White Paper
For
Safe Roads in 2050

Achieving Zero Work-Related Road Deaths

Contribution to the Action Plan for the Decade of Action for Road Safety

2011-2020

Road Safety Task Force

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Abstract

It is estimated that 75 million lives will be lost and 750 million people injured in road crashes in the first half of the 21st century.

The United Nations has urged countries to decrease road traffic deaths "through multi-sectorial collaboration…in both public and private sectors, with the involvement of civil society" (UN Resolution A/64/L.44/Rev.1). Among the casualty toll, work-related traffic accidents are not specifically addressed.

We believe that *collective mobilization of private companies* is the key to improving occupational road safety. We propose a *global road map* as a practical solution to the challenge of work-related road deaths.

Our goals are clearly defined:

- freeze number of work-related road deaths by 2020,
- reduce it by 50% by 2030,
- reduce it by more than 50% by 2040,
- achieve *zero work-related road deaths* by 2050.

This White Paper shows how these goals can be accomplished.

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Explanatory Note

*Some readers may prefer to read only the **Global Road Map** on pages 91-108, which is the core of the White Paper. It summarizes the Five Pillars (five areas of focus), proposes Levers, or actions, for improving occupational road safety and presents a clear Outlook for the decades 2020 up to 2050.*

*The **Executive Summary** is an overview of our Conclusions. The **Introduction** presents some key facts on road safety, explains the importance of private-sector mobilization and describes our methods.*

***Chapters 1 to 5** (pages 53 to 90) detail the Pillars, sum up the contributions made by our task force experts and indicate specific Targets to achieve success. Readers may prefer to peruse one or all of these chapters.*

Foreword

It is my great pleasure to present you with the following White Paper as our contribution to the Decade of Action 2011-2020 (proclaimed by the UN General Assembly) and beyond to the year 2050. This paper represents the efforts of a working task force formed for the first time on the occasion of the 10th Edition of the Challenge Bibendum, held in Rio de Janeiro in June 2010. Fourteen participants, all high-level experts with various backgrounds, met during a one day round table session.

In an effort to follow the global directions set by the UN General Assembly, we rise to the challenge of making a pivotal contribution to the Action Plan. We ask a simple but difficult question: **How do we achieve zero work-related road deaths by 2050**? As our answer, we propose a global road map. Looking ahead to the years 2020, 2030, 2040 and 2050, we identify precise goals and crucial actions for each decade in order to succeed.

Such an ambitious undertaking has never been achieved. Thus we believe that this work deserves to be publicized and disseminated, debated and acted upon. The White Paper is the result of a collaborative effort of contributions made by the members of our task force in the form of a round table discussion and formal presentation at the Rio Challenge Bibendum Forum.

We hope that this document will spur effective action and guide all stakeholders involved in tackling the long-standing problem of occupational road deaths.

I take this opportunity to acknowledge the hard-working participants of the task force, the members of the Forum's "working group of experts," our colleagues. I commend their dedication and commitment.

Paris, France
July 2010

Patrick Lepercq
Corporate Vice-President Public Affairs, Michelin

Acknowledgements

We express our gratitude to, and appreciation for, the following experts, whose support, efforts and commitment have made this White Paper a reality.

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Executive Summary

Background

Taking note of the alarming global situation, UN General Assembly Resolution A/64/L.44/Rev.1 proclaimed a "**Decade of Action for Road Safety 2011-2020**." It was co-sponsored by a record 100 countries on March 2, 2010. The proclamation followed the First Global Ministerial Conference on Road Safety—more commonly known as the Moscow Conference—hosted by the Government of the Russian Federation in November 2009.

The Decade of Action seeks to save lives by reversing the growing trend in road traffic deaths and injuries worldwide. This reversal could prevent more than 5 million deaths and 50 million injuries as well as save US$3 trillion.

Setting global targets to tackle the earth's road-safety crisis, the resolution proposes action in five areas of concern, summed up as the "**five pillars**," namely: road-safety management, safer roads and safer road transportation systems, safer vehicles, safer road users and improved post-crash care, all of which would be underpinned by international cooperation.

Conclusion: By investing in road safety improvements, society can save up to 1.3 million lives and US$500 billion annually.

Road safety is a global crisis

According to the World Health Organization (WHO), **1.3 million** people die in road traffic crashes every year, and up to 50 million suffer injuries. Today, over 90% of road traffic deaths occur in **middle- or low-income countries**, which have only 48% of the world's registered vehicles[1].

Without action now to stem the tide of collisions, the WHO predicts that they will become the **fifth leading cause of death** by the year 2030. The social, economic and financial costs are enormous; road safety deaths constitute a burden for governments, private companies and society as a whole.

The **economic price tag** alone for traffic accidents is estimated by the WHO to be some US$500 billion per year globally, and some US$465 billion annually in middle- and low-income countries.

Conclusion: International coordination is the key to decreasing road deaths.

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[1] This term refers to all commonly used vehicles unless it is not relevant in context or if it is otherwise specified.

Road crashes are predictable and thus preventable[2]

Yet, according to WHO, only 15% of countries around the world have comprehensive **legislation** addressing the major factors of risk such as speeding, lack of seat belt and helmet use, and alcohol consumption.

Moreover only one third of countries around the world have the **institutional structures** for developing a coherent and funded strategy. Road safety is an intricate issue and as such, cannot be properly addressed solely by a single body or country. International coordination is the only course of action for success in decreasing road deaths.

Work-related traffic composes a significant portion of total vehicular traffic. Businesses that pay attention to the quality of road safety in their operations get better results than those that do not. However, an effective, systematic method with which organizations can address road safety is currently lacking.

Conclusion: Promoting road safety is sound business practice for private companies.

Work-Related Deaths and the Private Sector

Nearly **one-third of road deaths** occur while engaged in activity for work and are thus referred to as "work-related road traffic deaths." This figure could be much

[2] Dr. Wahid Al Kharusi, Challenge Bibendum Rio 2010.

higher if accidents while commuting to and from work were included. Among the casualty toll, victims are not often classified as work-related, and work-related traffic crashes are not addressed as a separate issue.

The private sector as a whole—not merely the automotive and transport sectors—has a specific responsibility to prevent work-related road deaths. Private companies can, and should, implement road safety practices **in advance of legislation**; such pro-active companies deserve to be recognized when they do so.

The private sector can, and should, demonstrate its willingness to achieve the goal of zero road deaths both in business operations and in employee commutes, especially by collaborating with the public sector and by providing funds and expertise. The accomplishment of this goal would improve business performance by reducing the **financial cost** of road crashes, including missed employee work days, and at the same time, would decrease fuel costs and emissions. Promoting road safety can be a positive business case for private companies and certainly a major tool for reversing work-related deaths.

Task Force—A Vision for 2050

On the occasion of Challenge Bibendum Rio 2010, our group of renowned international experts met to discuss the problem of work-related road deaths. The preparatory work was done during the workshop, and the conclusions reached were presented at the Forum.

Our stated goal is to reduce work-related road deaths to zero by 2050. Looking ahead to 2020, 2030, 2040 and 2050, **we identified the key "levers" for each decade and related targets to stabilize the number of work-related road deaths by 2020, reduce it by 50% by 2030, decrease it a further 50% by 2040 and to eventually reach zero deaths by 2050.** Throughout this paper we have used the word "lever" to indicate a specific action needed to achieve a goal, a compelling force or change-agent.

We firmly believe that these targets are achievable, provided concrete, comprehensive actions are implemented and private and public support is secured.

A Global Road Map

Making the draft plan for the Decade of Action our own, we propose a detailed **road map** as the private sector's contribution to the international community's efforts to tackle the road safety crisis. This road map outlines the objectives, actions and indicators of past achievement for each of the five pillars. For each decade from 2020 to 2050, we present the accomplishments at the end of the respective time period; looking back, we identify the key levers that achieved this progress. By using present tense, we adopted an innovative narrative perspective, and showed that our recommendations are realistic and achievable.

Foundational Basis: International Coordination

Increased funding is essential to implement the Decade of Action over the long term. The United Nations General Assembly (UNGA), with the support of relevant international organizations, encourages **funding** from the public and private sectors while an *ad hoc* group is created to raise funds from countries and private donors, especially philanthropists and associated charitable foundations. Expanding the number of private companies dedicated to road safety improvement is vital to the success of the private sector's contribution. Already a large number of **private organizations** are working on the improvement of road safety. These organizations comprise groups of private firms working in collaboration, such as NETS (Network of Employers for Traffic Safety), whose members are companies dedicated to preventing traffic crashes on and off the job. Promoting the development of international groups to deal with road safety improvement is one way to increase coordination and cooperation among private companies.

To raise general awareness and spur political action, companies are actively engaged in advocacy and communication activities. Private companies' **political influence** is commensurate with their financial standing in the national economy. Companies can, and should, use this influence to demonstrate leadership in the area of road safety as they do in technology and other areas. They are a driving force in influencing **policymakers** to take decisive actions to improve road safety.

Private road safety groups are formed to align companies' initiatives and to increase the impact of the implementation of those initiatives. To insure efforts are pursued over the long term, **monitoring and evaluation** are essential. Today a glaring lack of reliable data on the subject presents a serious impediment to tackling the road safety crisis. The development of fleet safety metrics and best-practices manuals can be an asset when dealing with occupational road safety on a large scale.

Targets: From 2020 and beyond, the global amount of funds dedicated to road safety in general, and to work-related road deaths in particular, is increasing. By 2050 the level of funding spent by private companies reaches US$1.5 billion. Injury and death on the road are viewed as unacceptable by the large majority of society. By 2020, some 200 large companies support the implementation of the Decade of Action and are aligned with the United Nations' Road Safety Collaboration (UNRSC) recommendations on the Decade. All Fortune 500 companies are aligned with UNRSC by 2050.

Pillar 1 – Road Safety Management

The improvement of road safety requires the creation of a comprehensive **strategy** managed at a high level. Within private companies, top-management executives take the lead and show the way to insure that every employee is accountable for reducing work-related road deaths and injuries. Within companies, **safety champions** are appointed to coordinate efforts and involve all

employees. Fleet managers adhere to a common code of conduct that is then extended to all companies. A coherent strategy encompassing **precise indicators** on funding, goals, standards and data collection is drafted with the support of private companies. The implementation of the **new ISO 39001 Standard** on "Road Traffic Safety (RTS) Management Systems – Requirements with Guidance for Use" by all companies is a concrete first step in promoting a uniform approach to maximize impact. Governments and public bodies make adherence to international standards of road safety a legal requirement for all public contractors.

Targets: By 2020, processes are in place to insure that the initiatives and commitments made as a result of the Decade of Action are maintained and continued well beyond 2020. Some 100,000 companies implement ISO 39001. By 2020, 100,000 companies are certified; by 2050, certification is extended to all companies. Road safety champions are appointed in 200 large companies to insure implementation of the recommendations and objectives of the Decade; by 2050 this newly created position exists in all Fortune 500 companies. In addition, fleet safety management systems are put in place in 100,000 organizations by 2020 and extended to all companies by 2050.

Pillar 2 – Safer Roads and Safer Road Transportation Systems

Road infrastructure and road equipment that are well maintained are tools for improving road safety—provided

they are built, maintained and improved with safety in mind. Private companies lobby for, finance and encourage improvements to existing networks as well as future road infrastructure projects. In addition, companies promote **trip planning**, and encourage their employees to use sustainable urban transportation and modal shift whenever possible. They also provide private funding to improve **public transportation** systems that benefit the whole community.

Targets: By 2020 donors make safety a condition for investing in road infrastructure projects. By 2050 integrated urban transportation systems are available for everyone. At this time safety is the key ingredient in all road design and network management.

Pillar 3 – Safer Vehicles

All vehicle manufacturers adhere to a common set of minimum standards and are actively developing new technologies. Accordingly, safety equipment is available in every **new vehicle**. Thanks to lobbying by private companies, issues of minimum safety requirements with regard to the importation of **second-hand vehicles** are settled. Moreover, common assessment programs are developed, giving consumers and fleet managers the best information about vehicle safety. Fleet safety operators set an example by recognizing safety as the first criteria of choice when purchasing new vehicles.

