



Meeting the management challenges of the Decade of Action for Road Safety

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ARTICLE INFO

Article history:

Received 3 August 2011

Received in revised form 29 November 2011

Accepted 9 December 2011

Keywords:

Global road safety crisis

Decade of Action for Road Safety

ABSTRACT

In low- and middle-income countries, the high price paid for mobility in terms of human loss and suffering is forecast to rise to unprecedented levels. More than 50 million deaths and 500 million serious injuries on the world's roads can be projected with some certainty over the first 50 years of the 21st century, unless sustained new initiatives are taken. This paper addresses the emergence of road safety as a development priority over the last decade and the management challenges facing the planned global response aimed at bringing road safety outcomes in developing countries under control. It outlines the decade of advocacy that created the UN Decade of Action for Road Safety 2011–2020 and related Global Plan, and highlights the concern that over the coming decade low and middle income countries will face considerable management challenges in successfully implementing related measures and sustaining their delivery. The paper discusses new road safety management tools that have been developed by the World Bank and ISO to provide assistance to countries and organizations within an integrated framework that ensures that measures taken are properly sequenced and adjusted to their absorptive and learning capacities. It concludes that strengthened institutions and the accelerated knowledge creation and transfer central to this, plus scaled-up investment and increased international cooperation and development aid are critical to the successful achievement of the Global Plan's ambitious goal.

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1. Introduction

At least 1.3 million people die annually and many more are permanently disabled in road crashes globally, making road traffic injury a leading cause of serious health loss [1]. In low- and middle-income countries, the high price paid for mobility in terms of human loss and suffering is forecast to rise to unprecedented levels. Over the first 30 years of the 21st century, more cars will be produced than in the first 100 years of motorization. The bulk of these vehicles will be introduced to the roads of low and middle-income countries, many of which host unprecedented numbers of vulnerable road users fated to become road crash victims [2]. In the same period, road crash deaths and injuries in low and middle-income countries are projected to be the 4th largest cause of healthy life years lost by the total population in 2030, compared with tuberculosis (26th) and malaria (15th). Road deaths are projected to be the 2nd cause of health losses for men by 2030, and the leading cause for children (age 5–14) from 2015 onwards [3].

Looking further into the future, more than 50 million deaths and 500 million serious injuries on the world's roads can be projected with some certainty over the first 50 years of the 21st century, unless sustained new initiatives are taken [4]. To put this in a comparative

context there is an estimated 1% probability that over the same period more than 40 million people could be killed in mega-wars or in a virulent influenza epidemic and around 4 million people by volcanoes or tsunamis [5].

This paper addresses the emergence of road safety as a development priority over the last decade and the management challenges facing the planned global response over the coming decade aimed at bringing road safety outcomes in developing countries under control.

2. Road safety as a development priority

Improving global road safety has become linked with the broader vision of sustainable development and priorities addressing poverty reduction and the achievement of the Millennium Development Goals. Country development and assistance strategies have shifted from a narrow focus on income and spending to include education and health, and social, cultural and political participation. Contemporary development aims to promote higher living standards for all, with an emphasis on improved health, education and people's ability to participate in the economy and society. It seeks to foster an investment climate conducive to increased growth, productivity, and employment, and to empower and invest in people so that they are included in the process [6]. This inclusiveness is vital to the achievement of development goals and hence the sheer scale of health and

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associated wealth losses resulting from road crashes make road safety a development priority.

Achieving road safety results in low and middle-income countries will require investments in governance and institutions, infrastructure, vehicle fleets and related investments in the health and well-being of citizens to address their vulnerability to catastrophic death and injury. This is especially the case for the poor and those thrust into poverty as a consequence, to recognize and be responsive to their rights to safe transport and protection from its damaging impacts. There has also been a growing recognition in transport policy formulation of the importance of aligning road safety priorities with other high priority sustainable development goals, especially those for urban areas, to capture the associated co-benefits of integrated initiatives. For example, the provision of safer infrastructure facilities to promote increased walking and cycling and measures to reduce unsafe vehicle speeds can also result in less greenhouse gas emissions and local air pollution, greater energy security, and improved physical wellbeing. While road safety policy can conflict or be perceived as conflicting with other societal needs and policies (e.g. pollution and environmental impacts of poorly designed traffic calming measures, and environmental goals aimed at reducing vehicle weight and pollution), the increasingly adopted *safe, clean and affordable* mobility goals for transport policy at national and international levels are challenging the status quo and seeking integrated solutions that address competing societal goals. In as much as mobility is defined as accessibility it has been argued that safety does not conflict with it, since accessibility is considerably diminished unless it is safe. Similarly, affordable mobility does not conflict with safety, since society pays a high price for the external costs of road crashes. It has also been argued that investing immediately in the long-term *Safe System* goal of eliminating deaths and serious injuries will be less expensive in the long run than making gradual safety improvements or relying solely on crash prevention approaches [7]. The co-benefits of safety and environmental policies aimed, for example, at managing unsafe speeds and creating 'livable' cities are becoming better understood. The possibility of achieving cleaner, more fuel efficient and safer cars has been demonstrated in electric vehicle crash testing [8]. To be effective country road safety investments will have to be integrated and sustained across a range of sectors and related policies on a scale that is only now beginning to be understood [9,10].

