, climate and equity are natural elements of the FIA Road Safety Index.

1.3 ROAD SAFETY TARGET SETTING

Target setting is a fundamental issue in modern

management systems. Setting targets fulfill many roles, such as demonstrating to the public and customers/clients that the organisation wishes to go in a certain direction. It is also an essential part of the management of priorities and resources within the organisation and guides the organisation in a certain direction. Over a longer period, following targets is a way to evaluate the effectiveness of actions taken.

Setting long and short-term (time set) targets are also fundamental parts of the standards for management, both the ISO standards for management like ISO 9001 (quality), ISO 14001 (environment) and ISO 39001 (traffic safety) as well as ISO 26000 (Social Responsibility). In ISO 39001, the target to eliminate road deaths and serious injuries is set as a prerequisite for any organisation that wishes to use the standard. In ISO 14001, it is up to the organisation to choose the subject for targets as well as the level of ambition.

Targets could be seen in a couple of different ways. They could either be seen as a guide to a long-term ideal position. In many areas, Vision Zero type ambitions are set up, to guide the society or an organisation to a long-term standpoint. In the ambitions expressed for climate, the overall target is more precise, as it says a maximum of 1.5 or 2 degrees higher global temperature in 2050. It does not say explicitly how the target should be divided but it suggests that all operations, customs, and products must be carbon neutral within a certain period.

It has become common to have both a long-term target, like eliminating deaths and serious injuries as a result of road crashes, as well as a shorter time set period for milestones. This is often the case for jurisdictions.

Countries, the EU and even for the entire globe, milestones have been set up. For traffic safety, it has become somewhat of a norm to set up a target of halving road deaths and serious injuries over 10 years. This equates to something between 6% and 7% reduction per year, which in retrospect is quite ambitious and frequently not reached. These types of targets work only if the numbers of fatalities and serious injuries are high enough that random effects do not shadow the true changes too much. If they do, the target would be more a matter of luck rather than a result of effective management, resources and activities.

In reality, it is not recommended to manage progress simply on outcomes like death and serious injury. Today, safety performance factors linked to the outcome are defined and used by many jurisdictions and organisations. ISO 39001 lists several relevant safety performance factors like speed, vehicle safety, driver fitness, etc. The safety performance factors are valuable to use for target setting, monitoring, and continuous improvement.

Employed

Numerical short-term targets for the maximum numbers of workplace injuries are common, while it is a norm (and not even explicitly mentioned) that the long-term target is zero. Road crash fatalities and serious injuries to those employed

by an organisation are simply a subset of all workplace fatalities and injuries and should be treated in the same way. Combining the norms from the occupational health and safety field with the traffic safety culture would implicate that there is both a long-term and a short-term target for road deaths and serious injuries. Both of them should be expressed in numerical, time-set formats, allowing for a follow-up by comparing the targets with the footprint (actual outcome) of the organisation. It is evident that many organisations with limited size, have zero or very few serious or fatal injuries. For them, zero outcome is the only logical target.

The GRI 403 is an OHS reporting standard issued by the Global Sustainability Standards Board. GRI 403 is explicit when it comes to what categories of employed should be included in the occupational health and safety responsibility and reporting. In short, GRI 403 says that “all employees are to be included by the organisation in its reported data, regardless of whether the organisation controls their work and/or workplace”. Implicitly, this group of employees would be covered in a target set by the organisation.

For those controlled by the organisation, like contractors, the same requirement is set up in GRI 403. Whether this should also address a measurable short-term target in FIA RS Index could be discussed, but no doubt a long-term target set up for the entire value chain, including all contracted road safety associated activities would be natural.

Third parties

Third parties are those who are killed or seriously injured by activities or products related to road transport by the organisation (and not employed/ controlled). They should also be subject to target setting. Both a long-term and a short-term numerical target would be expected. For many organisations, third-party casualties constitute a major part of their traffic safety footprint.

The way third parties are treated by the community differs substantially from other workplace deaths and injuries. While the right for employed persons to a safe workplace is a norm in most jurisdictions (but not always fulfilled or even viewed as a norm), the explicit right for third parties is not identified. If an employed individual is killed or injured, most jurisdictions have legislation that would lead to an investigation and possible prosecution of the employer. Here is the question whether the employer has not taken mandatory precautions to protect the employed person. On the other hand, if a third-party individual instead is killed or seriously injured, the legal framework would imply that the road crash is investigated as a breach of road rules and possible prosecution of the driver under those rules. The employer would in such cases not be seen as having any primary responsibility other than a normal duty of care related to for example the vehicle's condition.

In any case, and irrespective of the legislation of an individual jurisdiction, the third parties should be included in the FIA RS Index target setting, and the policies protecting third parties to road transport

within the value chain.

Customers/ clients

Virtually all organisations use the road transport system in their value chain. However, some organisations also produce or manage products and/or services that influence traffic safety directly or indirectly. Organisations with customers/clients affected by road traffic safety should also set targets for their safety footprint associated with these products and/or services.

The main areas that deliver products of traffic safety relevance are:

- vehicles or vehicle components
- roads and street administrations
- Service provider of personal transport
- Provider of traffic safety education/training/ consulting.

For a vehicle manufacturer, both those killed or seriously injured as occupants in/on vehicles produced and sold within a reasonable timeframe could be the base for target setting. Another target group is those who are killed and seriously injured in road crashes involving cars produced and sold by the manufacturer, like occupants of other vehicles, pedestrians and bicyclists, etc. It would be expected that children form a special subset in the target set for the categories mentioned.

For a supplier to the vehicle manufacturer, it would be a matter of the sphere of influence on how targets are set.

Given that the products that a supplier produces are safety-relevant it should be possible to set a target based on the safety effectiveness of that product along with volumes. However, it would be up to the supplier to come up with relevant targets for the future footprint calculation considering the complexity of safety products and systems supplied. It could be a prediction of lives saved over a certain period (handprint), rather than a forecast of the safety footprint in total.

Examples of transport services would be public transport, taxi/coach transports, and rental/lease/sharing of vehicles. Third parties should also be included in the target setting.

There are also some sectors and services that could be seen as influencing the safety of customers like training and educating the driver, insurance of vehicles and transports, vehicle inspection, etc. Although it would be a matter of organisations' definition of their mission and sphere of influence, it would still be expected that such organisations would comment and discuss their role, and their commitments. As an example, a motor insurance company would surely be able to substantially influence the behavior of its customers by “pay how you drive” policies and also influence customers choice of vehicle. In such cases, it would be expected that the insurance company can define the possible influence as well as set up targets for this influence.

An infrastructure provider would influence all road users

and transports using the roads and streets under the responsibility of the provider. A road safety target would therefore be expected to cover all harmful events occurring on the network, and could also include pedestrian falls. Even if the infrastructure provider has a shared responsibility for standards, decisions on speed limits and other traffic rules, it would still be seen as the provider has a large sphere of influence. This does not limit other organisations that have a role in the rules, standards, construction and/or maintenance to also formulate their sphere of influence and associated targets.

1.4 POLICIES

Policies are high-level instruments to express directions, procedures, and guiding principles. Sometimes internal rules within an organisation are included in the policies. Policies from the top management should be seen as the framework for the organisation's values and scope turned into actions. The FIA RS Index value the content and how sharp the policies are.

In the FIA RS Index, policies should be clear, give reasons behind and express how an organisation should and will act in specific situations or concerning specific issues. Furthermore, it is assumed that employees know the content of the policies. General statements, vague directions, or actions proposed would not be seen as something that can be followed up, judged and audited. It is also expected that a policy states possible reasons for not to comply with it, name who could agree to exemptions and the consequences if a policy is not followed. As an example, a contracted partner that acts in a way that their service or product does not comply with the policy stated should both know how to report a non-compliance and the consequences of either not reporting or not following the policy. Being transparent about rules set up by an organisation, or rules set up by the community is fundamental to creating new norms. In setting up the procedures and rules, the standards that will be used to define the desired outcome must be clear and understandable. How to comply with road rules could be a good example of an area that needs clear and sharp policies from an organisation's top management. This has an explicit role in the FIA RS Index.