Targets: All manufacturers apply harmonized global safety standards by 2020. By 2050 all state-of-the-art equipment and crash-avoidance systems are compulsory in every country and in every new vehicle; vehicles that do not meet the standards are phased out or banned from public roads.

Pillar 4 – Safer Road Users

In addition to the implementation of international agreements, all countries enact **national laws** or standards addressing the major risk factors, especially those factors identified by the World Health Organization (WHO).

As key players, companies are actively involved in the process. They set internal policy and standards, and draft **best-practices manuals** that can be used as a basis for action. The manuals provide clear directions for avoiding the risks of speeding, lack of seat belt and helmet use, driving under the influence of alcohol and drugs, distractions, and fatigue. They also establish internal **sanction programs** based on a system of bonus malus[3] to enforce their policy of zero tolerance. To promote safe driving skills and encourage responsible behavior, employers establish and maintain compulsory training programs for all employees.

[3] In this paper, the term "bonus-malus system" is a merit-rating system in which employees who adopt a safer way of driving are awarded.

Targets: By 2020 more than 100,000 companies have set and implemented safety standards that target major risks. At the end of the target period (2050), all companies are compliant with legal requirements and have implemented their own standards and policies to address the major risk factors.

Pillar 5 – Improved Post-Crash Care

Since lack of funding for pre-hospital care has been identified as a problem, companies invest in health facilities in countries that do not have sufficient capacity or resources to do so. To address the collateral effects of work-related accidents, a **road insurance plan** is created to encompass hospital care, rehabilitation and reintegration services; the plan is offered to disabled employees to assist them before and after resumption of work. Additionally, reporting and follow-up procedures based on benchmarks and metrics are essential in identifying shortcomings and opportunities for improvement.

Targets: By 2020 the post-crash fatality rate has decreased by 50% from 2011. Half of disabled workers are reintegrated into the workplace by 2020; at the end of the target period, three-quarters of disabled workers resume work. By 2050 pre-hospital care systems are functioning well and hospital care systems are equipped to treat seriously injured people in middle- and low-income countries, thanks to private international donors.

Figure 1: Past Actions and Targets for the Private Sector as a Contribution to the Decade of Action (2011-2020) and beyond (2020-2050)

	Actions	Target
International Coordination	Funding for international coordination.	Road safety champions in 200 large companies by 2020 and in all Fortune 500 firms by 2050.
Pillar 1: Road Safety Management	Implementation of a common "code of conduct" for all companies.	Fleet-safety management systems and ISO 39001 certification in 100,000 companies by 2020 and in all by 2050.
Pillar 2: Safer Roads and Safer Road Transportation Systems	Trip planning, including sustainable transportation options.	Safety is upheld as the key ingredient in all road design and network management.
Pillar 3: Safer Vehicles	Adherence to harmonized vehicle standards.	All vehicle manufacturers apply harmonized global safety standards by 2020.
Pillar 4: Safer Road Users	Work force abides by laws set and enforced in countries and by standards and procedures implemented in their organizations.	100,000 companies compliant with ISO 39001 certification by 2020 and all by 2050.

Pillar 5: Improved Post-Crash Care	Monitoring and evaluation. Organizations have implemented systematic approaches to post-crash care and rehabilitation.	By 2020 the post-crash fatality rate decreases by 50% from 2011.

Introduction

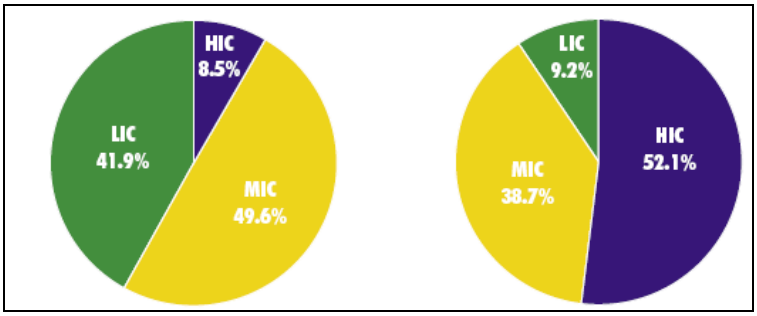
Road Safety: A Global Crisis

More than 1.3 million people die each year on our roads, and nearly 50 million people suffer injuries or disabilities caused by vehicular collisions. If nothing is done to reverse these figures, which are increasing, by 2030, road death fatalities will become the fifth cause of death in the world. Road traffic accidents are already the leading cause of death among young people.

Today, although they have only 48% of the world's registered vehicles, middle- and low-income countries sustain more than 90% of road traffic deaths. In high-income countries, the number of road traffic crashes decreases but remains an important cause of death, injury and disability. Nearly half of road traffic victims are "vulnerable users of the road" (pedestrians, cyclists, motorized two-wheel users); the proportion increases in low-income countries.

Road crashes are a financial burden, costing up to 5% of national Gross Domestic Product (GDP), or US$500 billion annually—the same as the GDP of Switzerland.

Figure 2: Road Traffic Deaths vs. Registered Vehicles



HIC: High Income Countries; MIC: Middle Income Countries; LIC: Low Income Countries. Source: World Health Organization.

Solutions are Available

Road crashes are predictable and therefore preventable. Simple actions can be taken to decrease dramatically the casualty toll. In most countries, enacting and enforcing appropriate regulations focused on the five key risk factors identified by WHO would decrease significantly the number of deaths. Currently, only 15% of countries have laws concerning drunk driving, excessive speed, lack of helmet and seat belt use, and lack of child restraints.

Addressing road safety in a comprehensive manner requires the involvement of multiple sectors and players; yet only one-third of countries have institutional structures for developing a coherent and funded strategy. Thus, international cooperation and funding commensurate with the issue are required; acting to change behavior and

providing guidance based upon best practices are also key actions that can improve the situation.

Some business organizations already have road safety quality standards and targets that go well beyond national legislation; some firms are close to, or actually achieving, zero deaths and injuries in their operations. Businesses can set their own standards and targets to exceed legal requirements, and therefore take the lead in improving road safety.

Acting Now

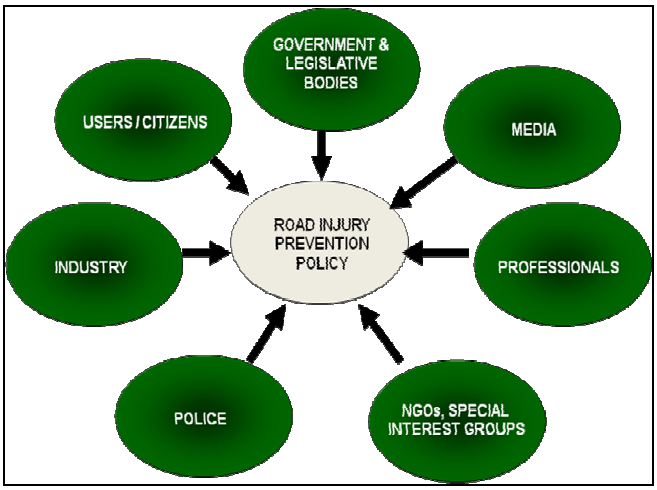
Governments, police, professionals, media, road users, NGOs, industry and the private sector have a shared responsibility for improving road safety, and should make concerted efforts to tackle the road safety crisis. Human, social and financial costs motivate us to act. The suffering of our fellow human beings around the world is a call for action now. Advocacy and awareness require not only a global strategy but sufficient funding, not only a platform but a framework with mechanisms for follow-up and evaluation.

First Ministerial Conference on Road Safety, Moscow, 2009

The United Nations mandated the first Ministerial Conference on Road Safety, held in Moscow on November 19, 2009, and run by WHO and the Government of the Russian Federation. Political

authorities from all countries were invited to send their representatives to discuss road safety and above all, to come up with **solutions** for reducing the number of deaths on the roads. For the first time, world leaders faced their responsibilities concerning road safety.

Figure 3: From Moscow to New York: First Ministerial Conference to the United Nations General Assembly



Source: World Health Organization.

This conference was an unprecedented opportunity to emphasize the emergency of the situation and make strides toward improving road safety. The Ministerial Conference was concluded by the proclamation of a bold declaration, "A Decade of Action for Road Safety," encompassing

recommendations of action for the years 2011 to 2020. The Conference supported the implementation of the WHO's recommendations, notably by emphasizing governmental leadership and guidance on road safety. The crucial role of **multi-sector partnerships** in achieving high-quality road safety results was recognized. The Moscow declaration stressed the importance of setting ambitious but achievable targets and forging an overall safe-systems approach. The participants called on stakeholders to invest in infrastructure, with a view toward protecting the most vulnerable road users. The potential role of organizations in addressing work-related road safety was also recognized.

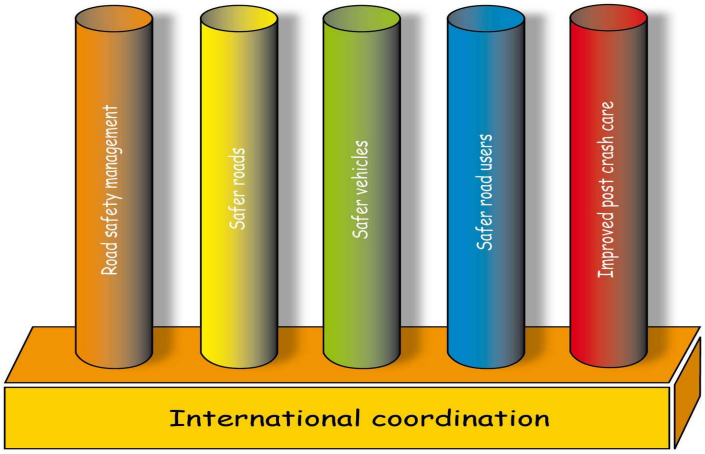
Underlying the necessity of improving data collection is the strengthening of trauma care systems, which the conference participants also favored. Encouraging the implantation of safer forms of transportation, and the harmonization of road safety and vehicle safety regulations, the participants reaffirmed that collaborative action among the public and private sectors, and society in general, was the most effective way to combat the road safety crisis. They invited organizations to contribute actively to improving work-related road safety through the implementation of best practices in fleet management.

The UN Resolution and the Decade of Action, 2010

Following the Moscow Conference, the United Nations General Assembly in New York voted unanimously on March 2, 2010, to support the Decade of

Action. The resolution was introduced by Russia and co-sponsored by 100 countries.

Figure 4: Pillars of the Decade



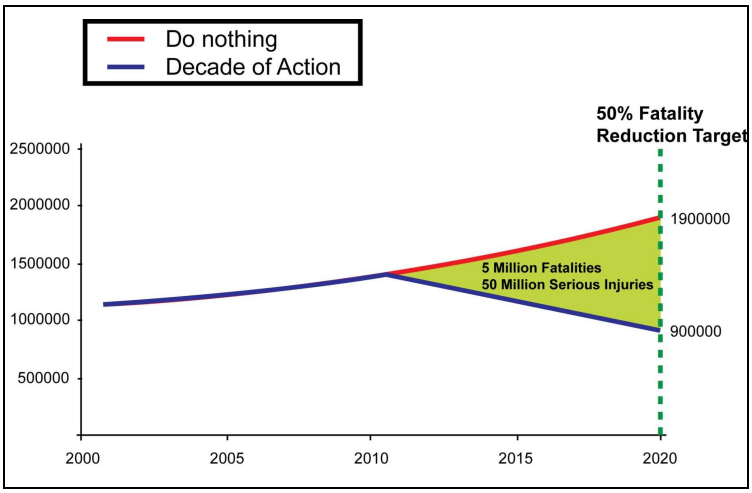
Source: World Health Organization.

The overall goal of the Decade is to halt current global road traffic fatalities and then reverse their increasing number. This goal, if implemented, could save 5 million lives, prevent 50 million injuries, and save US$3 trillion. The goal could be achieved by setting ambitious targets for road fatality reduction and strengthening the safety of the world's road architecture. Providing global directions to tackle the universal road safety crisis, the Decade's Action Plan proposes action in the following "five pillars":

- Pillar 1: Road Safety Management
- Pillar 2: Safer Roads and Safer Road Transportation Systems
- Pillar 3: Safer Vehicles
- Pillar 4: Safer Road Users
- Pillar 5: Improved Post-Crash Care

In order to achieve its objectives, the United Nations General Assembly (UNGA) underlined the importance of **international collaboration** and funding. The UN Resolution insisted that the overall **level of funding** should be increased and that technical and human capacity be developed.