3. From a decade of advocacy to the launch of the Decade of Action and global plan

3.1. A decade of advocacy (2001–2011)

The turn of the twentieth century marked an awakening of international organizations in the development, health and transport sectors to the forecasts of a growing global crisis in road traffic injury as emerging economies motorized. A critical development was the issuing of the *World Report on Road Traffic Injury Prevention* [11] jointly issued on World Health Day 2004 by the World Health Organization (WHO) and the World Bank. The *World Report* highlighted the growing public health burden of road deaths and long-term injury and made a powerful case for urgent measures to address the problem as a global development priority. Its findings and recommendations outlined in **Box 1** provided a consensus-based blueprint for country, regional and global action and have subsequently been endorsed by successive United Nations General Assembly and World Health Assembly Resolutions.

Further reports during the decade from the WHO, the Commission for Global Road Safety and the OECD highlighted the scope for urgent action. The Make Roads Safe Campaign spearheaded a highly visible advocacy program, which reached out to community leaders, celebrities and the media to assist the delivery of its key messages, and it successfully lobbied for a global ministerial conference and a dedicated

Box 1

Recommendations of the World Report on Road Traffic Injury Prevention.

1. Identify a lead agency in government to guide the national road safety effort.
2. Assess the problem, policies and institutional settings relating to road traffic injury and the capacity for road traffic injury prevention in each country.
3. Prepare a national road safety strategy and plan of action.
4. Allocate financial and human resources to address the problem.
5. Implement specific actions to prevent road traffic crashes, minimize injuries and their consequences and evaluate the impact of these actions.
6. Support the development of national capacity and international cooperation.

decade of global action. The World Bank's Global Road Safety Facility produced new road safety management assessment frameworks and guidelines and the Multilateral Development Banks agreed to a shared approach to foster road safety management capacity building in low and middle-income countries. Intervention guidelines, other tools and networks were produced by global partnerships and the International Standards Organization (ISO) started work on a new road safety management system standard for organizations. This decade of advocacy culminated in the announcement by the United Nations in 2010 of the Decade of Action for Road Safety [12] and the launch of a Global Plan in 2011 (see **Box 2**) [13].

3.2. The Decade of Action and the Global Plan 2011–2020

At this crucial juncture between the decade of advocacy and a decade of action it is timely to reflect on the nature of the global commitment that has been made and its implications for transportation policy. A *Global Plan* has been prepared to support the implementation of the *World Report* recommendations with an ambitious goal being set to stabilize and then reduce the forecast level of road traffic fatalities in low and middle-income countries by 2020 [13]. This will represent around a 50% reduction of the otherwise 2020 death toll and it is estimated that it will save 5 million lives and avoid 50 million serious injuries, with a social benefit of more than US \$3 trillion [22]. Nearly 60% of the lives saved and serious injuries avoided would be in the World Bank's East Asia Pacific and South Asia regions alone, with another 18% in Sub-Saharan Africa [23].

The *Global Plan* sets out five pillars for action (road safety management, safer roads and mobility, safer vehicles, safer road users and post-crash response) [13]. Countries are recommended to consider these five pillars within the framework of their own national arrangements, taking an incremental approach to including them where required. The *Global Plan* is expressed in terms of good practice interventions and related performance measures, starting with the recognition that its first crucial pillar requires the building of road safety management capacity. Country road safety performance will be monitored and evaluated, with periodic status reports and mid-term and final reviews presented at planned global Ministerial conferences in 2015 and 2020.

A prerequisite for effective action within the road safety management pillar of the *Global Plan* will be to take account of the management capacity in the countries concerned through in-depth road safety management capacity reviews to ensure that identified institutional strengthening priorities and related investments are properly sequenced and adjusted to their absorptive and learning capacity.