It is well known that road rules within organised traffic and transport are systematically violated. Even with constant and massive enforcement from society, it has been impossible to significantly limit the number of violations. This means that even organised transport and transport within the value chain of large organisations are constantly subjected to enforcement from society. The reasons for non-compliant behavior are many and complex and have no real foundation in rational reasons. Costs, quality, or time savings are weakly related to the continuous and systematic breaking of the most fundamental rules of the road transport system. Instead, we must be more inclined to point at lack of leadership, lack of understanding of the consequences and sparse examples of the society trying to build better norms by acting better than the rest of the users. There might also be reasons such as believing that breaking rules, like speed limits, would be a way to improve the

efficiency of transport. In just-in-time supply chains, it is not unusual that time slots for deliveries of components and products are seen as extra important. They might be set in a way that the arrival of transport after a set time will not be fully compensated or even not paid at all. This type of supply chain management drives risk-taking and exceeding of fundamental road rules, and these behaviors are fully understandable from the driver's point of view. Such conflicts between safety and delivery performance, even if they are only perceived, are detrimental to the safety norms in transport. Speed or working hours enforcement from society would have the effect that drivers are torn between the norms of transport, contracts with customers and the road rules set up by the society. Today the risk of disturbances is fully put on the driver. This inherent conflict for the drivers cannot be accepted in the longer run.

As a result, corporations must be very clear about what code of conduct among employed, contracted organisations and their employee, contain and what the consequences of non-compliance with fundamental rules will be. Organisations must be clear that they have the responsibility to use their instruments to make sure that following road rules are the minimum level of practice. Disturbances in the transport system should not lead to drivers breaking road rules. Such risks should be part of transport planning and be absorbed by the organisation, not the drivers.

The corporation would have to communicate their relation to road rules, if and how they are defined in relation to non-compliance and how a non-compliance is handled by the organisation. The relation to road rules would relate to both transports conducted by employees, contracted transports as well as non-controlled.

The types, technology and monitoring of vehicles used by a corporation also play a major role. Policies on the choice of vehicles and their safety performance are tools to manage progress. There are modern vehicle technologies that can support drivers to follow road rules and help organisations to monitor transport.

Speed

Speed is a fundamental parameter in more or less all injurious crashes. Speed, or rather kinetic energy, is a decisive factor for injury severity together with what objects are struck, and the injury-reducing properties of these objects. Therefore, limiting speed is a way to control that the kinetic energy is lower than the protective properties of vehicles, protection systems and road design. Roads with safety barriers, vehicles with good energy absorbing performance, injury mitigating restraints, etc., are all ways to allow a higher safe speed than if no preparations for the safety performance of roads and vehicles are done.

The relations between travel speed, impact speed at crashes and resulting injuries are well known. Many methods have been used to establish this knowledge, including physical experiments and statistical or theoretical modeling on the basis of Newtonian physics. In general, there is a nonlinear relationship between travel speed

and the risk of a fatality or serious injury. With the best available knowledge, the risk of a fatality increases with a mathematical exponential power of 4.5 with increasing speed. As an example, this means that increasing speed by 10% leads to a fatality risk that increases by more than 50%. Further, a 20% increase leads to more than double the risk of a fatality (2,27 times). In reality, even small reductions in speed will considerably reduce the risk of a fatality.

This is not evident either to individual drivers or organisations.

Most jurisdictions and infrastructure providers have speed limits set in place. The regime for speed limit setting varies across the world, and with different road infrastructure providers. The principles and practices for the posted speed limit are therefore not uniform across roads and streets.

There are not even clear parameters and tradeoffs being used. In some jurisdictions, the speed limit is simply a default figure, and it is up to the road user to operate speed with an upper limit. Others have chosen a more diversified speed limit setting, where the posted speed is also guiding the road user to apply this level when the situation is normal.

A corporation would have to tailor its speed management to the circumstances, the vehicle fleet and the speed limit regime in the jurisdictions it operates in. It could, for example, decide that the speed limit, voluntarily, is only 30 km/h in urban areas no matter the legal speed limit. There are guidelines available for what could be seen as safe speeds for different types of road/street, vehicles and types of traffic (Eugensson et al).

What is fundamental though, is that the posted speed limit, or the speed limit for the vehicle in question, is never exceeded.

Vehicle safety

Gradually over the past decades, vehicle safety has become better to a level where it seems to be a dominating factor in the recent progress of traffic safety. The choice of vehicle type, make and model has a larger safety impact than ever before as the variation has increased.

The differences between modern makes and models remain huge. This is accurate for both vehicle occupants and well as other road users (third parties). Much progress has been seen in seat belts and seat belt reminders, airbags and structural crash performance. Additionally, technologies progressively aim to take over the role of the driver in critical and near-crash situations. Autonomous emergency braking and electronic stability control have been proven to be very effective for passenger cars, and ABS for powered two-wheelers as well.

Today advanced cameras and radars can detect and protect not only other motor vehicles but also unprotected road users.

Modern high-quality passenger cars have sophisticated safety systems. For some reason, the market for advanced systems has not developed as quickly for commercial vehicles like heavy goods vehicles, buses/ vans, and smaller delivery vehicles. The technologies are available,

but they have not penetrated the market at the same rate as passenger cars.

Neither the manufacturers nor the market has taken the necessary steps to fully benefit from the new safety technologies.

A fleet operator can have the knowledge to purchase/lease vehicles with the highest safety standards and equipment. These operators normally have a relatively short exchange cycle for their vehicles. There is no fundamental economical reason to not decide that the safest vehicles should be used within the value chains of large corporations. Insomuch as the cost for these vehicles do not seem to be significantly higher than vehicles with lower safety standards.

The challenge for an organisation is to understand what technology is relevant for the purpose and use of a certain type of vehicle. A vehicle that is often used in urban areas would be expected to focus on the technology and crash performance related to pedestrians, bicyclists, and other vulnerable road users. A truck used for long-haul transport would be expected to also have the technology for lane-keeping, autonomous braking for motor cars and alike. All vehicles should be prepared for supporting and/o or controlling safe speed, make sure the driver is fit and also stimulated to use personal safety equipment like seat belts.

There is a challenge for a multinational corporation to source vehicles as finding the information about their safety performance can be challenging. This crucial safety information is not always revealed transparently by the vehicle manufacturer or their local representatives. Generally, there is also a lack of standardized objective information about the safety performance of commercial vehicles.

Some vehicle types offer a greater challenge in terms of safety for the driver as well as for other road users. Some would be safe for the driver but constitute a substantial risk for others, the best example is a heavy goods vehicle. A motorcycle or similar would have the opposite problem in being a serious risk for the rider but likely to be a low-risk vehicle for other road users. Therefore, the choice of vehicles must be very mindful of its purpose, environment and how it is driven/ridden.

Vehicle safety is fundamental for a vehicle manufacturer. Therefore, the expectations on how a manufacturer expresses and communicates its policies are very high. It could be understood that the large variety of a vehicle manufacturer's production and market offers cannot have the same safety performance. However, there is no reason to conceal this fact and avoid open communications about these differences in an objective and meaningful way. If not, the market for safety and the role of the private and/or corporate vehicle buyers will be biased and not functional in a way that would be natural for well-developed markets.

Certainly, there are rules, standards, and regulations operating in many countries, but not all markets. However, the nature of regulations is to specify the lowest standard that could be marketed, not the best performing. There

is solid evidence that the variation in safety performance among vehicles fulfilling the regulations, is very large, even in markets with quite well-developed regulations. Therefore, information about safety performance from a manufacturer must be clear and show if performance is well above the stipulation of the regulations.