Figure 5: Global Road Deaths Reduction Target



Source: FIA Foundation.

The plan not only states objectives and targets, but also recommends actions designed to achieve the specific targets and stipulates funding commensurate with these actions. Under the auspices of WHO, in collaboration with governmental and agency representatives, the Action Plan will become a road map of the Decade of Action for Road Safety.

Business and Road Safety

Business brings mobility forward but also needs mobility to function[4]. Therefore, companies' contribution to road safety is essential. In several sectors, employees' work requires driving, and some companies maintain, directly or indirectly, large fleets of vehicles. Additionally, most employees drive from home to work and back. Accordingly, all companies and employers—not only the automotive and transport sectors—have a responsibility to improving road safety. The private sector should demonstrate its willingness to achieve zero deaths both in its business operations and employee commutes by collaborating with the public sector and providing funds.

Global companies with powerful resources can take action in middle- and low-income countries where the capacity of the public sector is not always sufficient. By implementing road safety measures, companies can

[4] Michel Rollier, Michelin CEO, Moscow Conference, November 20, 2009.

contribute to the protection of their own employees on the roads. By doing so, they improve their business performance by reducing the financial costs associated with road accidents. Furthermore, a proactive approach can help organizations stay ahead of regulations, and thus gain a competitive advantage over less proactive companies. Consequently, the promotion of road safety is a positive business case for private companies.

Work-Related Road Safety

Background

Today it is estimated that work-related accidents constitute nearly a third of the road casualty toll; this percentage may even rise to 50%, if commuting is taken into account. Depending on the region, traffic victims represent from 30% to 50% of workplace fatalities. Work-required driving is widespread practice, encompassing various forms of driving, including professional transport, driving during work hours (for example, truck, bus and van drivers as well as sales people), workers on the road (for instance road maintenance crews) and commuting to work. In general, less attention is paid to this latter aspect, whereas all companies are confronted with the issue. In middle- and low-income countries where proportionally more trips are work-related, there seems to be less regulation.

Addressing Work-Related Road Safety

Although it has a major impact on road safety as a whole, the issue of work-related road safety has not been addressed sufficiently. Voluntary initiatives are numerous, and they have taken many forms such as the drafting of a code of conduct, internal standards, policies and processes, and recommended guidance. However, employer-designed policies tend to focus solely on managing **single issues**, thus missing the complexity of the subject and failing to provide effective solutions for it.

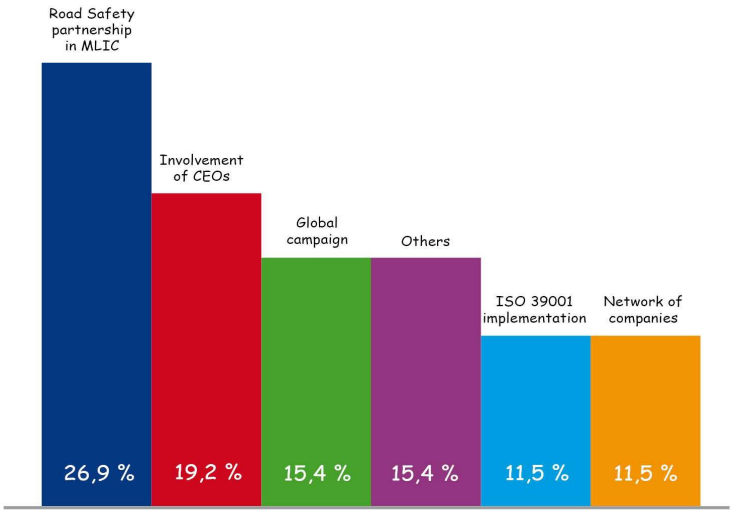
Examples of a **comprehensive approach** to management systems can be found in the oil and gas industry and in cement and logistic companies *(see Addendum below)*; this approach includes drivers, vehicles and road-trip data. However, medium and smaller companies (SMEs) do not have the skills and resources to properly address the road safety challenge. An overall **multi-disciplinary approach** is what is needed, and this approach is what we are trying to take in the following pages.

Making a Commitment

During the Challenge Bibendum Rio Forum, participants were invited to take part in a vote to express their views on road safety. First, they were asked what action would be most effective in stabilizing and then reducing the global number of road deaths by 2020. According to 26.9% of the voters, building road safety

programs in middle- and low-income countries through partnerships is the most effective way to improve road safety. Some 19.2% considered public and private CEO promotion of a safe driving code of conduct among employees would be the most effective. Others supported creation of a global campaign to publicize Decade of Action worldwide (15.4% of voters), development of a network of companies to share best practices and business cases (11.5%), and implementation of the coming ISO 39001 road safety management standard (11.5%). An additional 15.4% of voters favored other actions.

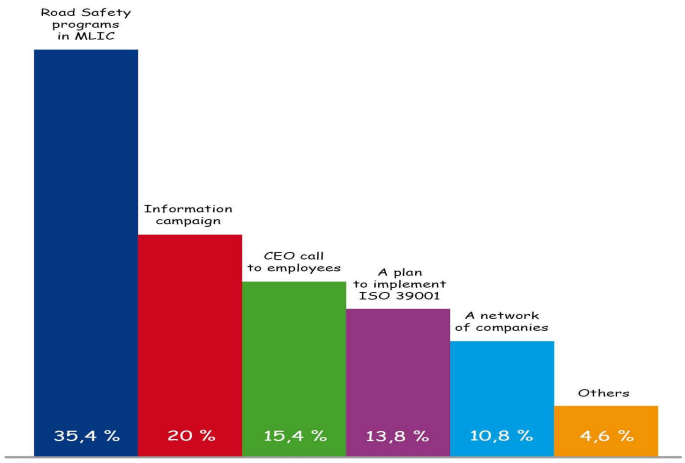
Figure 6: Most Effective Action to Stabilize and Reduce Global Road Deaths by 2020



Source: Challenge Bibendum Rio 2010.

Participants were then invited to state what actions would prompt their organization to contribute to the Decade of Action for Road Safety. The majority of the voters mentioned participation in partnership programs to increase road safety expertise in middle- and low-income countries (35.4%). Moreover, 20% of voters acknowledged that they would support a campaign to make the Decade of Action known. Others said they would encourage CEOs to call on all employees to adopt a safe driving code of conduct (15.4%), implement ISO 39001 (13.8%) and support the creation of a network of companies to share best practices and business cases (10.8%). Another 4.6% of voters supported other actions.

Figure 7: Actions that Prompt Organizations to Contribute to the Decade of Action for Road Safety



Source: Challenge Bibendum Rio 2010.

Road Safety in Middle- and Low-income Countries

In middle- and low-income countries, the type of traffic, use of roads, driver behavior and cultural background differ significantly from those observed in high-income countries. Noticeable divergences are evident in institutional structures as well as organizational and funding capacities. For instance, Vietnam's rapid motorization has resulted in increased use of small, cheap motorcycles. Most drivers and passengers do not wear helmets; consequently head traumas have skyrocketed in Vietnam. To counter this trend, specific remedies are needed as well as appropriate technological response. For example, helmet use in South Asia can be encouraged by the availability of lightweight, inexpensive helmets that take into account the climate and the limited financial means of road users.

A Step Forward: Road Map to 2050

Our objective is to achieve zero work-related deaths in 2050. Gathering together high-level political leaders, company managers, renowned experts and academics, and members of NGOs, Challenge Bibendum Rio 2010 was the ideal venue for addressing work-related road safety risks. During the Challenge, various events dedicated to road safety took place. Principal among them was the work done by the task force, which focused on tackling work-related road deaths and which was presented to the Rio Challenge Bibendum Forum. Our ambition is to attain

zero work-related deaths in 2050. This goal is not a utopian vision, but a realistic attempt to find practical solutions to an unacceptable situation. We firmly believe that this target is within our reach, provided that comprehensive efforts are undertaken and the support of private and public organizations secured.

Our method is a global road map for the Decade of Action (2011-2020) and beyond, from 2020 to 2050. Endorsing this vision and making the draft plan established by the Decade of Action our own; we propose a global road map as a practical and comprehensive solution to the challenge of occupational road safety. We considered not only the coming period of the Decade of Action, but also the decades following, from 2020 to 2050 when we defined our ambition to achieve zero-work related deaths by 2050.

Working collectively, we try to offer answers to the following questions:

- What are the specific components of work-related road traffic fatalities, their context, causes and consequences?
- What should the road map include, decade by decade, to stabilize the number of work-related road traffic fatalities by 2020 and to achieve zero work-related road traffic fatalities by 2050?
- What are the key road safety levers the public and the private sector can contribute to each of the 5 pillars of the Action Plan?

We look to the coming decades of 2020 to 2050 to identify key “levers” or actions, but also set targets for each decade. Using the present tense in the following text, we adopt an innovative narrative viewpoint to demonstrate that these targets are realistic and achievable.

Please follow along with us as we clear a well-marked path to reach our destination of improved road safety.

Foundational Basis – International Coordination

Status and Key Issues

Coordination is required to mobilize resources, especially financing and good will. Global actions are needed to implement, monitor and evaluate the results of the Decade of Action. The Decade already provides a framework with which to gather resources and bring key players together. But it cannot be successful unless sufficient **funding** is available and **advocacy** takes place on a large-scale basis and at a high level.

To improve road safety, countries and companies need guidance for strengthening road safety management systems in concert with local conditions and resources. They also require a well-established and well-documented data base to assess the effectiveness of measures taken.

0.1. Global Funding

Key Levers and Actions

Increased investment is required to implement the Decade of Action over the long term. The United Nations General Assembly (UNGA), with the support of the United Nations Road Safety Collaboration (UNRSC), makes resolutions to encourage international funding. All

players, public and private, contribute to sponsor large-scale road safety projects directly, or through international organizations like the World Bank.

In addition, countries around the world allocate 10% of road infrastructure investment to road safety improvement. As private companies and members of private organizations like GRSI and NETS do the same, the overall level of funding is significantly increased.

From 2020 to 2050: Main Points and Indicators

Thanks to the joint efforts of international organizations and high-income countries, US$2 billion is collected to fund the activities of the Decade of Action by 2020. US$500 million is spent by private companies to improve their own road safety performance. One-tenth of national infrastructure investment is now dedicated to road safety improvement. By 2020 some 20 societal organizations are working on road safety issues.

By the year 2030 and beyond, funding is sufficient in high-income countries. Accordingly, efforts are focused on addressing funding needs in middle- and low-income countries, where development banks and international organizations support investment. Around the world, countries dedicate 15% of their infrastructure budget to road safety improvement. Private companies are actively engaged in sponsorship activities, spending US$700 million to improve road safety. The number of societal organizations dedicated to road safety issues has doubled compared to the previous decade.

By 2040, even though the level of funding is sufficient in high- and middle-income countries, investment is still lacking in low-income countries. US$1 billion is provided by private companies. Approximately 15% of national infrastructure investment is dedicated to the improvement of road safety.
A decade later, funding is sufficient around the world. Private companies spend $US1.5 billion to improve road safety. At least two societal organizations per country work on road safety improvement.

0.2. High-Level Advocacy

Key Levers and Actions

Additional advocacy is necessary to decrease the number of traffic collisions. Advocacy is a dynamic process that consists of arguing, influencing, informing and assisting policymakers with political decisions. The aim of advocacy is to raise **general awareness** about road safety and to gain widespread support. It is essential to insure a bond among all stakeholders working on road safety improvement such as public bodies, NGOs and the private sector, and to align their actions and maximize the impact of their actions.

Everyone has a role to play in improving road safety in general and work-related safety in particular. Guided by UNGA resolutions and backed by the lobbying efforts of UNRSC, shared approaches are built. Stakeholders are invited to join the “Make Roads Safe Campaign” and

high-profile meetings are held. Top managers are actively engaged in road safety improvement; high-level executives are involved in the Clinton Global Initiative. Road safety improvement is incorporated into private companies' communication plans. Branding goes hand in hand with commitment.