Box 2

A decade of advocacy 2001–2011 [10].

- 2001: 5 Year WHO Strategy for Road Traffic Injury Prevention [14] highlighted global forecasts for road traffic injuries e.g. *Global Burden of Disease* (1996) [15] (further forecasts in later years by Kopits and Cropper [16], and Mathers and Loncar [3]).
- 2004: the World Health Organization and World Bank launched the *World Report on Road Traffic Injury Prevention* [11] which was widely endorsed as a global blueprint for good practice intervention in road safety by United Nations General Assembly and World Health Assembly Resolutions [17].
- 2005: the World Bank established the Global Road Safety Facility (GRSF), supported by the World Bank Development Grant Facility, FIA Foundation for the Automobile and Society, Government of the Netherlands, Swedish International Development Cooperation Agency (SIDA), and the Australian Agency for International Development (AusAID).
- 2006: the Global Commission for Road Safety launched the *Make Roads Safe* campaign and three successive reports that further articulated global road safety problems and the scope for action by the responsible agencies including the call for a global ministerial conference and a dedicated decade of action [18].
- 2008: the OECD published *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach* which called for countries to adopt a results-focused *Safe System* approach to road safety management and scale up investment and capacity building to meet ambitious long-term goals and step-wise quantitative targets [19].
- 2009: the World Bank GRSF guidelines [9] were issued to support the implementation of the *World Report* recommendations and to provide a framework for focusing country assistance.
- 2009: the Multilateral Development Banks agreed to a shared approach to road safety management (African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank, Islamic Development Bank, World Bank) [20].
- 2009: the First Global Ministerial Conference on Road Safety was held in Moscow, hosted by the Government of the Russian Federation.
- 2010: major new funding was made available to six global partners by Bloomberg Philanthropies in their Road Safety in 10 Countries Program.
- 2010: the United Nations Decade of Action for Road Safety 2011 was announced.
- 2011: consultation commenced on a new road safety management systems standard for organizations, led by Sweden (PC241/ISO 39001: Road Traffic Safety (RTS) Management Systems).
- 2011: the Multilateral Development Banks launched their shared approach to road safety management (the MDB Road Safety Initiative) [21].
- 2011: the Global Plan for the Decade of Action 2011–2020 was launched on 11 May.

4. The central role of government in road safety management

4.1. The management system

Improving road safety performance must be viewed in the context of the overall road safety management system as illustrated in Fig. 1. Road safety management can be viewed as a production process with three inter-related elements: *institutional management functions* produce *interventions* that produce *results* [9]. Close attention must be paid to all these elements and their linkages as the limits to improving country road safety performance are shaped by their inherent weaknesses [9].

This framework derives from New Zealand's 2010 target setting model that linked desired results with interventions and related institutional implementation arrangements [24]. Elements of the New Zealand framework were adopted by the European Transport Safety Council which highlighted the specification of results measures; the SUNflower Project which defined implementation arrangements as 'structure and culture'; and World Bank guidelines which specified the SUNflower Project 'structure and culture' dimension in terms of seven institutional management functions [25–27,9].

The institutional management functions at the base of the pyramid are delivered primarily by the government agencies producing interventions, but also through their partnerships with the private sector and civil society, to achieve the desired focus on results. The foremost and pivotal function is *results focus*, with all other functions being subordinated to this and contributing to its achievement. It can be interpreted as a pragmatic specification of a country's ambition to improve its road safety performance and the means agreed to do so. In the absence of a clear focus on results all other institutional management functions and related interventions can lack cohesion and direction and the effectiveness and efficiency of safety programs can be undermined [9].