Children constitute a part of the human population that cannot make informed choices, value information, adjust behavior or act as a consumer. All sectors, and in particular the automotive sector should therefore provide children with the best possible protection worldwide without offering sub-level safety solutions. The market should communicate how the protection of children, of all ages, has been catered for.

Driver fitness

Driver fitness encompasses several aspects of the driver's ability to drive safely.

- No alcohol and drugs are basic demands today, although many jurisdictions allow surprisingly high levels of blood alcohol concentration (BAC) in the road rules. Levels of up to 0.08%, BAC is considered acceptable in some countries. It is well known that such levels are associated with a very high risk. The risk of fatal crashes increases more than 1000 times when the driver's BAC level is over 0,1%. However, low levels of alcohol have negative impacts as well. Naturally, a 0 alcohol and drug policy is the norm in the professional world of drivers.
- Fatigue is another issue as the risk for serious crashes is highly associated with the driver being fatigued or falling asleep. Therefore, work and rest hour demands are used and monitored in many jurisdictions.
- The use of devices for communication, route guidance, etc., is distracting and increases the risk of a crash.

A vehicle manufacturer or user could add technology to limit or eliminate some risk factors like driving intoxicated, being fatigued or being distracted by communication.

Use of personal protective gear

There are several protective countermeasures like seat belts and helmets, that have been proven to be highly effective. The use of seat belts in motor vehicles is known to reduce the risk of a fatality or serious injury by more than 50%. Recently, seat belts have become an integrated part of the wider safety systems. Intelligent seat belt reminders have proven to be very effective in almost eliminating the non-use of seat belts.

The use of helmets for powered two-wheelers as well as for bicyclists is very effective and should be seen as a given way to protect the skull and brain.

Other safety performance factors

Speed, vehicle safety, driver fitness and the use of personal protective gear are relevant safety performance factors for all organisations.

However, for some organisations, there might be other safety performance factors that would also be relevant.

While the above safety performance factors should be seen as mandatory for almost all types of organisations, a road infrastructure administration, a driver education organisation or an insurance corporation would also potentially have other tailor-made safety performance factors.

2. SAFETY FOOTPRINT



2.1 SAFETY FOOTPRINT INTRODUCTION AND CONTEXT

The total number of deaths in road traffic is estimated around 1.3 million per year. Further, the number of injured on the roads and streets has been estimated to be between 20 and 50 million per year. The reason behind this large variation in the estimation is explained by both the lack of quality in the data sources used, as well as variations in the definitions of injury.

Using an average relation between the number of death and serious injuries the calculation reveals that the worst injuries would be at least 5 times higher than the number of fatalities, or at least 7 million per year.

More than 80% of road deaths occur in low- and middle-income countries and consist mainly of vulnerable road users, like pedestrians, bicyclists and users of powered two-wheelers. However, the lack of road safety is a burden even in the most safety-focused countries.

Traffic safety can be defined in many ways, but today the definition is mainly related to changing conditions and factors that have an impact on the risk of death or serious injury to a road user. These factors and conditions are both static and dynamic.

- Static factors and conditions like road infrastructure and vehicles.
- Dynamic like speed, use of safety protective gear, etc.

Modern traffic safety ambition is about eliminating death and serious injuries as a result of road traffic crashes. There are several, if not numerous, ways to gradually improve traffic safety. Such ways include reduction of the number and the severity of crashes as well as physical protection of the human body of the road users. Today, the prevention of death and serious injury is a sophisticated mix of several actions based on scientific knowledge and the application of these actions in a systematic way. The result of a successful application of preventative actions is possible to detect and evaluate. This can be done by counting fatalities and serious injuries as well as monitoring the factors that produce the improvement of safety, like the use of personal safety equipment, control of travel speed, the technical standard of vehicles and roads, etc. The results of successful traffic safety actions on the number of victims, the safety footprint, can certainly be seen.

The FIA RS Index safety footprint is the measurement of the road safety consequences within the value chain (in fatalities and serious injuries resulting from road traffic crashes). The safety footprint of a value chain would in most cases be built by several categories of road use, transport, services and products. This will in turn lead to that many sources of information must be used, and in many cases, an organisation must collect data on its own. The main categories included in the FIA RS Index are employees, including contracted, third parties and customers of products and services.

It must be understood that the footprint will be relatively

small for organisations with a limited size.

Today, safety at work statistics would only contain severe injuries and fatalities to employees and not third parties. Looking at general statistics concerning safety at work, and the number of victims of road traffic occurring in work-related activities, the picture gets complicated. The number of deaths in workplace accidents is around 350-400 000 per year. Another 150 000 fatalities are linked to commuting to and from work. How many of the workplace fatalities that would be classified as road crashes is partly unknown. In jurisdictions with statistics allowing for such analysis, the proportion of road traffic crashes as source of workplace fatalities would be between 25% and 40% (EU and the US). If we estimate the proportion to be one-third globally, the work-related road fatality numbers would be around 100 000 - 150 000 per year.

Third-party road traffic crash victims are normally not included in statistics of work-related fatalities. These victims probably would add more than the number reported of those killed at work in a road traffic crash. Third-party fatalities and severe injuries occur in the entire supply chain.

ETSC (European Transport Safety Council) has estimated third-party fatalities in a report about goods vehicle crashes in the EU. This report presents the proportion between killed drivers of goods vehicles (Assumed being driving for work) and those killed as non-drivers' of these vehicles. The result shows the number of victims is around 10 times higher for heavy goods vehicles and 3 times higher for light goods vehicles.

On average the proportion would be 5 times higher, leading to the conclusion that killed as a result of working activities are far more common than killed in working activities. To estimate the number on a global level would be more or less impossible, but a fair assumption is that 1/3 of all fatalities globally would fall within consequences of working life, and another 100 000-150 000 in commuting to and from work.

Especially in low- and middle-income countries, one can assume that a huge proportion of the vulnerable road users being killed and seriously injured are third-party victims related to organisations' transports and services.

Concerning traffic safety-relevant products and services, there is no or limited tradition to understanding and reporting the magnitude of the safety footprint in the entire value chain including customers and third parties. There are also limited regulations and standards in collecting and analysing data related to products and services in the transport sector.

It can be assumed that differences are significant and relevant for many traffic safety-related products and services.

As for vehicles, the definition of a road crash always involves at least one vehicle and would occur within the road infrastructure. Therefore, more or less all deaths in the road transport system would take place within at least two organisations' value chains, and often more. An individual

road death seen as a safety footprint within someone's value chain would as a result turn up many times and in many different organisations' safety footprints.

2.2 THE ROLE OF OUTCOME STATISTICS AND FOOTPRINTS

There are challenges in finding and reporting the safety footprint of an organisation. It has not been a common tradition to record and classify road crashes and injuries in a way that addresses a certain organisation or corporation, other than in work-related road crashes.

Traditionally, statistics on fatalities, injuries and crashes have been considered only a societal issue and are mainly collected and published by state, regional or local jurisdictions. The police, hospitals and local governments have been the main actors in collecting data. State agencies would have the responsibility to store and publish data and statistics related to road crashes and their fatality or injury outcomes.

There are clear and worldwide accepted definitions, practices and ways to publish the statistics, although the quality and accuracy of these statistics vary. There are, however, few examples of available statistics that classify, record and report crashes and injuries based on value chains or specific corporations/organisations involved.

It does not mean that there are no examples of corporations that have collected and analysed road traffic crash data and statistics. On the contrary, many vehicle manufacturers, as well as suppliers to vehicle manufacturers have collected in-depth data on crashes with products from their product line. To some extent, this is even a regulated activity when it comes to product safety and defects where records must be set up and reported, at least in the EU and the US.

There are also regulations and specific legislation for employers to report on workplace crashes and injuries as well as road traffic crashes. Such reporting is mandatory in most countries with occupational health and safety legislation. Information on victims' fatalities and severe injuries caused by workplace-related road crashes is significantly fewer and not always reported.

In both the US and in Europe, employers are recommended to develop and practice specific policies, programs and activities for those who drive for work within a corporation. One of the pieces of advice is to record and analyze relevant incidents, crashes and injuries.