From 2020 to 2050: Main Points and Indicators

The Second Ministerial Conference on Road Safety held in 2015 has given a new impetus to general mobilization. By 2020 road safety is considered a priority in high-income countries and addressed at senior institutional levels; heads of governments and high-level executives are personally involved.

The number of private companies involved continues to grow; they constitute a powerful collective voice on behalf of road safety improvement. Thanks to the regular reports of the United Nations Secretary General, commitments are renewed and further actions are implemented. By now, 200 large companies are aligned with UNRSC recommendations, while 15 middle- and low-income countries champion road safety.

Over the years, road safety is regarded as a priority in middle-income countries. By 2050 all the largest companies, the Fortune 500, work in partnership with the UNRSC on preventing road deaths.

0.3. Awareness of Risks

Key Levers and Actions

In response to the road safety crisis, International Standard ISO 39001 has been drafted to identify the major risk factors and offers guidance for promoting road safety. The major factors linked to work-related road deaths are known, but their relative importance is not fully understood. Private companies have a role to play in implementing ISO 39001 and determining risks. Private companies are also involved in organizing major road safety events such as Global Safety Week in 2011, 2015 and 2018, designed to capture public awareness.

From 2020 to 2050: Main Points and Indicators

By 2020, Road Safety Weeks have been successfully organized as routine events by private companies. Coordinated globally around the world, these events symbolize the private sector's commitment to road safety. In high-income countries, risk factor identification is viewed as an integral part of work-related transport management. However, data sets are not uniformly available to analyze relative risks. Therefore, a special effort is made in the following years to identify and address risk exposure. By 2030 awareness campaigns are launched in middle- and low-income countries. By 2040 major risk factors are broadly known, but awareness campaigns are still necessary in low-income countries.

A decade later, major risk factors are well known on a worldwide basis.

0.4. Guidance for States and Companies

Key Levers and Actions

Guidance insures that all organizations, both public and private, undertake coordinated, efficient actions. The exchange of best practices among high-income countries and from high- to middle- and low-income countries is one way to proceed, provided that the local context is taken into account.

On a regional level, useful models are already in place in Europe where the European Transport Safety Council (ETSC) issues recommendations for countries and guidance for private companies through the project called Preventing Road Accidents and Injuries for the Safety of Employees (PRAISE). A Road Safety Charter exists in the European Union; however its limited scope makes it more of an incentive to make a commitment than guidance.

At the national level, organizations are active in providing research material and useful information, like BRAKE in the United Kingdom or the Transport Research Laboratory (TRL). In addition, the implementation of ISO 39001 is an appropriate way to provide companies with relevant information and guidance.

From 2020 to 2050: Main Points and Indicators

By 2020, guidance and a platform on work-related road safety are in place in high-income countries. For instance, in the United States, the National Institute for Occupational Safety and Health (NIOSH) and the National Highway Traffic Safety Agency (NHTSA) have developed and established guidance. Private groups such as NETS have the potential to develop guidance in the United States and internationally, due to their global reach. However, enhanced collaboration is required to build it up in Europe. By 2040, both guidance and platforms are set in middle- and low-income countries and fully applied by 2050.

0.5. Quality of Data

Key Levers and Actions

The definition of work-related traffic crashes is not well established. Relatively few countries have reliable data on work-related non-fatal collision injuries. Collecting and compiling relevant data on the subject is complex, since relevant indicators may be found within data systems housed in various governmental agencies: transportation, occupational safety and health, law enforcement, social security or workers' compensation. Moreover some countries compile data at the national level, whereas others do it at a regional or provincial level. Yet better data collection is essential to identify needs,

guide efforts, monitor progress and evaluate policy and enforcement.

Countries are encouraged to adopt standardized national crash analysis systems by identifying common core data and defining relevant indicators. An example would be adopting a standard of death within 30 days after a crash for work-related accidents.

The inclusion of a “purpose-of-the-trip” element in national crash data is also encouraged so as to ascertain whether victims of crashes were engaged in work activities at the time of the accident or commuting to or from work. Moreover, work-related deaths must be considered as a component of the global road safety toll and added to the ICD-11 system. The ICD is the global standard for report and categorizing diseases and external causes of death or injury. Such compilation provides useful information and allows international comparisons.

Under the direction of WHO as the lead agency, national crash analysis and related monitoring systems maintained by health, labor, and workers’ compensation agencies are created. This creation requires the support and funding of international organizations to provide technical assistance to middle- and low-income countries for building similar capacity.

Responsible parties coordinate the linkage of these systems in order to leverage the strength of each one. For example, while crash data systems may have detailed data on crash circumstances and risk factors, occupational safety and health care systems may contain far more detail

on employment characteristics such as occupation, industry and work hours.

Within the private sector, every company has a system in place to register any kind of incident and each road crash. More companies join the NETS benchmark study group, a move that helps them assess their fleet-safety data in a consistent and comparable way.

From 2020 to 2050: Main Points and Indicators

By 2020, noteworthy progress has been made regarding the definition, monitoring and evaluation of work-related road crashes. A common definition has been agreed upon and included in the ICD-11 system, and fleet safety metrics are available. As WHO pursues advocacy for minimum core data collection in middle- and low-income countries, data on work-related road crashes is included in Global Status Reports.

Electronic data collection systems that permit information sharing between police and trauma care systems are set up in 10 middle- and low-income countries.

By 2030 core data collection and quality assurance with regard to data are achieved worldwide. During the same period, 25 middle- and low-income countries implement electronic data collection systems; there are 60 such systems a decade later. By 2050 all countries around the world have a similar system in place.

Pillar 1 – Road Safety Management Capacity

Status and Key Issues

Road safety improvement involves a whole range of players. Indeed road safety is not only a concern for police and the transportation sector, but also for health and educational authorities. The creation of **multi-sectorial partnerships** under the authority of lead agencies insures that a coherent and efficient strategy is initiated and properly implemented. To push for better results, long-term targets should be set to evaluate national performance and identify areas of opportunity. Although tackling road safety issues is often characterized as a burden for private companies, it is essential for us to demonstrate that it can provide a positive business case for all companies.

1.1. Lead Agencies and Strategy

Key Levers and Actions

Lead agencies, acting as a **centralized body**, have already proven their effectiveness in high-income countries. Governments support the establishment of national **lead agencies**, whose oversight encompasses not only motor vehicles covered by legislation, but also risks for employees who are not full-time drivers and even people working in the informal sector. These agencies are

given clear guidance to address road safety issues. They have the authority and responsibility to make decisions and coordinate actions undertaken by various public authorities. Furthermore they have access to adequate financing to perform their duties and are publicly accountable for their decisions.

Another step in the right direction is the creation of **cross-border agencies** in charge of global coordination. They provide a platform for interagency discussions and tools to improve data collection and identify relevant work-related indicators.

The development of **public-private partnerships** streamlines knowledge transfer, the setting of standards and data collection. Inviting members of private companies to chair the boards of lead agencies completes the partnership. Organizations demonstrate leadership in road safety by the way they manage the quality of road safety in their products and services.

A successful **road safety management system** requires coordination and commitment across the company to optimize performance. The dedication of top management is essential to make road safety a priority within the company, and since it is a shared responsibility, to insure that all employees are involved. Appointing a specific management representative as **safety coordinator**, in charge of setting up the annual safety plan, targets and performance reviews, is a basic requirement. Reporting directly to top management, the coordinator should be responsible for drafting annual reports and communicating results, and be authorized to

implement his or her decisions; the coordinator should report to top management on an ongoing basis. This "safety champion" can serve as a bridge between top management and teams in charge of road safety improvement.

From 2020 to 2050: Main Points and Indicators

Work-related road safety awareness is gradually transferred from high-income to middle- and low-income countries, where at least 20 lead agencies are established by 2020. Moreover, organizational management systems are in place in more than 100,000 organizations by 2020. In the years that follow, capacity-building programs are promoted and the number of lead agencies created in middle- and low-income countries has doubled compared with the previous decade. By 2040 some 60 lead agencies are in place. By 2050 middle- and low-income countries have their own capacity-development programs, and lead agencies are established in all countries. Organizational management systems are in place in nearly all companies by 2050.

1.2. Strategy

Key Levers and Actions

A multi-disciplinary approach, based on a comprehensive model such as the Haddon Matrix, is the appropriate way to develop coordination and achieve long-term improvements. Lead agencies (mentioned above)

have a key role in creating core work programs and monitoring data collection systems and progress. They will also be responsible for integrating **occupational road safety** into planning and implementation, since workers are an important category of road users. Some form of common principles should be established regarding strategy development, and in particular, funding, resources and setting goals and targets. In private companies, road safety professionals give advice on how to implement best practices. A common strategy is to combine public and private resources in order to identify shortfalls in management, define priorities, and create investment programs and evaluation systems.

From 2020 to 2050: Main Points and Indicators

By 2020 processes are in place to insure that initiatives and commitments made as a result of the Decade of Action are maintained and continued. The contribution of private companies to capacity building and demonstration projects is being fully leveraged. All international organizations have adopted or are adopting best practices in fleet management. During the next decade, public and private organizations work to develop work-related road safety programs in middle- and low-income countries.

By 2050 both middle- and low-income countries have their own management capacity. At the same time, companies have been working to develop management capacity regarding road safety issues, and safety coordinators have been appointed. By 2050 all companies

have a “safety champion.”

1.3. Long-Term Targets

Key Levers and Actions

Both the public and private sectors subscribe to ambitious programs, set aggressive targets using benchmark metrics, followed by an evaluation and monitoring process. Public authorities show their willingness to work in partnership with private companies in all activities. They also introduce or improve data collection systems. Private companies coordinate their efforts by joining road safety organizations and developing partnerships. They increase funding and contribute to knowledge transfers. By adhering to the ISO 39001 Standard and other road safety management systems, private companies have the tools to address work-related road safety issues.

From 2020 to 2050: Main Points and Indicators

High-income countries transfer knowledge and awareness to middle- and low-income countries. Thanks to these efforts, by 2040 middle-income countries acquire capacity development that is deployed in low-income countries in the next decade. As the ISO 39001 Standard is implemented by a growing number of countries, external audits and assessments are commonly used in companies. Some 100,000 companies implement ISO 39001 Standard

and become certified; by 2050 all companies are ISO compliant.

1.4. Business Case

Key Levers and Actions

Business case provides companies with a rational framework to analyze the bottom line impact of work-related road safety in terms of costs and benefits as well as legal compliance and corporate image. They can demonstrate that improving road safety has a positive effect on the company as a whole by, for example, reducing the number of work days lost or lowering transport operating costs. They help companies specify required resources in the core annual and mid-year budgetary process. The business case also contributes to the establishment of a positive safety culture within the company by involving both top management and employees. Private sector organizations like NETS develop a business-case model by taking into account all costs due to work-related road accidents, such as material damage costs of crashes, human costs, lost sales revenues, brand image impact and so forth. This model can be adapted and extended to all companies; it constitutes a common basis on which to draw comparisons and identify best practices.

From 2020 to 2050: Main Points and Indicators

By 2020 a business case has been created by private

organizations and is underpinning deployment in private companies. Financial measures have been taken to insure the business case can be presented in an appropriate and timely fashion. Private companies see the positive results of their involvement in road safety improvement. The business case is gradually adopted in the next decade in middle- and low-income countries. Global companies insure that it is also deployed in their subsidiaries and with contract transport service providers they employ. Best practices are globally disseminated. By 2040 middle-income countries commonly use the business-case model drafted in the previous years. The positive effects of road safety improvement encourage private companies to sustain their efforts. By 2050 all companies around the world have a business case. The overall benefit of road safety improvement on companies' business activity is noticeable as, for instance, fewer work days are lost, insurance costs are significantly reduced and other measures show improvement.