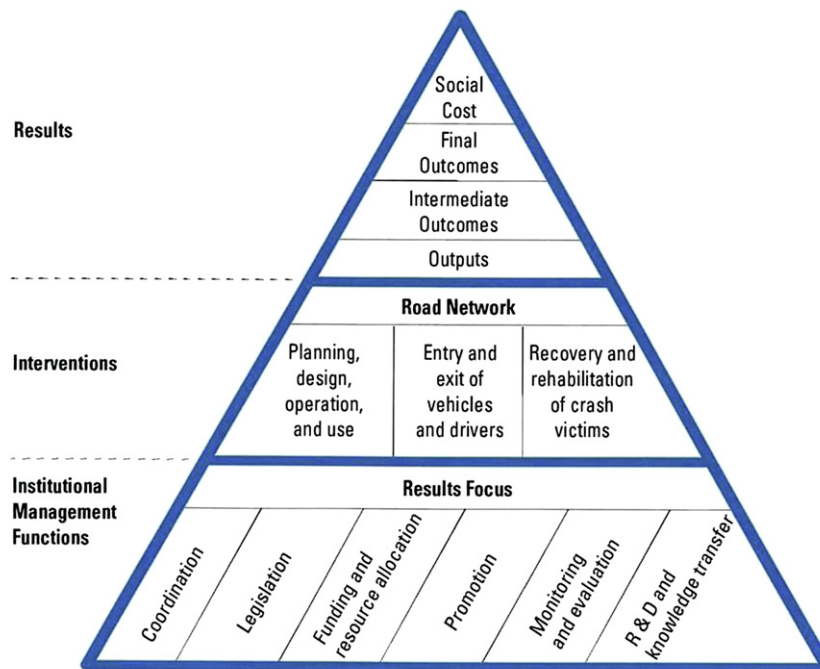
4.2. Evolving focus on results

Successive strengthening of road safety governance and policy-making can be traced through the evolution of the results focus in high-income countries over the last 50 years culminating in the *Safe System* goal of eliminating road crash deaths and serious injuries [9].

In the 1950s and 1960s rapid motorization and escalating road deaths and injuries became evident in many OECD countries and concurrently the ambition to improve road safety results began to grow. At that time dispersed, uncoordinated, and poorly resourced institutional units performing isolated single functions characterized the nature of road safety management [28]. Policies placed considerable emphasis on the driver by establishing legislative rules and penalties, supported by information and publicity, and expecting subsequent changes in behavior. It was argued – erroneously as it turned out – that because human error contributed most to crash causation, educating and training road users to behave better could address it effectively.

In the 1970s and 1980s this approach gave way to a systems perspective on interventions. William Haddon, an American epidemiologist, developed a systematic framework for road safety based on a disease model that encompassed infrastructure, vehicles and users in the pre-crash, in-crash and post crash stages [29]. Central to this was the emphasis on managing the exchange of kinetic energy in a crash that leads to injury, to ensure that the thresholds of human tolerances to injury were not exceeded. This broadened the approach to a system-wide delivery of interventions, although it did not directly address the institutional management functions producing them or the desired results.

By the early 1990s good practice countries had shifted to action focused plans with quantitative fatality targets to be achieved with packages of system-wide measures based on the evidence generated



Source: Bliss and Breen, building on the frameworks of Land Transport Safety Authority, 2000; Wegman, 2001; Koornstra et al, 2002; Bliss, 2004.

Fig. 1. The road safety management system.

from ongoing monitoring and evaluation. Key institutional management functions were also surfacing and becoming more effective. Leadership roles were identified, inter-governmental coordination processes established and funding and resource allocation mechanisms and processes aligned with the results required. Developments in Australasian jurisdictions further elaborated this approach. For example, target hierarchies linking institutional outputs with intermediate and final outcomes to coordinate and integrate multi-sectoral activities enhanced accountability arrangements. This evolution laid the foundation for current best practice and reflects the governance arrangements found in many higher performing countries today [9].

By the late 1990s two of the world's best performing countries had determined that sustaining continuous improvement in performance would require a rethinking of the focus on results and the Dutch *Sustainable Safety* and Swedish *Vision Zero* strategies set a goal to make the road system intrinsically safe [30,31]. The emphasis on managing the exchange of kinetic energy in a crash to ensure that the thresholds of human tolerances to injury were not exceeded was revitalized and given an ethical underpinning in that road deaths and injuries were no longer seen as a necessary price to be paid for improved mobility. These principles have formed the basis of the *Safe System* approach which underpins the Global Plan and is promoted by the OECD, the World Bank and ISO as best practice to all countries that aim to create and establish capacity for a sustainable road traffic system, irrespective of their current economic status and safety performance [19,9]. The *Safe System* goal to eliminate death and long-term injury has effectively re-defined what is meant by 'safety' in good practice road safety management goals [32]. For example, reflecting the increasing ambition of high-income countries for improved road safety results, the EU Council of Ministers called in December 2010 for targeted action towards achieving the eventual elimination of death and long-term injury on Europe's roads [33]. The European Commission also proposed that by 2050, the EU should move close to zero road traffic deaths and aim at halving road traffic deaths by 2020 [34,35].