Comparison with workplace injuries

The GRI 403 is an occupational health and safety (OHS) standard issued by the Global Sustainability Standards Board. GRI reporting stipulates that an organisation should report on workplace safety and workplace injuries. A random review of sustainability reports (annual or separate) being released from 2017 and onwards show that all investigated reports, without exemption, report on statistics (footprints) of workplace incidents, accidents and injuries.

It is, however, few organisations that report on injuries classified with respect to activity/branch.

Most reports would show historic data, often in a five or more years perspective. Many reports would clearly express that the long-term target is zero which is sometimes expressed as zero deaths and serious injuries, sometimes zero accidents. No doubt, there is a long tradition to keep track of and report on workplace injuries within corporations.

It is not clear to what extent reported workplace injuries cover also contracted parties. While GRI 403 stipulate that contracted parties should be included in reporting, it is sometimes not clear whether they are counted and published. Some reports are though very advanced in showing the whole picture following GRI 403-9, meaning that employed and contracted are separated. This would indicate that such corporations have a mandatory requirement for their suppliers and service partners to report as stipulated in their contracts. There are a few examples of organisations reporting on third-party casualties.

Comparison with carbon footprint

Over the past years, the interest in climate change, especially carbon footprint calculations has increased considerably. The carbon footprint calculation describes the total amount of carbon dioxide (CO₂) and other greenhouse gas (GHG) emissions for which an organisation is responsible expressed as the total amount of CO₂-equivalents emitted over the full life cycle of a product or service. The results are used for marketing purposes or as a basis for setting targets and formulating strategies on how to achieve carbon neutrality or net-zero carbon footprint. Today, the carbon footprint is also an essential part of investment business evaluation of companies. The life cycle perspective is an approach that can be easily transferred to fit the development of the FIA RS Index.

The concept of Carbon Footprint should also be well known in the transport sector since a not-insignificant portion of the emissions comes from transports up and downstream the sector's value chain.

According to the IPCC (Intergovernmental Panel on Climate Change), the transport sector is globally responsible for approximately 23% of the total energy-related CO₂ emissions. Heavy-Duty Vehicles – trucks and buses – are responsible for around one-quarter of CO₂ emissions from the transport sector and almost 5% of total GHG emissions in the European Union.

The information for a carbon footprint is usually collected via sustainability or ESG (Environmental Social Governance) questionnaires to stakeholders throughout the value chain. The life cycle approach applied to road safety would provide a comprehensive image showing all aspects of road safety. Initially, the lack of information may cause some delay in the data collection process but in the longer perspective, this should not be a major issue.

In conclusion, the established and standardized concepts and methodology for Carbon Footprint calculations

described by ISO standards and the Greenhouse Gas Protocol framework are well suited to use as a basis for data collection in the development and use of the FIA RS Index.

2.3 EXAMPLES OF TRAFFIC SAFETY INJURY-RELATED DEFINITIONS

Fatalities

Deaths in road traffic are normally defined as deaths resulting from a road traffic crash, and where the victim dies from crash injuries within 30 days from the time of the crash. Suicide and natural deaths (illness) are not included. However, definitions and practices vary across jurisdictions and might also vary between occupational health and safety and road safety statistics. An organisation must be aware of the differences in definitions and practices as well as the quality of the data underlying the statistics.

Serious injuries

Globally serious injury has many definitions but would in essence cover injuries that normally leads to admission to hospital care, or injuries resulting in long-term impairment. In essence, it should be injuries as a result of a road traffic crash where the injured person does not recover within a reasonable time.

In practice, the differences between definitions, practices and quality of data vary substantially and can give a wide variety of results. They differ across jurisdictions, type of source of information, time, etc. There are also differences in definitions between occupational health and safety and road crash statistics. At this point, it would be hard to have a universal definition that would cover all crash injuries, but the organisation should understand the data and statistics used for reporting.

2.4 THE CONTENT OF A TRAFFIC SAFETY FOOTPRINT

A safety footprint aims to quantify the size of fatalities and injuries generated in or by an organisation and its activities, products and services.

All organisations have a significant sphere of traffic safety influence that must be understood and considered when calculating the safety footprint. The footprint should contain severe injuries and fatalities to both the own employees, contracted parties and third parties. Further, if an organisation produces services and products with properties that significantly influence road traffic safety, the footprint related to these services and products is also essential to record and report.

A preliminary definition of safety footprint:

The number of fatalities and seriously injured persons as a result of road crashes occurs within an organisation's entire value chain. All casualties resulting from relevant and significant activities, services and products should be included in the calculation.

Note:

ISO 39001 defines serious injury as "injury with a long term health impact or non-minor harm caused to a person's body or its functions". Further ISO defines road crashes as "collision or other impact on a road...". Pedestrian and bicycle falls are included by the preliminary definition.

Employees and contracted in the supply chain

The recording and documentation of traffic safety footprint related to the employees would follow the definitions, specifications and practices of the GRI 403. This would also relate to contracted parties.

The approach of the FIA RS Index is similar to GRI 403. The only alternation would be that only those involved in road crashes would be included and as such constitute a specific part of what should already be recorded and documented if an organisation is following GRI 403. The definition of road crash would follow the ISO 39001 definition, this would also apply to the definition of road user.

In GRI 403, the following definitions are used.

This Standard covers the following subset of workers, for whose occupational health and safety an organisation is expected to be responsible:

- All workers who are employees (i.e., those workers who are in an employment relationship with the organisation according to national law or its application).
- All workers who are not employees but whose work and/or workplace is controlled by the organisation.
- All workers who are not employees and whose work and workplace are not controlled by the organisation, but the organisation's operations, products or services are directly linked to significant occupational health and safety impacts on those workers by its business relationships.

The above inclusion criteria work also for road transport, following, in particular, the first and third clauses. The second clause, where driving would occur within the premises of the organisation would be rare for most organisations.

The footprint for employees and contracted employees would be following the clause GRI 403-9 but restricted to the following requirements;

For all employees:

- The number and rate of fatalities as a result of work-related injury;
 - The number and rate of high-consequence work-related injuries (excluding fatalities);
- and

For all workers who are not employees but whose work and/or workplace is controlled by the organisation:

- The number and rate of fatalities as a result of work-related injury;
- The number and rate of high-consequence work-related injuries (excluding fatalities);

This would only apply to events occurring while being a road user. This would be a subset of what must be reported in GRI 403-9.

Third-party victims in the supply chain

A significant proportion of traffic safety victims for most organisations are third-party victims. These victims would pose the largest challenge to categorize and collect data for. In the EU, only 12% of the deaths involving heavy goods vehicles (HGV) were the drivers or passengers of the HGV. The other 88% of fatalities include drivers of other vehicles, but also pedestrians and bicyclists. For light goods vehicles, the corresponding proportion is estimated to 29%/71% (ETSC 2020).

The legal framework in most jurisdictions would not define an injury to a third-party individual, i.e., a non-employed or contracted, injured in a crash with a vehicle belonging to the supply chain of an organisation as a work-related injury. It would, under normal conditions, be defined and treated legally as any other road crash. The legal system would look for an individual that could be seen as guilty of violating a road rule, and would typically not involve an organisation as not even partially guilty. This would not happen even if the guilty driver would be employed by the organisation and driving for duty at the time of the crash. The driver would, if prosecuted, be treated like any citizen. Therefore, there has been no reason to record, categorize and document a crash involving an organisation and hence there is no source of information from neither police recorded crash statistics nor statistics from occupational health and safety administrations or alike.

There are jurisdictions that are applying "corporate manslaughter" legislation to individual cases where an organisation would seem culpable for an event leading to the death of an individual. There are also some civil law cases, but for none of them, there would be available registered statistics where third-party cases would be directly identifiable.