1.5. Transport Safety Standards[5]

Key Levers and Actions

Transport sector workers are highly exposed to road safety risks. The adoption of best standards and practices in road development, maintenance and traffic management can afford greater protection. Transport regulations must

[5] The following comments derive largely from the work of Marios Meletiou (ILO).

be adapted to insure that transport companies operate with safe drivers on safe roads. Safety must prevail over and above any other concerns, including economic or commercial ones. For it to do so, integrating road safety provisions for employees within existing rules is a key lever.

According to the International Labor Organization (ILO), the most frequent causes of work-related road traffic crashes are the following: driver fatigue, lack of adequate skills, poor practices in securing and packing containers on commercial trucks, and cross border mobility-related problems. Each cause identified should be countered with an appropriate solution.

Fatigue is a growing health and safety concern facing the road transport sector. The greatest danger facing drivers is falling asleep at the wheel. Fatigue also induces poor judgment, slower reaction time and decreased alertness. Fatigue is not just an industrial issue, it is also an occupational issue. Fatigue is a concern for all commercial drivers, and for workers commuting to and from work. Although fatigue cannot be avoided, preventive strategies can be implemented. Indeed, night-shift work, if correctly managed, does not lead to driver fatigue.

Technology and better work-time legislation have a role to play, especially by limiting excessive and irregular work hours and entitling drivers to a break after a set number of hours of driving. Accordingly, working and driving time need to be addressed in the same regulation.

Increasing driver knowledge and upgrading driver

skills would undoubtedly contribute to road safety improvement. In many countries the level of driver requirements is too low. Many accidents are attributed to poor practices in the securing of cargo on commercial trucks. Consequently the identification and deployment of best practices in this area, as well as tighter regulations, could be beneficial to road safety improvement.

Additionally, international drivers are confronted with another issue: the stress and frustration related to border crossings. Waiting time for crossing borders might be notably long and exasperating, especially in middle- and low-income countries. The wait can create stress and fatigue that may increase the risk of accident.

The adoption of international regulations for the following areas could significantly improve road safety:

- hours of work, driving time and rest periods in road transport
- training/retraining and certification of professional drivers
- health standards for drivers
- securing of cargo for road transport
- packing of containers for road transport
- parking and rest areas for professional drivers
- border-crossing facilities and operations for international drivers

From 2020 to 2050: Main Points and Indicators

By 2020, appropriate national legislation concerning

work periods, driver training, driver licensing, driver health standards, cargo securing and packing has been adopted and includes mechanisms for enforcement. These legal requirements are implemented in more than 50% of United Nations Member States. Moreover, international agreements on the issues described above are signed by more than 50% of United Nations Member States. In addition, more than half of employers in the road transport sector have established training programs. More than half of professional drivers in all UN Member States have received adequate training.

A decade later, appropriate national legislation is in force in more than 80% of UN Member States, and more than 80% of UN Member States abide by international agreements. Additionally, more than 80% of employers in the road transport sector have training policies in place, and more than 80% of professional drivers have completed training programs.

By 2050 appropriate national legislation is in force in all countries that abide by international agreements. In addition, all employers in the road transport sector have training policies in place, and all professional drivers have completed training programs.

Pillar 2 - Safer Roads and Safer Transportation Systems

Status and Key Issues

Incorporating safety concerns into road design by improving the design and quality of infrastructure benefits all road users, especially the most vulnerable. Opportunities for enhanced safety exist in planning, design, construction, operation and maintenance of road equipment. Regular evaluations of existing road networks are mandatory to identify the most hazardous spots and routes.

2.1. Road Planning

Key Levers and Actions

Incorporating safety into **road design** is a key lever for enhancing the safety of road users. To do so, a minimum of 10% of all **road infrastructure** project funding is dedicated to road safety. Private companies and public donors, especially the European Union and the World Bank, who invest in infrastructure, demand that safety be included in all projects. The development of international harmonized standards, perhaps through an ISO standard, is a way to make current and future infrastructure secure. In addition, countries must abide by existing agreements.

Public authorities have identified hazardous locations and routes. Plans are set to gradually rebuild existing networks in a safer way, especially to increase visibility and build safe intersections. New standards promote the separation of principal road users in order to protect "vulnerable users," mainly pedestrians and cyclists who are at greater risks than other categories of road users. Vulnerable users account for a disproportionately high number of the casualty toll. This imbalance is especially true in middle- and low-income countries where there is a wider variety of road users, greater traffic volume and a lack of segregation of road users.

The highway engineering and urban development sectors must keep safety in mind when working on road infrastructures and be more active in reducing road fatalities. When designing roads, safety must be automatically considered, incorporating principles of good design from the outset, which is more efficient in the long term. To achieve this goal, universities include training for road safety, auditing and inspection in their road engineering programs. Finally, employers encourage, whenever possible, trip planning that favors sustainable public transportation or use of alternative work arrangements such as telecommuting, flexible work hours, teleconferencing and videoconferencing, or use of the safest routes where road transport is the only option.

From 2020 to 2050: Main Points and Indicators

Road safety is included as a main component in urban

planning by 2020; it is also conditional for donor projects. **Road planning** promotes user segregation, roadside improvements, and grade separations for pedestrians at intersections, especially in middle- and low-income countries. Businesses factor infrastructure into their design restrictions, such as avoiding vehicle overload that can cause premature degradation of infrastructure, particularly along key corridor routes. During the 2020s vehicle-to-infrastructure technologies are gradually integrated into road safety planning.

Employers encourage workers to use **modal shift**, that is to choose sustainable transportation modes as often as possible and for the long term. By 2040 safety is a key ingredient in all road design and network management, and by 2050 it is integrated into urban transportation, which is available for all. To do so, road safety has been incorporated into universities' engineering curriculum. Some 25 major universities in middle- and low-income countries have comprehensive programs for training engineering students in road safety design, auditing and inspection. By 2030 the total has climbed to 60 universities, and by 2050 all major universities offer this training to their students.

2.2. Ratings, Benchmarks and Surveys

Key Levers and Actions

Comprehensive evaluation of infrastructure projects and ongoing **assessment** of existing networks are proven methods for improving road safety. During construction

work, audits are undertaken to insure that safety requirements are fully implemented. These audits could take place at various stages of the road construction project to guarantee that all aspects of construction meet safety requirements. Impact analysis and ongoing network safety-rating surveys are also essential. Programs such as iRAP (International Road Assessment Programs) already provide middle- and low-income countries with the methodology, procedures training and reporting tools needed to build and maintain safer roads. Based on shared experience and knowledge transfers, these programs have already proven their effectiveness.

From 2020 to 2050: Main Points and Indicators

By 2020 local management capacities are enhanced in middle-income countries. Highway transport research laboratories are created around the world. International benchmarking programs, such as iRAP, are deployed globally with the support of high-income countries that insure also that road safety planning is fully used in their own countries.

By 2030 all routes, regardless of their localization, are submitted to benchmarking and ratings programs. Benchmarking capacity is under development in middle- and low-income countries with the support of public and private organizations, who transfer best practices to these countries. By 2050 benchmark and rating capacity are globally acquired in middle- and low-income countries.

Pillar 3 – Safer Vehicles

Status and Key Issues

Newer and well-maintained vehicles are responsible for only 7% to 8% of road crashes[6]. At the same speed control, restraint devices and vehicle design are key factors in protecting both drivers and passengers during a collision. The widespread availability of vehicle safety technologies is encouraged and promoted through the enactment of global regulations and standards. The adoption of **new technologies** is fostered by the adherence of UN Member States to international standards and supplemented by the development of assessment programs. Seat belt use and crash-avoidance systems must be priorities to be adopted by all. Sustaining and funding research on vehicle safety technologies as well as fostering the deployment of safety technology are essential.

3.1. Global UNECE Standards

Key Levers and Actions

Getting all manufacturers to adhere to a specific and common set of standards is the best way to insure that all new vehicles sold in the world include the same safety

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[6] *Driving in the Future,* Challenge Bibendum Rio 2010.

features. Considering the global nature of the vehicle market, standards cannot be set by only one party. As coordination is needed to determine common standards, politicization is thus required. The United Nations Economic Commission for Europe (UNECE) chairs a World Forum for the harmonization of vehicle regulation in order to foster international cooperation.

By lobbying countries to get them to adhere to international conventions, private companies have the clout to speed up the adoption of **global standards**. Equipment such as seat belts, air bags and life-saving devices are not optional but basic requirements. Appropriate and regular maintenance systems are, as well, key levers to insure that a higher level of safety is achieved.

From 2020 to 2050: Main Points and Indicators

By 2020 standards have been created; all manufacturers apply global safety standards irrespective of country of manufacture or use. As all design companies are compliant with legal requirements, the top quartile of the most beneficial technologies is compulsory in high-income countries. Thirty years later, all proven technologies are compulsory around the world.

3.2. Car Assessments

Key Levers and Actions

In addition to common standards, reliable assessment

programs, such as NCAP (New Car Assessment Program), play a key role in promoting the deployment of safety equipment. Based on results, under the monitoring of independent experts, they provide consumers with sound information about vehicle safety. Media, whose duty is to inform consumers, contribute to the improvement process by voicing citizens' concerns about safety. To be successful, we need to empower the public to demand safer vehicles. Car manufacturers will then respond to the media push and consumer pull by making safety a priority.

From 2020 to 2050: Main Points and Indicators

Thanks to a general awareness, NCAP and EuroNCAP (European New Car Assessment Program) are allocated sufficient funding to conduct necessary crash tests on all available brands of vehicles and thereby influence the development of safety technologies. By 2020 rating programs are being harmonized, while NCAPs are deployed in all regions. Assessment programs are globally harmonized by 2030 and commonly used by private and public sectors when choosing their fleet vehicles. By 2030 commercial vehicle assessment programs are in place for trucks, trailers, vans and buses in high-income regions, in middle-income regions by 2040 and all regions by 2050. NCAP crash tests are results-based, enabling manufacturers to find alternative solutions to a given problem.

3.3. Seat Belts in All New Vehicles

Key Levers and Actions

Seat belts are basic yet highly effective safety equipment. On this basis, they must be compulsory in all vehicles for all seating positions as recommended by WHO. To insure that all vehicles are equipped, regulation is enacted and enforced without delay. Standards in place force all vehicle manufacturers to have a minimum requirement of three-point seat belts in all seats. In this respect, fleet owners have a decisive role to play in demanding seat belt equipment for all seats in all vehicles on the roads.

From 2020 to 2050: Main Points and Indicators

By 2020 all new vehicles are equipped with seat belts as a result of regulation and private companies' influence. By 2030 vehicles without seat belts are banned from public roads; at the same time, advanced seat belt reminders are in place in all vehicles.

3.4. Crash-Avoidance Systems

Key Levers and Actions

All fleet owners, either public or private, should set procurement specifications calling for advanced vehicle features like air bags or Electronic Stability Control (ESC). In addition, public authorities, or even insurers,

may consider giving incentives to consumers for buying vehicles with such equipment. By doing so, vehicle manufacturers would be motivated to offer vehicles with a higher level of safety.

From 2020 to 2050: Main Points and Indicators

A general agreement on standards and best technologies is reached by 2020, enabling the deployment of safety technologies during the next decade. By 2030 driving aids—such as detection and other devices that help the driver make better decisions—are made compulsory. Some 20 years later, state-of-the-art safety equipment and crash-avoidance systems are used in all vehicles.

3.5. Control of Exports for Safety Standards

Key Levers and Actions

Tight control of car exports and imports is requisite for the standardization mentioned above to be effective. A fundamental point is to insure that vehicles falling below minimum safety standards cannot be sold. Unsafe cars must be discarded; a buy-back or swap-out program supported by governments could be created.

From 2020 to 2050: Main Points and Indicators

Private companies lobby governments and regulatory bodies to set importation standards.

3.6 R&D Projects to Reduce Risks

Key Levers and Actions

Private companies invest in research in vehicle safety technologies. Yet as new electronic gadgets and devices are available for vehicles, public authorities prevent manufacturers from installing them in vehicles to avoid driver distraction. On the contrary, new technologies could be used to prevent distractedness, for instance by installing **capnographs** in vehicles. This equipment, thanks to a video driver-monitoring system installed in the vehicle, alerts the driver when he or she shows signs of drowsiness or fatigue.

From 2020 to 2050: Main Points and Indicators

Thanks to the development of R&D capacities, different technological responses are applied to problems. Fleet managers adopt the best technologies available.

Pillar 4 – Safer Road Users

Status and Key Issues

The World Report on Traffic Injury Prevention identified five **main risk factors**—namely speeding; drunk driving; non-use of motorcycle helmets, seat-belts and child restraints; and being a vulnerable road user—that must be addressed as high priorities. However, it is estimated that only 15% of all countries have comprehensive legislation that includes the World Report's recommendations. To alter this situation, combined and sustained efforts in law enforcement and educational programs are needed to raise the level of compliance, along with regulations that reduce the impact of the key risk factors. It has been recognized in the 2010 UN Resolution that multi-sector partnerships among business, government and society are essential to progress. Thus the role of organizations such as the Global Road Safety Partnership will be pivotal in transferring technologies that are successful in addressing the key risk factors.

4.1. Awareness of Risk Factors and Prevention

Key Levers and Actions

Adherence and implementation of **international**

regulations by national public authorities is a basic requirement in tackling the main risk factors, along with the support of organizations that set their own standards in advance of legislation. Whereas research on risk factors is available, the **dissemination** is insufficient because of lack of expertise, or even unwillingness on the part of public authorities to act.

The public, private and societal sectors can contribute to raising **public awareness**; a successful approach is to include road safety in educational programs. Indeed 40% of all road traffic deaths occur among young people between 0 and 29 years of age; they are also tomorrow's drivers. Including compulsory road safety topics in national curriculum is an effective way to raise young peoples' awareness and make a lasting impact on road safety. In addition, formal training for prospective drivers must be strengthened.

Private companies have a duty to increase the awareness and development of their employees. This responsibility leads to the adoption of comprehensive **training programs** and In-Vehicle Monitoring Systems (IVMS) for high-risk drivers. On this subject, companies can play a strong role in advocacy, pushing for the adoption of common standards on risk factors at a national level. Employers have substantial leverage in influencing worker behavior through the enforcement of internal policies as a condition for employment. The workplace is a valuable venue for communication of information that promotes road safety and benefits society at large.

Training programs and actions can only be successful

if all employees, regardless of their status, adhere to legislation and company standards. Using a bonus-malus system, these programs promote a zero-tolerance approach. To have a significant impact on road safety, training programs should be open to employees' families as well as contractors' employees and communities in general.

From 2020 to 2050: Main Points and Indicators

The Decade of Action provides the framework for enhancing risk awareness as well as tools for taking preventative measures. By 2020 all countries have set and enforce laws, regulations and standards. During the same decade, 100,000 companies implement road safety standards supported by a management system. All companies implement them by 2050. The work force abides by these standards, especially those regarding speed, alcohol, seat belts and child restraints, fatigue and distracted driving. Thanks to the development of training programs in all companies, the safe driving skills of employees have been improved globally.

4.2. Safe Systems Speed Limits

Key Levers and Actions

By including **speed-limit controls** in their internal policies and setting up disciplinary sanctions in cases of continual speed violations, companies contribute to the reduction of one of the main causes of crashes. To make

such policies effective, reprimands and warnings are given; if unheeded, they can lead to dismissal. The mechanisms established should be location-specific to take into account relevant employment legislation.

From 2020 to 2050: Main Points and Indicators

The installation of "black box" technology in vehicles can help employers improve compliance, reward good driving performance, and **monitor poor performance**. As fleet vehicles are progressively equipped with speed-limiting devices such as ISA (Intelligent Speed Adaptation) systems, conditions dictate the appropriate speeds to the vehicle system. By 2020 they are mandatory in high-income countries, while best practices in speed management are deployed in middle- and low-income countries. Twenty years later, speed-limiting equipment becomes mandatory in middle- and low-income countries. These devices could eliminate the need for speed limits entirely since the system adapts speed continually to insure safe and efficient travel.

4.3. Set and Seek Compliance with BAC (Blood Alcohol Content) Laws and Standards

Key Levers and Actions

Alcohol is an important factor in determining both the risk of a road crash and its severity. Drunk drivers have a much **higher risk** of being involved in a crash than those who have not consumed alcohol. Influenced by private

companies, all nations set up limit standards and develop capacity to enforce them in agreement with international conventions and best practices. Companies address drunk-driving issues in their internal policy, enact disciplinary sanctions and clearly lay out consequences for employees driving under the influence of alcohol or drugs. Employees who are arrested for driving under the influence of alcohol or drugs must report such information to their manager, who should take appropriate action. In these instances, **technical supports** like alcohol interlocks (also known as alcolocks) could be used. At the request of fleet managers, alcolock equipment is deployed in fleet vehicles.

From 2020 to 2050: Main Points and Indicators

Thanks to a global mobilization of all relevant players, standards and laws are issued in all countries and implemented on national and regional levels. Jurisdictions are in place to guarantee the enforcement of sanctions. In high-income countries, all new vehicles used for commercial purposes are fitted with **alcolocks**. This equipment becomes available as a standard option in vehicles sold in high-income countries. They are compulsory in fleet vehicles in high-income countries and voluntary in middle- and low-income countries. Over the years, alcolocks become standard equipment in fleet vehicles in high- and middle-low countries, then in low-income countries. Meanwhile middle- and low-income countries benefit from the experience of high-income

countries' organizations in implementing BAC regulations. By 2040 all commercial vehicles are fitted with alcolocks; in the next decade, their use becomes compulsory in all countries. Vehicles that are not so equipped are banned from public roads.

4.4. Set and Seek Compliance with Helmet Laws and Standards

Key Levers and Actions

Governments adopt relevant regulations based on international agreements and best practices. At the same time, they insure that the capabilities to enforce these regulations are in place.

Companies lobby governments who have no policy in place, and require helmet use for their drivers on two-wheel vehicles, with sanctions for non-compliance.

From 2020 to 2050: Main Points and Indicators

By 2020 all countries have enacted laws and standards regarding helmet use. By 2030, 70% of all companies around the world are in compliance with helmet use. A decade later, all companies are compliant while best practices are deployed in middle- and low-income countries.

4.5. Set and Seek Compliance with Seat Belt Laws and Standards

Key Levers and Actions

Governments adopt relevant regulation based on international agreements and best practices. At the same time, they insure that the capacities to enforce these regulations are in place. Companies, especially vehicle manufacturers, lobby governments that have no policy in place. Fleet policies integrate mandatory seat belt use.

From 2020 to 2050: Main Points and Indicators

By 2020 all countries have enacted laws and standards regarding seat belt use. Manufacturers provide seat belts in all vehicles. By 2020, 50% of companies globally have a seat belt policy. By 2030, 70% of companies have a seat belt policy. A decade later, all companies have a seat belt policy, making their use mandatory, while best practices are deployed in middle- and low-income countries.

4.6. Set and Seek Compliance with Freight and Public Transport Laws and Standards

Key Levers and Actions

Best practices related to this topic are identified and shared with countries that are without comprehensive laws

and standards. These practices must be adapted to the local context for better implementation.

From 2020 to 2050: Main Points and Indicators

By 2020 a comprehensive library of relevant standards is created. Meanwhile guidance on best practices is issued and applied in middle- and low-income countries. By 2040 best practices are deployed and known in all countries.

4.7. Promote ISO 39001 Standards for Road Safety Management Systems

Key Levers and Actions

The Road Safety Management standard, ISO 39001, is a new international standard that is currently under development. It will focus on the reduction of deaths and injuries related to road traffic. Its aim is to reduce road trauma by identifying elements of effective road traffic safety management that will enable the organization to achieve the desired results. It establishes guidance on road infrastructures and car design, transportation of goods and people, management of personnel working in road transport systems, and assistance to road traffic victims. As soon as the drafting process of the new standard is complete, a great number of companies apply for certification.

ISO 39001 is gradually implemented on all levels, starting with government agencies, global organizations

and large corporations. The latter set the example and serve as principal drivers of implementation for small- and medium-size enterprises, many of whom work on behalf of larger organizations in both the private and public sectors. They play a major role in both promoting the use of the standard and assuring safety in their own operations. As all large organizations worldwide adopt zero-deaths as their target, the approach to safety as a key component is taken for granted.

From 2020 to 2050: Main Points and Indicators

As ISO 39001 is finalized, all jurisdictions, including public agencies and government-owned operations, have been certified and effectively implement the standard. All major multinational corporations and organizations also implement it. By 2020, more than 100,000 companies are compliant with the standard.

By 2030 all suppliers of products and services of major public and private organizations and corporations are certified and put ISO 39001 into practice. Some 200,000 companies are ISO compliant.

By 2040 all organizations and employers associated with road transport, even remotely, are certified and implement ISO 39001. By law, all transport services must have a certified management standard to be allowed to operate. Occupational health and safety legislation includes having a management system in place within the road transport system to eliminate health losses due to crashes.

By 2050 all relevant stakeholders have reacted to the objectives of the certified management system, including ISO 39001, and have built a systematic approach into their daily operations. With millions of users of the ISO standard, the management standard has had a dramatic effect on the improvement of the safety of the entire road transport system.

4.8. Set and Seek Compliance with Driver Qualifications and Competency Standards

Key Levers and Actions

Standards relating to initial licensing, medical fitness for driving, and training programs should take into account the demographics of the work force, especially since they vary by country. In high-income countries, the aging of the work force is the most important factor to take into consideration. By contrast, in middle- and low-income countries and in certain industries, specific risks for young and inexperienced drivers need to be addressed.

4.9. Set and Seek Compliance with Labor Standards for Employee-Operated Vehicles other than Large Commercial Vehicles

Key Levers and Actions

Workplace safety regulations do not uniformly protect all workers who **operate a motor vehicle** as part as their job. In many countries, ministries of labor are

responsible for enforcing safety standards only on industrial premises. Generally they do not have jurisdiction over workers operating vehicles on public roads, or do not consider roadways as part of their environment. Therefore, there is a need for an end-to-end process to be in place.

Pillar 5 – Improved Post-Crash Care

Status and Key Issues

To increase responsiveness to emergency situations and to provide appropriate treatment for injuries, it is essential to develop pre-hospital trauma care systems according to available guidance. Existing hospital care systems should also be improved to provide better treatment to the seriously injured. But further steps are required since appropriate **road user insurance systems** are needed to finance rehabilitation services for crash victims. Another key point is the setting up of follow-up action to improve reporting and prevent further collisions.

5.1. Pre-Hospital Trauma Care Systems

Key Levers and Actions

Drivers involved in road traffic crashes are on the front line. They may be victims, but they are also key players who alert emergency services or give first aid to the injured. Companies set emergency preparedness and response procedures for road crashes. Drivers are trained as **first responders** to emergency situations. All vehicles are equipped with a standard first-aid kit, and companies encourage their employees to have kits in their personal vehicles. Communication devices are mandatory in

vehicles, and drivers are given a list of contacts in case of emergency. Additionally, improving pre-hospital trauma care on a large scale and providing funding when public authorities are not able to do so are important goals. To achieve this objective, private sponsorship is a powerful tool.

From 2020 to 2050: Main Points and Indicators

By 2020 knowledge of pre-hospital care systems is transferred from high-income countries to middle- and low-income countries. International fleet-vehicle companies adopt the latest technological emergency equipment. In high-income countries, e-call policy devices are progressively deployed; as new systems are available, they are quickly adopted by companies. In 2050 **e-call systems** are commonplace in company vehicles worldwide; others are deployed according to availability. With the financial support of the private sector, functioning pre-hospital care systems are in place by 2050.

5.2. Hospital Care Systems

Key Levers and Actions

Significant funding from private companies and international organizations is required to support local public programs and provide adequate care to victims.

From 2020 to 2050: Main Points and Indicators

Thanks to the improvement of pre-hospital and hospital care systems, the post-crash fatality rate decreases by 50% from 2011 to 2020. Since the beginning of the 2010s, private companies and large charities have been actively involved in sponsorship activities throughout the world. Thanks to the efforts of WHO and other leading international organizations, priorities have been identified and addressed. WHO presents regular reports on the situation, which shows improvement. By 2040 middle-income countries are equipped to treat the seriously injured. In the next decade, low-income countries also have the capacity to deliver high-quality hospital care to the injured and disabled.