The third-party victim statistics is therefore needed to

be collected, categorized and documented by the organisation. For the FIA RS Index, several inclusion definitions would be allowed, but basically, the ISO 39001 definitions are the most appropriate ones. The road user categories, vehicle types involved and the injury consequences (fatal/serious injury) should be presented. Furthermore, children both small (up to the age of 5) and older (children and youth up to the age of 18) should be presented in at least these specified categories.

Products and Services Footprint

Many organisations develop and/or produce products and services that are relevant and significant to traffic safety. The FIA RS Index addresses this in a separate rating called the Products/Services Rating. In the Product/Services rating the safety footprint includes customers/clients to these products /services and also, where relevant, the third parties to the customers/clients.

Corporations that develop, manufacture and sell road vehicles, would be expected to report the footprint these vehicles generate over time. Likewise, footprint reporting is expected for businesses that rent out or lease out vehicles. The same is valid for transport services. A reasonable product life span that should be monitored and reported would be at least 3 years after the vehicle was produced (or sold/registered), or the service was offered and active. The footprint published by the manufacturer should cover most of its production, and the coverage should be given in detail.

The footprint would have to be divided into occupants/riders of the vehicles/services as well as third-party victims. Children and youth (both small, up to the age of 5 and older, up to the age of 18) should be presented separately and divided into passengers and other road user categories.

There would be several options for a vehicle manufacturer to report on its footprint. Some vehicle manufacturers would have their own data collection on many markets, while others would have to use registries of crashes and injuries produced by others. Many countries have access, at least for a car manufacturer, to the official statistics where car make/model would be recorded and stored. Examples of such markets are Germany, the United Kingdom, Sweden, Italy, Spain, the United States of America, Australia, New Zealand, etc.

Likely, a car manufacturer could also have the data processed in ways that would suit footprint recording, like the type of crash and who is injured/killed. State administrations would be helping to report in many jurisdictions.

It would be more complicated to report injuries and fatalities within transport services/rental companies, etc. The most significant problems arise when searching for third-party victims. For such corporations, it is expected that they have their own data collection, as a part of their management systems.

A special case is suppliers of safety equipment and safety systems for the automotive industry. The footprint would in such a case be dependent on the type of system that the supplier produces but would also relate to potential safety targets that the supplier has set up.

Suppliers have different approaches to setting the targets. Some set the target as a number and potential saved lives while the others focus on the amount of delivered equipment and systems. Safety footprint principles differ by the target setting approach.

In all cases, the size of the footprint that the organisations assign their commitment to should be clearly defined, calculated and documented.

Another special case would arise for organisations that control certain geographical areas, certain infrastructure, etc. A road administration, a city, or the police force are some examples. There are also other roles, tasks, and services that target safety conditions and development. Vehicle inspection, vehicle monitoring, etc. are examples of such activities where the context of the organisation, its commitment, its sphere of influence and possible action as well as the footprint they assign their activities to, should be described in detail.

EXAMPLES OF FOOTPRINT DATA THAT ARE RELEVANT FOR SOME DIFFERENT TYPES OF ORGANISATIONS

To demonstrate the wide variety of significant and relevant footprint data, the list below gives some indications to illustrate and stimulate the development of organisation-specific footprints. The list is not comprehensive or complete.

1- Product manufacturing and sales of non-safety-relevant products (Supply chain footprint)

This is the simplest example in terms of principles for inclusion, as it would only need to be including significant and relevant road transport activities generated within the supply chain. In and outbound road transport road crash data, data from employed traveling on the road for duty, etc. are some examples.

Categories to report: employed, contracted employed and third parties.

2- Product manufacturing and sales of safety-related products (Products/Services footprint)

In addition to the above example, the footprint of the products should be presented. This is to understand how the products/services protect road crash victims. The organisation would be expected to present data related to their sphere of influence and associated target set up for the number of killed and seriously injured as a result of the products/services used in the future. The calculation methods should be presented in detail. In case the

organisation chooses to estimate the number of saved lives (and serious injuries) over a certain time frame, the calculations should be explicit and possible to review.

3- Transport services including rental car services, shared mobility services, etc

The organisation would have to present data on customers and the third-party victims as a result of their transport service.

4- Finance and insurance

Finance and insurance corporations are expected to present the number of killed and seriously injured customers, and their sphere of influence. The organisation would define and estimate the numbers within this sphere for mirroring the safety target set up by the organisation. The calculations would have to be documented and presented.

An insurance or a financial organisation that invests its assets in financial instruments, that might have a direct or indirect influence on traffic safety, would be expected to present an estimate of the footprint for those investments.

5- Vehicle inspection

A vehicle inspection organisation would be expected to mirror its safety target by presenting an estimate of the numbers of killed and seriously injured customers and third parties as a result of vehicle defects. As this is a subset of all victims, the methods to estimate and calculate the numbers would have to be described in detail.

6- Driving schools etc

A driving school would have a certain sphere of influence vs the clients that undergo training and education. It is expected that the footprint among these would be presented.

7- Road administration/authority

A road administration has a footprint based on the network it controls. This would, under normal circumstances, be straightforward to collect and publish. A state administration is responsible for regulations/decisions related to the infrastructure network, vehicle standards or other similar legal frameworks. It could also report on its associated safety footprint. Safety at road workplaces, rescue, road enforcement, etc. are all components of relevance to a road administration/authority. An organisation that is involved in operations on or near roads and streets is expected to separately report on the footprint associated with these operations.

3. PLANNING



3.1 PLANNING

The role of planning is to describe in detail what the organisation intends to do in order to improve its road safety performance and resulting safety footprint within the organisation's entire value chain. The planning should also detail how and when actions will be taken. The actions should be in line with the organisation's commitments. It is a natural step in the Plan-Do- Check-Act sequence of management to continuously improve safety. The organisation's documentation is expected to be detailed and transparent enough for interested parties and the outside community to allow for external analysis of the plans, its actions and its likely outcome. The plans should give possibilities to estimate if and when the decided long and time set safety targets can be met.

Most organisations have a limited number of serious or fatal incidents per year (safety footprint). To manage planning and progress only through such incidents is not recommended. The information and knowledge generated from the limited number of cases would be slow and insecure and most certainly exposed to a random outcome, possibly misleading the ambitions to introduce effective actions. It has, therefore, become an accepted principle, that the managing progress of traffic safety is based on a number of factors related to the risk of a crash with a fatal or serious outcome. These performance factors (SPF) are the fundamental management tools in the ISO 39001 traffic safety management standard and the traffic safety activities in many jurisdictions. The approach to using SPFs is equally useful for small and large organisations. For small organisations, SPFs are even a prerequisite for focused activities.

As the FIA RS Index is aiming at improvements in the entire value chain of organisations, most of the potential activities and focus will be on the organisations' activities but also on the performance of contracted partners, both upstream and downstream. These contracted partners, including transports, are important parts of most organisations' spheres of influence. For organisations that produce products/services that are road- safety relevant, the products/services rating also includes the planning phase.

The planning would be expected to be based on the organisation's commitments and mirror the SPFs used in the commitment section of the FIA RS Index. To make significant progress, capacity, organisation and responsibility need to be clarified. Definitions need to be sharpened, actions need to be described and ways to monitor progress need to be developed. Together these demands will form the scoring of the planning section of the FIA RS Index.

3.2 SAFETY PERFORMANCE FACTORS

Key elements in the commitment section of the FIA RS Index are the safety performance factors (SPF). Therefore the SPFs become a focus also in the planning phase. The plans should cover relevant and significant parts of the entire value chain, including both the organisation's entire supply chain as well as its products/services if these influence

road safety.

For most organisations focusing on the four SPFs mentioned in the commitment section (speed, vehicle safety, driver fitness and use of personal protective gear) are relevant and sufficient. However, for some organisations, there is a need for complementary performance factors. Improvements of the four main SPFs are also relevant for contracted parties up-and down-stream.

For organisations with safety-related products/services, the relevant SPFs are expected to be detailed in how they will be influenced and how performance will progress over time.

For a vehicle manufacturer, plans to improve the safety performance should be presented for each market, along with the safety levels and standards that will be used for development and benchmarking. Innovation can be of significant importance for improvement. A vehicle manufacturer would also be expected to support the safe use of the vehicle. This could apply to the use of personal protection gear, safe speeds and alike.

A transport service provider would be expected to present plans to progress safety when replacing older vehicles and make sure that all vehicles are used in a safe way when transporting passengers or goods.

For an infrastructure provider, plans to improve the safety performance of the entire network including already existing roads and streets should be presented. There are also expectations that the infrastructure should support safe use. Plans for the development of this property are also essential.

For an organisation that is educating/training and supporting its customers and clients, it would be the client's essential SPFs that are expected to progress through planning and related activities.

SPF 1 - SPEED AND SPEEDING

Illegal speeding is unfortunately common practice in the road transport system. In modern traffic safety practice, the professional side of society is expected to contribute with conformity to rules and regulations. Internal management principles and practices must result in conformity with existing laws and regulations.

There are several effective ways to manage speed in an organisation's fleet of vehicles. In practice, some of them need to be combined to generate satisfactory speed compliance. If an organisation is successful in getting speeds down to legislated levels, the effects will be significant. It will lead to a better safety footprint and also reduce the carbon footprint, improve running costs, etc. Proper driving speed also helps other road users to keep within the rules, as well as improves the safety and security of other road users generally. It should be understood that some jurisdictions have speed limits higher than what "Safe System" approaches stipulate. In these places, a safety-focused organisation would have to define internal rules for setting travel speeds on lower levels than the regulated. Lower speeds should also be used when the traffic situation demands so.

The most obvious way to manage speed is to technically eliminate speeding. While this was complicated some years ago, it is now technically feasible and the technology is available on the market and across the globe. Real-time positioning (GPS) and digital maps have made this possible. Most new passenger cars today have a manual speed limiting function that can be set by the driver. Many cars would also have real-time map data and/or camera-based speed sign recognition.

As a consequence, combining speed information and a limiting function (voluntary or mandatory) can eliminate speeding as long as there is a speed limit set at the location of driving. Alongside factory-integrated vehicle systems, there are after-market systems to support and potentially record correct speeds.

In-vehicle information about the speed limit can be valuable in absence of technical limitations on speed. Informing the driver about the current speed limit would improve speed limit compliance, but the actual driving speeds would have to be thoroughly monitored to allow for quality control of speed. To what extent speed needs to be monitored would therefore be based on the solution for speed management. Speed management based on information needs more monitoring than speed management based on technology that makes speeding virtually impossible.

There do not seem to be any major differences across the world in terms of the possibility to make speed limits known by the vehicle. There would though be clear differences in how speed limits are set. This in itself is a problem that needs to be addressed by the organisation. On roads with inappropriate speed limits, "Safe System" speeds should be used.

The principles of a safe system would imply that maximum speed is a function of road/street infrastructure design and vehicle choice. The organisation might have to set its own speed limits if the speed limits set by the relevant authority do not reflect safe system principles. This could for instance mean that maximum speed would be set lower than posted speed limits in areas where cars/trucks and unprotected road users are mixed.

For roads without any speed limit, the organisation would have to set its own safe speed limits, based on "Safe System" principles and the CO₂ burden that high speeds result in.

SPF 2- VEHICLES

The safety performance of vehicles differs significantly both for passenger cars and for heavy-duty vehicles. This is an effect of differences in both regulations and best practices. It is of significant importance to operating in vehicles of the best performance. As vehicle safety is developing rapidly best performance is mainly correlated with the latest vehicle generations. The plans to improve the safety performance of the vehicle fleet of the organisation would be expected to be based on the best available information, detailed, time set and possible to evaluate. The plans for replacing the vehicle fleet should be divided into relevant vehicle categories and markets where the organisation operates.

Generally, it would be expected that the organisation has the same requirements across all markets. While the crash configuration panorama varies across the world and modes of transport, the basic safety requirements should cover all sorts of possible crashes and partners including vulnerable road users. As previously clarified, the vulnerable road users constitute a significant part of the safety footprint of most organisations.

Some organisations use vehicles with low safety performance. It would be expected that these organisations can describe why they use safety-sensitive types of vehicles. In particular powered two-wheelers (PTW, like motorcycles and alike) might pose a high risk to the driver and should therefore be used only if they can be used safely. Similarly, the use of large vehicles could be a risk for vulnerable road users in densely populated areas.

There would be several ways to set up the requirements for safe vehicles. To result in significantly improved safety performance, the requirements would be expected to mirror the highest level of safety in relevant and locally available safety standards and/or rating schemes. For passenger cars, there are several safety rating schemes globally that are similar in aspects like basic safety elements they cover and the performance required to generate a high scoring. However, the different systems might contain differences that are important to consider. Note though that the scoring overtime normally demands gradually better performance and covers more technologies. Therefore, the organisation would have to specify how it plans to gradually raise the bar for vehicle safety.

For trucks and buses, the situation is different, in that widely accepted and used safety ratings do not exist in the same way as for passenger cars.

While it can be foreseen that such rating schemes will be developed and eventually be used, the organisation would today have to set up its own safety requirements. This should be based on the best available information.

The safety regulation to be gradually and stepwise applied in the European Union starting in 2022 (General Safety Regulation (EU) 2019/2144) could be seen as a relevant minimum safety performance level. The EU standard is today probably the most stringent and demanding regulation in the world. While the EU safety standard, GSR, is only implemented in the EU, there is no obvious reason why the safety performance demands cannot be applied worldwide. In particular, for jurisdictions where there are no stringent safety regulations, the use of an accepted and existing standard could be valuable. The global market for trucks and buses is dominated by a handful of manufacturers that are well familiar with the European demands and hence should be able to supply a global market with products living up to these standards. In doing so, it seems important that manufacturers and importers of vehicles consider the price models for safety technology, as well as if safety-critical technology should be seen as a standard option.

The organisation's monitoring of its vehicle fleet's safety performance and forthcoming vehicle safety standards to be applied should be comprehensive enough to allow

for the analysis of the implementation of relevant safety technologies individually and combined. In particular safety technology and performance related to the protection of vulnerable road users should be detailed. The plans should also contain heavy vehicle best practices for general partner protection such as under-ride and energy dissipation structures.

For a vehicle or vehicle parts manufacturer, plans to improve the products and market safe products for all customers and their potential risk to other road users (partners), would be expected. In such plans, the manufacturer would be expected to present which standards/safety performance that forms the benchmark for the products. It would also be expected that the improvement plans would be presented for each market and/or segment as well as for both drivers, passengers and crash partners. Plans for protecting children, both as vehicle passengers as well as unprotected road users, should be presented separately.

SPF 3 FITNESS TO DRIVE

Drivers unfit for the driving task is a significant safety problem in the road transport system. They generate large numbers of crashes resulting in severe and fatal injuries. Even if society can do a lot to diminish this problem, mainly by police surveillance of the traffic, organisations can minimize unsafe driving both by sound safety management and by the implementation of modern technologies.

The term "fitness to drive" contains several aspects of the driver of a vehicle. It is both related to the competence as well as the physical and mental status in the driving situation. It also relates to the possible distraction and workload of the driver in any situation behind the wheel.

Regarding permission and competence to drive, the minimum is that the driver has training and a relevant license for the type of vehicle used. The organisation would also be expected to in a systematic way validate the desired level of training and control that licenses are valid.

The physical fitness to drive must, if relevant, be specified and controlled. In particular, when drivers get older, their physical status must be followed and there should be a program to support drivers to keep their physical status above a given threshold.

Driving fatigued is a complex issue and must be handled by the organisation. While legal requirements are valid in many jurisdictions, the organisation must have a plan wherever it operates to manage fatigue. Technologies to detect driver fatigue are available and are rapidly developing. These technologies may form a base for plans to tackle fatigue.