5.3. Road Insurance System to Fund Rehabilitation Services

Key Levers and Actions

To foster the quick recovery of crash victims and lessen the costs of crashes, road insurance plans covering hospital-care treatment and rehabilitation services are established.

From 2020 to 2050: Main Points and Indicators

Road insurance plans are in place by 2020 and in full use in the next decades. Half of disabled workers reintegrate into the workplace by 2020; this rate increases

to 75% by 2050.

5.4. Follow Up Actions

Key Levers and Actions

Reporting, benchmarking and data collecting are key factors for success in decreasing road crashes in the long term. Reporting registers all kinds of road incidents. Significant crashes are investigated. Incident investigation enables companies to identify deficiencies in road safety management, risk exposure and opportunities for improvement. Companies should then take appropriate corrective and preventive measures to avoid recurrences.

Private organizations are urged to take corrective measures with regard to **employee traffic violations**. They are also encouraged to hire road-injured people with disabilities to help reintegrate them into the workplace. By creating a process to insure that all drivers receive special training, report accidents and incidents without delay, and collect data properly, companies take an active part in road-crash prevention. The establishment of an internal code of conduct is a practical way to deal with inappropriate behavior and raise employee awareness of road traffic rules compliance.

From 2020 to 2050: Main Points and Indicators

Internal procedures are set in high-income countries by 2020 and then cascaded to middle- and low-income countries, which gain from the experience. Special

training programs on road safety, including behind-the-wheel sessions, are gradually developed in high- and middle-income countries, first on a voluntary basis, then as a compulsory requirement. At the same time, data collection systems are improved.

Global Road Map

Over the first half of the 21st century, the outlook for global road safety is extremely alarming, as it is estimated that 75 million lives will be lost and 750 million people injured. Over the last 50 years, the United Nations, with the support of other international organizations, has taken a number of steps to urge countries to implement measures to decrease road traffic deaths. Among the casualty toll, work-related road victims are not often identified, and work-related traffic accidents are not addressed as a specific topic.

Endorsing the statement of the UN Resolution adopted in March 2010 that recognized that the answer to the road safety crisis "can only be implemented through multi-sectorial collaboration and partnerships among all concerned in both public and private sectors, with the involvement of civil society," we believe that collective mobilization of private companies is the key to dealing with occupational road safety. As a result of our collective work, we propose a global road map as a practical solution to the challenge of occupational road safety for the coming decade and well beyond.

Looking ahead to 2020, 2030, 2040 and 2050, the task force identified key "levers," or actions, and related targets for each decade. Our goals are clearly defined: stabilizing the number of work-related road deaths by

2020, reducing it by 50% by 2030 and more than 50% by 2040 to eventually reach zero work-related road deaths by 2050.

Foundational Basis – International Coordination

Key levers

Prior to any action, agreement on a **common definition** of work-related road deaths, including commuting for work, is a basic requirement of addressing the issue in an effective manner.

Without sufficient **financial means**, nothing can be achieved. It is thus essential to assess financial needs, monitor the use of funds and increase them decade by decade. UNGA, with the support of relevant international organizations, encourages funding from public and private sectors while an *ad hoc* group is created to raise funds from countries and private donors, especially philanthropists and charitable foundations.

Sustaining **advocacy** is the next step in both raising general awareness and fostering cooperation among stakeholders. As part of their social responsibility, private companies engage in high-level policy-making. They have two main advantages in setting occupational safety and then global safety as a priority. First, private companies have major **political leverage** and can efficiently alert political leaders to pressing issues. Second, they can significantly raise public awareness by informing their employees (including employees of subsidiaries and

contractor employees), who represent a sizable part of the global population. To do so, high-level management should be made aware of road safety issues and improvements within their company and its operations on a regular basis.

Expanding the number of private companies dedicated to road safety improvement is vital to the success of the private sector's contribution. Already a large number of **private organizations** are working on the improvement of road safety. These organizations comprise groups of private firms working in collaboration, such as GRSI and NETS, whose members are companies dedicated to preventing traffic crashes on and off the job. The extension of membership of private groups dedicated to road safety improvement allows progress in alignment of private companies and development of guidance. The implementation of ISO 39001 is a practical way to adopt a common approach, since the standard encompasses definitions and guidelines.

The general belief in the inevitability of road deaths is turned on its head. Private companies recognize that improving work-related road safety can be a positive business case by, for instance, reducing missed work days, material damage costs and insurance costs.

Ultimately, **monitoring and evaluation** are keys to success. There is still a lack of pertinent data, and existing systems do not take into consideration the age of the driver. The NETS benchmark study group has created a data base and metric system that could be used as a model. The development of fleet safety metrics and best practices

manuals can be assets when dealing with occupational road safety on a large scale.

Targets

From 2020 and onwards, the global amount of funding dedicated to road safety in general and work-related road deaths is increased. During the 2020s, US$500 million is spent by private companies. Substantive progress has been made in some countries, especially in the European Union. Some 200 large companies abide by the recommendations of the Decade of Action. By 2030 US$700 million is spent by the private sector for road safety improvement. By 2050 the level of funding spent by private companies reaches US$1.5 billion. Injury and death on the road are seen as unacceptable by the large majority of people. According to the general culture, everyone has a responsibility for road safety. The solid commitment of private companies to work-related road safety is demonstrated by the mobilization of all Fortune 500 companies, which are aligned with UNRSC recommendations on the Decade of Action.

Pillar 1 – Road Safety Management

Actions

Improving road safety cannot be successful without a comprehensive strategy managed at a high level. CEOs and high-level executives are actively involved in

combating work-related road deaths. Appointing a **"safety champion"** with a high-ranking position in each company, responsible for reporting road safety issues to high-level executives, shows that road safety is considered an internal priority. Increasing the number of **road safety professionals** contributes to the general awareness.

Coherent and comprehensive strategies, including precise indicators on funding, goals, standards and data collection, are drafted with the support of private companies. At the same time, "quick winner" approaches are also adopted whenever possible. By working on small projects, which are simple, feasible and easy to replicate in different countries, the impact is immediately visible. **"Quick winner" projects** complement long-term interventions, as they provide immediate results and thus encouragement to sustain effort and pursue general mobilization.

Partnerships between public and private sectors are encouraged, common standards established and improvements made in data collection. Private companies and social organizations are mobilized to insure the transfer of knowledge and experience during times of transition. Bridges are built between private investor and public governments as **win-win partnerships**. Private companies insure the safety of their workers and provide necessary financing.

Governments benefit from a business-oriented approach that is based on results and monitoring. To endorse and implement this strategy, trans-global agencies are set up to foster cooperation; their actions are supported

by national lead agencies. Collaboration is also encouraged among private companies; they are urged to put cooperation ahead of business competition so that there is more synergy in their efforts on behalf of road safety.

Studies of the causes of work-related crashes are carried out in different parts of the world to properly address local challenges. All companies adhere to a code of conduct with regard to road safety and enact, when relevant, fleet safety policies. A business model, easy for all to use, is initiated by private groups such as NETS to set an example of safe fleet management. The transport sector implements and abides by road safety transport standards like ISO 39001.

Public authorities demand adherence to international road safety standards by public contractors responding to public bids and signing contracts. In addition, companies encourage their employees to choose alternative modes of transportation whenever possible.

Targets

By 2020 processes are in place to insure that initiatives and commitments made as a result of the Decade of Action are maintained and continued well beyond 2020. Road safety champions are appointed in 200 companies to insure linkage with the recommendations and objectives of the Decade. Road safety becomes a political priority with clear leadership at the highest political level, insuring **political continuity** on

road safety issues. At the same time, society is mobilized in a consistent manner across countries through organizations such as the Global Road Safety Partnership (GRSP) and its host organizations, the International Federation of Red Cross and Red Crescent Societies and the National Societies. Awareness of work-related road safety is transferred from high-income public and private companies to middle- and low-income countries. In many countries, multi-sectorial partnerships are recognized as an auxiliary organization to governments; some 20 lead agencies are established. Many organizations are consistently achieving zero deaths in their everyday operations by applying the ISO 39001 standard. Some 100,000 companies implement, and are compliant with, this international standard. In addition, fleet safety management systems are created in 100,000 organizations.

In the next decade, 40 lead agencies have been created in middle- and low-income countries. Multi-sector partnerships between society, business and government are the norm and are recognized as a guarantee of political continuity during governmental change. Private companies deploy best practices in their subsidiaries around the world. The ISO 39001 standard on road traffic safety management systems is the harmonized approach for hundreds of thousands of organizations; it is also applied in many cities. A “safety-first” approach to road safety management is becoming the norm.

By 2040, 60 lead agencies have been established in middle- and low-income countries where best practices are being introduced.

At the end of the period, all countries have a lead agency in place and their own capacity management. In most countries, road safety quality management levels are comparable with aircraft or industrial premises levels. Business case is deployed in all companies. The ISO 39001 standard is implemented in all companies around the world, and fleet management systems are in place. The road safety champion position exists in all Fortune 500 companies.

Pillar 2 – Safer Roads and Safer Transport Systems

Actions

Well-maintained road infrastructure and equipment are tools in improving road safety, provided they are designed, built and maintained with safety in mind. For instance, segregation (by highway overpasses and underpasses) of various road users significantly reduces deaths and injuries by protecting vulnerable users. The first step is to lobby countries to conform to international agreements and standards. **Road safety features** are promoted through various ways: incorporating safety into road design by promoting it in engineering curriculum, identifying black spots and conducting regular audits on all roads following the pattern set by iRAP's program. Working in partnership with governmental and non-governmental organizations, iRAP inspects, and provides training and technical support to improve, road infrastructures. **Technical support** is given to middle- and

low-income countries to plan and build safer roads. Independent evaluations are seen as a dynamic process, an opportunity to learn and identify ways of improvement rather than a punishment.

Private companies encourage trip planning to reduce safety risks. Employees are urged to use sustainable urban transportation and modal shift whenever possible. Private companies invest in **public transportation systems** that benefit all. Indeed, there is urgency in responding to the increasing need for urban mobility, while at the same time tackling urban road safety issues. Exposure to automobile traffic is one of the main risk factors; it is reduced by curbing the growth in vehicle miles traveled (VMT) by prioritizing mass transportation and creating ways to safely accommodate walking and biking as part of the solution.

Targets

By 2020 countries allocate 10% of infrastructure investment to road safety improvement. Road safety is set as conditional by donors for investing in road infrastructure projects. In the following years, investment in road safety rises to 15% of the amount of funding dedicated to infrastructure. Risk factors have been identified and properly addressed in middle- and low-income countries where guidance for safer roads is broadly distributed. Road planning promotes the principle of user segregation. Road safety is a key ingredient in all road design and network management by 2050. Moreover

integrated urban transportation systems are available for all.

Pillar 3 – Safer Vehicles

Actions

As all vehicle manufacturers adhere to a common set of standards, safety equipment is available in every new vehicle. In addition, common assessment programs such as NCAP's are agreed upon, giving consumers and fleet managers sound information on vehicle safety. The public is empowered to demand the best performing technologies. An example is made by fleet safety operators who recognize safety as one of the first criteria of choice when purchasing new vehicles. Technological responses to safety needs are adapted to local context. Through lobbying by private companies, **minimum safety requirements** are set with regard to the allowance of importation of second-hand vehicles. Vehicles falling below safety standards should not be imported and therefore are banned from the market.

Targets

All manufacturers apply harmonized global safety standards by 2020. At the same time, harmonization of rating standards is under way, leading to the deployment of NCAP or similar programs in all regions throughout the world. The most **beneficial technologies** are compulsory in high-income countries.

In the following decade, rating standards are globally harmonized and all vehicles are compliant with these standards in middle-income countries, where the most important safety technologies are compulsory. For instance, all vehicles are equipped with seat belts; otherwise they are banned from public roads.

By 2040 all vehicles are compliant with safety standards in low-income countries, where the use of the most important technological safety equipment is mandatory.

By 2050 all state-of-the-art equipment and crash-avoidance systems are compulsory in all countries and vehicles; those vehicles that do not meet the standards are banned from public roads.