The use of alcohol and drugs must align with the policy of the organisation and there should be a specified regime to make sure that policies are followed at all times. There are several ways to put a regime in place, and it could either include controls or quality assurance or technology that do not allow driving under influence (alcohol starter interlocks and similar).

Distraction, in particular through the use of telecommunication, screens, etc, is a major problem for work-related transport. Drivers might have to communicate while driving and sometimes exchange data to perform the transport task. Policies, plans and guidelines should be developed and implemented. Technical systems, connectivity and support for the driver should be carefully chosen and used.

SPF 4 THE USE OF A PROTECTIVE GEAR

It might sound natural that the use of seat belts or helmets when relevant, are basic and do not demand plans and monitoring. It has been shown though, that this is not the case. The use of helmets might not consider the standard of the helmets, or might only apply to some of the vehicle types that fall under the necessity to use an appropriate helmet. On the other hand, while the use of seat belts is often mandatory by road rules, these rules do not apply everywhere and might be forgotten or even not used by purpose. Modern seat belt reminders have shown reductions in unbelted driving by around 90%. The organisation would be expedited to present a plan for the availability and use of protective gear. Protective gear would also apply to visibility. The use of special clothing or alike would have to be specified.

OTHER SAFETY PERFORMANCE FACTORS

For infrastructure providers, it would be expected that the organisation present plans to improve the road/street network, in terms related to the targets set up and commitments made. The plans would also be expected to include speed limit setting as well as maintenance of the road network.

For an organisation providing transport services, plans to improve the safety of these services might include other safety performance factors than those mentioned above.

For a provider of education/training and/or consulting, the relevant effects of activities/services would turn up at the client/customer and while the four mandatory SPFs might be relevant, there could also be other SPFs that would be relevant.

4. MONITORING



4.1 MONITORING OF SAFETY PERFORMANCE

Modern traffic safety is based on systematic work. Planning for improved traffic safety is an essential step, however, potential progress is only ensured by thorough monitoring. The role of monitoring is to present results and evaluate the progress of the safety management and actions within the organisation's entire value chain. The monitoring would both pick up the progress of the safety performance factors as well as the final outcome, i.e. the safety footprint expressed by the number of deaths and seriously injured.

Safety performance factors (SPF) are the keys to managing the safety progress in all organisations and the only instrument to detect any progress for organisations with a limited safety footprint. Changes in SPFs are closely linked to the organisation's activities and can rapidly indicate if these are relevant and efficient.

The SPFs could also be used to benchmark with other organisations, but the nominal figures would be hard to compare in most cases, as they are depending on the individual background of each organisation, its value chain and its sphere of influence.

It is up to the organisation to choose how the monitoring is designed and presented but in essence, it should mirror the definitions, targets and measurements of the policies, commitments and plans laid out. The valuation of the performance is concentrated on the progress of the safety performance factors. The same applies to both supply chain as well as for products/services that are safety-relevant.

It should be noted, that for many large organisations, a substantial part of the road transport included in the supply chain would be under contract with suppliers and/or transport service providers. While it seems natural that they by contract are required to follow the demands for safe transport, the road safety monitoring would also take place as a contracted safety activity. The safety-relevant elements of agreements and contracts in this matter should be made public to the community.

SPEED AND SPEEDING

The monitoring of speed and the results of the plans in relation to speed and speeding is quite straightforward. Undoubtedly, excessive speeds and speeding are more lethal than lower speed violations, but any deviation from the intended speed targets and the speed regime should be picked up in the presentation of speed management. Deviations as well as potential speeding fines should be seen as non-compliances and should be both monitored and published.

In case the organisation plan to use technology to monitor or eliminate speeding and non-compliant speed regimes, the level of penetration of such technology should be presented.

VEHICLES

The monitoring of the vehicle fleet used by the organisation needs to be updated frequently, given that most fleets are replaced frequently. This in turn gives the potential to renew the fleet with safer vehicles within a fairly short timeframe. At the same time, the technology content of the new vehicles changes frequently. Test criteria and valuation of safety performance, develop rapidly as well. Therefore, the requirements and monitoring of the vehicle fleet used in the organisation's value chain must be flexible and up to date. It is recommended that the organisation can present a plan for renewal where the progress can be seen both in the general renewal as well as in how inferior vehicles are phased out.

For a vehicle/vehicle parts manufacturer, the monitoring should address the development of safety performance for each market/segment, and in relation to the standards/performance criteria that the organisation has set up as a benchmark.

FITNESS TO DRIVE

The fitness to drive safety performance factor has several dimensions, and they need to be monitored as well. While some of them are clearly related to compliance with road rules, the frequency of non-compliance, including potential fines, should be presented by the organisation. Driving under the influence of drugs or alcohol as well as breaking the road rules concerning permitted driving hours should all be presented in non-compliance terms. If an organisation has chosen to go beyond regulation, and apply more demanding internal requirements concerning alcohol, drugs and fatigue, the results of this initiative should also be presented in non-compliance terms.

Minimizing distraction can be managed in several ways, and the organisation would have to present the results tailored to the methods used for reducing potential distraction when driving.

Modern vehicle technology offers a large potential for driver monitoring. It is expected that the organisation utilizes such opportunities.

In case the organisation plan to use technology to monitor drivers' fitness to drive the level of penetration of such technology should be presented.

THE USE OF THE PROTECTIVE GEAR

The use of seat belts, helmets and/or safety clothes would be quite simple to monitor and present. As it would be expected that the organisation has 100 % compliance with road rules and/or internal requirements, the presentation of lower compliance results should be given as non-compliance.

OTHER SAFETY PERFORMANCE FACTORS

For infrastructure providers, it would be expected that the progress of developing the infrastructure is presented, in terms related to standards used for commitments, targets and plans. The progress would be expected to cover both the inherent safety of the infrastructure, how the infrastructure

supports safe use, speed limits setting as well as maintenance programs. The maintenance should include at least road markings and the related possibility for a vehicle to read them at all times. The provision of digital speed limit maps should also be monitored.

For a transport service provider or for a provider of education, training and/or consultancy, the monitoring would be expected to include the outcome for relevant safety performance factors for the customers/clients and the potential third parties to these. A service provider of transport should follow at least the vehicle population used as well as improper speeding.

5. SAFETY CULTURE



5.1 SAFETY CULTURE

Safety culture is about aligning norms, demands and requirements with the actual behavior of the entire organisation and in its entire sphere of influence. It can be seen as a situation when the entire Plan-Do-Check-Act sequence is well functioning and generate a continuous improvement in safety performance. Good safety culture is built on the engagement of all employed and partners. Safety culture further relates to how well the organisation can adapt, correct and monitor progress as an integrated chain when real or possible non-compliances or non-conformities occur. The organisation should also be able to see and tackle changes in the society or within the organisation that might impact safety. Organisations should be able to generate innovation to manage developments when safety develops. In essence, the organisation should be able to demonstrate its resilience to both internal and external variations and developments of safety risks and challenges (Lie and Tingvall 2022).

In particular, the organisation is valued on its ability to detect, and correct non-compliance with its norms, management, standards and actions. Any fatality, serious injury or potentially serious incident should be considered a non-compliance and should be exposed to an investigation. Further, there should also be a plan to make sure that the event/serious consequence is not repeated. Each case should be available and published openly and actions described.

To get high ratings the organisation is expected to look at its entire value chain and sphere of influence.

The organisation would also be expected to show the impact of its innovations and new ways to improve and maintain safety. Innovations can be both procedural and organisational as well as technical.

In short, the organisation is expected to publicly demonstrate the entire Plan-Do-Check-Act in combination with non-compliance and incident reporting and also in-depth studies of relevant cases. This in turn means that the organisation not only can monitor its safety performance continuously but also detect incidents and serious crashes within its entire value chain, and turn the findings into preventative strategies and actions.

The entire safety management and its actions should be evidence-based and the evidence reported.

It would be expected that the organisation can demonstrate its ability to be certified according to ISO 39001 or alike.