Pillar 4 – Safe Road Users

Actions

In addition to adherence to and implementation of international regulations or agreements, all countries have national laws or standards addressing the major risk factors identified in the World Report of WHO. To decrease significantly the number of work-related road deaths, it is crucial to promote risk awareness. Companies set internal policy and draft best practices manuals that give clear directions on speeding, seat-belt wearing, use of alcohol and drugs, helmet wearing, distracted driving and fatigue. They are complemented by internal sanctions based on a **bonus-malus system** that endorses a zero-

tolerance stance. Getting all employees to adhere to them is a step toward making work-related road safety a commonplace and valuable cause to champion.

To develop driving skills and responsible behavior, employers establish training programs targeting all employees and extending to employees' families, contractors' employees and eventually communities.

Targets

National requirements concerning seat belt use are set by 2020. Alcolocks are compulsory in fleet vehicles in high-income countries; they are used on a voluntary basis in middle- and low-income countries. Some 100, 000 companies have set safety standards targeting major risks and have implemented them.

In the following years, best practices defined by WHO are deployed in middle- and low-income countries. The private sector pursues its efforts; 70% of companies have a seat belt policy and require helmet use.

The deployment of best practices in middle- and low-income countries is achieved by 2040. Speed limiting systems for fleet vehicles are compulsory in those countries. Furthermore, all commercial vehicles are equipped with alcolocks. Every company's internal policy includes compulsory helmet wearing and seat belt use.

Eventually, alcohol policy is implemented worldwide by 2050. Speed limiting devices and alcolocks are compulsory equipment in all countries. All countries are compliant with legal requirements and implement their

own standards and policies to address major risk-factors.

Pillar 5 – Improved Post-Crash Care

Actions

When an accident occurs, drivers are on the front line and should act as responsible **first responders**. If they are well-trained, they can alert emergency units and deliver initial care, improving the chance of saving lives. Companies use trip planning as a tool to enhance safety; they equip their vehicles with communication tools and give drivers a list of contacts in case of emergency. First-aid kits are also part of all companies' vehicle equipment.

As a lack of funding for pre-hospital care has been identified, companies invest in **health facilities** where countries do not have sufficient capacity to do so on their own.

To reduce the spin-off effects of work-related crashes, a **global road insurance plan** is needed. It must include hospital care and rehabilitation services and promote work reintegration. Employee Assistance Programs (EAP) are appropriate tools to help accomplish these requirements. However, the approach remains incomplete if no analysis of work-related road crashes is conducted to assess the root causes of crashes and provide solutions to eradicate them. Reporting and follow-up actions based on benchmarks and metrics are essential to identify shortcomings and opportunities for improvement.

Targets

The post-crash fatality rate has decreased by 50% from 2011 by 2020. Indeed companies, on a voluntary basis, have invested in pre-hospital and hospital care systems in middle- and low income countries where public funding was not sufficient. Companies have set internal procedures to face emergency situations. Behind-the-wheel **training programs** are compulsory for employees responsible for road accidents in high-income countries. EAP programs are established by companies to encourage disabled and injured workers to return to work. Half of disabled workers are reintegrated into the workplace after a road crash.

By 2030 companies set internal procedures in middle-income countries, which gain from previous experience in high-income countries. Private companies pursue sponsorship activities to develop the existing care system.

A decade later, hospital-care infrastructures are globally improved in middle- and low-income countries. Internal programs in companies are mandatory in middle-income countries and more commonly in use in low-income countries where they are established on a voluntary basis.

By 2050 pre-hospital care systems are functioning well and hospital-care systems are equipped to treat seriously injured people in middle- and low income countries, thanks to international and private donors. Additionally, 75% of disabled workers are reintegrated into the workplace.

Concluding Remarks

By drafting this road map, we intend to clearly show the way to a better future: a time when safety will prevail over all other concerns, a time when no one will die while commuting or working. Describing the future as a present reality, we show that our vision is realistic and achievable. As an employer or a company executive, a government official, a policymaker, an organization's representative or a private citizen, whatever your walk of life, you are also a pedestrian, a cyclist, a motorcyclist or a driver—perhaps all four. Our concerns are your concerns. Let's follow the path we, the task force members, have cleared and turn this vision into tomorrow's reality.

Glossary of Terms

Italics indicate term's use in this White Paper.

Benchmarking – a common business term denoting the comparison of a company's business systems and processes to the best in the company's industry and/or the best practices in other industries.

Best practices – a common business term referring to processes or actions that have already demonstrated a successful outcome in the corporate world and so should be regarded as models to emulate.
Processes that have proven effective in improving road safety in high-income countries and that could be deployed in middle and low-income countries.

Business case – information derived from a cost-benefit analysis, a feasibility study or other business evaluation tool that is used to justify a project's undertaking.
An assessment process for evaluating the human, financial and organizational costs of work-related traffic accidents.

Forum – *Challenge Bibendum Rio's plenary session of High-level political and business leaders addressing topics central to sustainable mobility.*

Harmonized – made more compatible or uniform. A term applied to standards, measures or processes. *Government or business regulations or practices made compatible by formal agreement.*

Lever – *a specific action needed to achieve a goal, in other words, a compelling force or change-agent.*
Linkage – *the process by which companies engage in cooperation to pool resources, learn from previous experience and foster synergies*.
Modal shift – the use of multiple modes of transportation, with an implication of increased use of sustainable transportation.
Encouraging employees to use public transportation, walk or even cycle (provided a helmet is worn) instead of drive.
Network – an association of private companies formed to achieve a specific goal.
Regarding occupational road safety, networking can mean sharing information, easing knowledge transfer and best practices dissemination.
NGO – non-governmental organization formed usually to address social or environmental concerns such as basic services for poor countries.
Pillar – *a main area of focus, in which actions are needed to improve road safety The word "pillar" was originally used in the Decade of Action. "Safer roads" is a pillar, for instance, that can result from the improvement of road infrastructure.*
Private companies – firms that are in business for profit.
Private organizations – not-for-profit groups that receive no government (public) funding.
Groups of companies engaged in collaboration, such as the members of GRSI and NETS; organizations whose members are private companies dedicated to the improvement of road safety.

Social organizations – non-profit private organizations that are usually engaged in social causes or charitable work.

Abbreviations

BAC: Blood Alcohol Content. Regulation, law or standard regarding legal limit of alcohol consumption for drivers.
BRAKE: British national charity established in 1995 to prevent road deaths and injuries and to support victims of road crashes.
ETSC: European Transport Safety Council is an independent non-profit organization based in Brussels dedicated to the reduction of transport crash injuries in Europe. Founded in 1993, ETSC is a source of expertise on transport.
GRSI: Global Road Safety Initiative, formulated by private companies within GRSP.
GRSP: Global Road Safety Partnership.
ILO: International Labor Organization.
iRAP: International Road Assessment Programs is a not-for-profit organization. Working in partnership with governmental and non-governmental organizations in more than 50 countries, iRAP aims to improve road network safety by providing assessment programs, training and technical support to countries.
ISA: Intelligent Speed Adaptation systems.
ISO: International Organization for Standardization.
NETS: Network of Employers for Traffic Safety is an employer-led public-private partnership dedicated to

improving the safety of employees by preventing traffic crashes that occur both during and outside of work.

NHTSA: National Highway Traffic Safety Agency is an agency of the US federal government under the Department of Transportation. NHTSA is responsible, among other things, for writing and enforcing standards on road safety, licensing vehicles and collecting data.

NIOSH: National Institute for Occupational Safety and Health is the US federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness.

NGO: non-governmental organization.

PRAISE: Preventing Road Accidents and Injuries for the Safety of Employees, a three-year project of the European Agency for Safety and Health at Work (EU-OSHA). addressing all safety aspects of driving at work and to work launched by ETSC. Its aim is to "praise" best practices in order to help employers secure high road-safety standards for their employees.

TRL: Transport Research Laboratory based in the United Kingdom which provides research consultancy testing and certification services for all aspects of transport.

UNECE: United Nations Economic Commission for Europe.

UNGA: United Nations General Assembly.

UNRSC: United Nations Road Safety Collaboration gathers 50 international and regional organizations, both public and private, working in road safety. The goal of the UNRSC is to facilitate international cooperation among UN agencies and other international partners. Chaired by

the World Health Organization, UNRSC is charged with the task of writing the plan for the Decade of Action 2011-2020.

WHO: World Health Organization.

Addendum

Some companies and industry associations have best practices and systems in place that are often openly available. The following is a selection:

Oil and Gas Producers Association.
Cement Sustainability Initiative: Task Force 3 Road Safety (administered by the World Business Council for Sustainable Development).
Companies: Astra Zeneca, British Petroleum, BT, Chevron, DHL, ExxonMobil, GSK , Hess, Johnson & Johnson, Michelin, Monsanto, Schlumberger, Shell, Suckling Transport, TNT, Total, Wolesley and others.
Driving for Better Business: (UK, with support of the Department for Transport).
Occupational Road Safety Alliance: (UK association linked with Driving for Better Business).
RoSPA: (UK).
GRSP: increasing knowledge and delivering experience through GRSP from pilot fleet safety management systems in conjunction with members in India.
gTKP provided website Fleetsafety.org, which includes a management system and guidance tools with support from GRSP.

Reference Documents

Below please find a selection of documents for your reference. This list is far from exhaustive, since the work of the task force members was the main source for drafting this White Paper.

Documents

– *A Decade of Action for Road Safety: A Brief Planning Document*, WHO, 2010.
– *Reducing Road Safety Risk Driving from Work and to Work in the EU: An Overview*, PRAISE, 2010.
– "Road Traffic Safety (RTS) management systems. Requirements with guidance for use (ISO 39001 Standard)", working document, ISO Committee TC241, Secretariat Swedish Standards Institute, 2009.
– *Driving in the Future*, Challenge Bibendum Rio, 2010.
– *World Report on Road Traffic Injury Prevention*, WHO, 2004.
– *Global Status Report on Road Safety*, WHO, 2009.

Useful Websites

Challenge Bibendum:
www.challengebibendum.com/en/DISCOVERING-THE-SOLUTIONS/Road-safety

ETSC:
www.etsc.eu/home.php
EU-OSHA:
http://osha.europa.eu/en/topics/accident_prevention
European Commission (DG MOVE):
http://ec.europa.eu/transport/road_safety/index_en.htm
GRSP:
www.grsproadsafety.org
GRSI:
www.grsproadsafety.org/page-grsi-42.html
GTKP:
www.gtkp.com/theme.php?themepgid=25
ILO:
www.ilo.org/global/lang--en/index.htm
iRAP :
www.irap.net
NETS:
http://trafficsafety.org
NIOSH:
www.cdc.gov/niosh
PRAISE:
www.etsc.eu/PRAISE.php
ROADSAFE UK:
www.roadsafeuk.co.uk
UNRSC:
www.globalroadsafety.org/world_response/global_initiati
ves/un_road_safety_collaboration.shtml
WHO:
www.who.int/roadsafety/en

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White Paper For Safe Roads in 2050

Achieving Zero Work-Related Road Deaths

Contribution to the Action Plan for the Decade of Action for Road Safety (2011-2020)

The **White Paper For Safe Roads in 2050** is the outcome of discussions by members of a task force on work-related road safety who met at Challenge Bibendum Rio de Janiero 2010. In the wake of the United Nations General Assembly's proclamation of the **Decade of Action for Road Safety 2011-2020**, dedicated to preventing road casualties, these experts took up the challenge of finding practical solutions for achieving zero work-related deaths by 2050.

Addressing work-related safety as a springboard toward universal road safety, the task force drafted a **global road map** that centered on key goals and actions for the decades of 2020 to 2050. The road map indicates that, as employers, private companies have a vital role to play in improving road safety.

This white paper will be submitted to the **World Health Organization** as the private sector's contribution to the Action Plan of the Decade of Action, with the hope that it will steer business and political leaders toward improvements in road safety.

The task force was composed of representatives of private companies, academia, government and international organizations who collaborated during the global road safety round table and the plenary session of Challenge Bibendum Rio 2010.

MICHELIN CHALLENGE BIBENDUM
Rallying together towards sustainable road mobility

Challenge Bibendum – Rio 2010