The organisation is expected to publicly report on its traffic safety footprint and related traffic safety performance.

Finally, it would also be expected that the organisation can present how it contributes to road safety in the society, not only restricted through the safety management of its operation and within its entire value chain, but also to other organisations, nations and citizens. Sharing data

and experience, and conducting and/or funding scientific research are ways to support the community and other stakeholders. but there would also be other ways.

The valuation of safety culture would in essence be the same for all organisations, whether it is involved in the production/marketing of safety- relevant products/services or not.

6. THE OVERALL CONTENT OF THE FIA ROAD SAFETY INDEX



The FIA RS Index is a multiple rating system, where all organisations can value their generic supply chain, and those producing products/services that are road safety related can value those products and services in relation to the society and/or customers and clients. The FIA RS Index has a stepwise approach, inviting all organisations irrespective of their history, to value their status and progress, over time and in relation to standardized norms and practices.

In the first phase, the FIA RS Index values commitments, targets and policies. It also includes the organisation's ability to collect and present its safety footprint.

In the second phase, the organisation's plans and monitoring of safety performance are valued. In the third and final phase, the safety culture of the entire value chain is valued.

A high-rated valuation would build on the following cornerstones;

First of all, it is expected that the organisation has picked up the relevant parts of the United Nations' 2030 Agenda and subscribed to its content, including the resolution 74/299 from the United Nations General Assembly. This resolution first and foremost adopts the principles of traffic safety being a part of the 2030 Agenda. It also stresses the principle that road safety, climate, health and equity are mutually dependent and indivisible.

The starting point is the understanding of the organisation's sphere of influence and what is relevant, and significant regarding traffic safety and the associated footprint of the organisation's entire value chain. The main focus will address organisational steps, based on the management standard ISO 39001 to improve safety, not specific activities made by the organisation. The footprint consists of fatalities and serious injuries to employed, third parties and customers. The organisation can choose to only value parts of its supply or value chain, as long as it is clear to what extent the limitation is done. An organisation can even choose to present several valuations if there are differences in the safety management and/or actions across different parts of the supply or value chain. It is expected and valued that the entire value chain will be eventually covered and there should be a time plan for that.

Following this basic understanding, the organisation is expected to commit to eliminating its traffic safety footprint long-term through evidence-based systematic approaches. It is the role of the top management to express this long-term target, openly and to all relevant stakeholders. It is also the role of the top management to develop the supporting policies and follow rules and regulations in the road transport system. It would be expected that the policies apply consistently across the jurisdictions where the organisation is active, operate, and/or offer its products.

It is also the role of the organisation to remove conflicting practices and clearly state that human life and health in the road transport system always have priority over efficiency and economic interests. In case of

non-conformity of rules, policies and internal practices there must be clear statements of the consequences and resulting actions.

Policies must relate to at least speed, vehicle selection and use, driver fitness and the use of protective gear. It is expected that compliance with rules and standards in these areas does not accept any tolerances.

Commitments, targets and policies are expected to be transparent and available alongside the footprint.

In a second phase, the FIA RS Index also values the plans set up by the organisation. Plans that set out what the organisation will do to control speed, vehicle use, driver fitness and the use of safety equipment will be valued in relation to ambitions and methods to monitor progress. For organisations that produce products that are safety relevant, or provide services that are safety oriented, there are valuations for the plans to improve safety and equal rights to safety for its customers/clients.

Monitoring of safety performance will be valued in relation to how targets for safety performance factors are met. A systematic improvement will be valued higher than sudden or short-term results.

In a second phase, the FIA RS Index also values the plans set up by the organization. Plans that set out what the organization will do to control speed, vehicle use, driver fitness and the use of safety equipment will be valued in relation to ambitions and methods to monitor progress. For organizations that produce products that are safety relevant, or provide services that are safety oriented, there are valuations for the plans to improve safety and equal rights to safety for its customers/clients.

Monitoring of safety performance will be valued in relation to how targets for safety performance factors are met. A systematic improvement will be valued higher than sudden or short-term results.

In the third phase, the most advanced organisations can measure and value their safety culture. An organisation that can show how it applies a complete PDCA (plan-do-check-act) cycle, continuous improvement, societal engagement and develop innovations within its entire value chain will be valued highly. At least 80% of the entire value chain must be included in the safety management to allow for a valuation of the safety culture.

REFERENCES

- Austroads. Vehicles as a workplace. Work health and safety guide. National guide. Australia 2019.
- ETSC. PRAISE Project. <https://etsc.eu/projects/praise/>
- International Labour Organization (ILO), ILO Declaration on Fundamental Principles and Rights at Work, June 1988, available at: <https://www.refworld.org/docid/425bbdf72.html> [accessed 2 September 2021]
- ISO 39001:2012
- Road traffic safety (RTS) management systems — Requirements with guidance for use. Geneva 2012.
- ISO 45001:2018
- Occupational health and safety management systems — Requirements with guidance for use. Geneva 2018.
- Lie A., Tingvall C. (2022) ISO 39001 Road Traffic Safety Management System, Performance Recording, and Reporting. In: Edvardsson Björnberg K., Belin MÅ., Hansson S.O., Tingvall C. (eds) The Vision Zero Handbook. Springer, Cham. https://doi.org/10.1007/978-3-030-23176-7_26-1
- UN Guiding principles on business and human rights. Implementing the United Nations “Protect, respect and remedy” framework. Geneva and New York 2011.
- UN Global Compact, In Climate Policy, A Caring for Climate Report. Report 2015.
- UN. Convention on the rights of the child. New York 1989.
- ETSC. How to improve the safety of goods vehicles in the EU. PIN Flash Report 39. ETSC 2020.
- Eugensson A, Ivarsson J, Lie A, Tingvall C. Cars are driven on roads, joint visions and modern technologies stress the need for co-operation. In Proc ESV 2011 paper 11-0352. Washington DC.
- FIA (Federation Internationale de l’Automobile). FIA Road Safety Index. Feasibility study. FIA 2020.
- Gitelman, Victoria & Vis, Martijn & Weijermars, Wendy & Hakkert, Shalom. (2014). Development of Road Safety Performance Indicators for the European Countries. Advances in Social Sciences Research Journal. 1. 138-158. [10.14738/assrj.14.302](https://doi.org/10.14738/assrj.14.302).
- Global Reporting Initiative. <https://www.globalreporting.org> ILO (International Labour Organization) ILOStat 2020.
- ISO 39001:2012
- Road traffic safety (RTS) management systems — Requirements with guidance for use. Geneva 2012.
- Rizzi M, Hurtig P, Sternlund S, Lie A, Tingvall C. How Close To Zero Fatalities Can Volvo Cars Get By 2020? An Analysis Of Fatal Crashes With Modern Volvo Passenger Cars In Sweden. In Proc ESV Conference 2019.
- Swedish Transport Administration. Saving Lives Beyond 2020: The Next Steps - Recommendations of the Academic Expert Group for the Third Ministerial Conference on Global Road Safety 2020. Borlänge, Sweden, 2019.
- Third Global Ministerial Conference on Road Safety, 2020. Stockholm Declaration 2020.
- WHO. Global Status Report on Road Safety 2018. <https://www.cisl.cam.ac.uk/education/graduate-study/pgcerts/valuechain-defs>
- Ionel Zamfir, EPRS, 2020, Towards a mandatory EU system of due diligence for supply chains
- REGULATION (EU) 2019/2144 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 November 2019, (<https://eur-lex.europa.eu/eli/reg/2019/2144/oj>)

This Framework is developed by AFRY and sponsored by FIA Innovation fund. The AFRY team consists of:

- Claes Tingvall
- Björn Östlund
- Sanna Eveby
- Anders Lie
- Olle Arfors
- Golnaz Mirheidari
- Linnea Almroth
- Tora Högberg
- Anna Forsmark
- Johan Fridh
- Sara Lindstrand



Contact: roadsafetyindex@fia.com