4.3. Leadership and the central role of government

Managing road safety is a shared responsibility at international, national, regional, and local levels that engages government, industry, other business and civil society across a wide range of sectors. Its multi-disciplinary scope and related challenges require sustained institutional leadership, collaboration and delivery capacity within government agencies as well as with their industry, business sector and civil society partnerships to achieve country goals. Government leadership and related performance targets, tools and incentives are necessary for organizations to be responsive to their 'bottom line' safety interests and the external 'co-benefits' arising from improved road safety. At the same time there is always a risk that competing interests will submerge this shared responsibility and hence the requirement for effective governance is paramount.

Road safety leadership and capacity either at a country or organizational level is not amenable to being outsourced since the issues involved go to the core of government decision-making. Achieving road safety results requires long-term governmental ownership, leadership and political will, manifested in the form of ambitious goals, step-wise targets and sufficient human and financial resource to achieve them. For these reasons the first and crucial recommendation in the *World Report* concerns the identification of a lead agency in government to guide the national road safety effort, with the power to make decisions, control resources and coordinate the efforts of all participating sectors of government. World Bank guidelines further highlight the importance of the lead agency role in orchestrating accountable, results-focused action across Government, supported by effective coordination arrangements that go beyond a consultation role to managing decision-making processes across agreed road safety partnerships. Successful practice underscores the need for the agency to be a governmental body and for its leadership role to be accepted, defined in legislation and fully supported across government to ensure sustainable funding and delivery capacity [9].

Road safety management capacity reviews have identified that in the absence of responsible and accountable road safety leadership at

Box 3

Relevance of *Safe System* approach to low and middle-income countries.

The *Safe System* approach:

- addresses all elements of the road traffic system in an integrated way;
- emphasizes the reduction of death and long-term injury rather than the prevention of crashes which as the *World Report* highlighted is an unrealistic goal;
- challenges the fatalistic view aptly termed ‘the scandal of tolerance’ [39] that road traffic injury is the price to be paid for achieving mobility and economic development by setting a societal goal with step-wise targets to eliminate road deaths and serious injuries in the long-term which can motivate and encourage all involved;
- accentuates the shared and accountable responsibility of designers and users of the road network for achieving road safety results;
- addresses limitations in human capacities in the setting of safety standards and rules and related compliance regimes for the planning, design and use of the road network; the conditions of entry and exit of vehicles and road users to the road network; and the recovery and rehabilitation of crash victims from the road network;
- demands equity in addressing the safety needs of both motorized and non-motorized users;
- aligns well with the goals of sustainable development and presents opportunities for achieving co-benefits with other societal objectives such as improved local air quality, greenhouse gas reduction, energy security, poverty reduction, social inclusiveness and occupational health and safety;
- necessitates the strengthening of all elements of the road safety management system, especially institutional management functions, to achieve sustainable success.

Source: [9,19,40].

country, state, provincial and city levels, efforts aimed at improving, for example, program coordination, funding, decentralization and promotion will often be illusory and unsustainable [9]. Likewise, action plans prepared without a designated governmental agency mandated to lead and orchestrate their implementation remain as ‘paper’ plans and make no positive impact on results [9,19]. For example, Sweden’s successful experience in work-related road safety clearly illustrates that a strong governmental lead agency presence and encouragement is vital to unlocking the huge potential for the successful engagement of business and civil society to achieve improved road safety results [36].

5. Building management capacity

Countries with poor road safety performance cannot expect to achieve the organizational structures and processes of good practice countries overnight. Implementing the recommendations of the *World Report* requires capacity building at the global, regional and country levels, to create the resources and tools necessary to target initiatives on a scale capable of reducing significantly and sustainably road deaths and injuries in low and middle-income countries.

The central issue is how to accelerate the necessary process of shifting from weak to strong institutional management capacity to govern the production of improved road safety results. At the country level implementation requires an integrated framework that treats the *World Report* recommendations (outlined in Box 1) as a totality and ensures that institutional strengthening initiatives and related road safety investments are properly sequenced and adjusted to the institutional realities encountered in the country concerned. This requires a staged process to investment that addresses revealed capacity weaknesses by first building a core institutional capacity to bring targeted safety outcomes under control with specific attention being paid to lead agency and related coordination arrangements, then scaling up investment to accelerate this capacity strengthening and the achievement of improved results across the national road network. A good example of the innovative features of this approach and the lessons being learned is provided by a current World Bank road safety project being implemented in Argentina (see Box 4).

6. Implementing the *Global Plan*

6.1. Current global, regional and national capacity

Currently lack of road safety management capacity in low and middle-income countries presents a formidable barrier to implementing the ambitious *Global Plan*. Road safety management capacity reviews conducted under the auspices of the Global Road Safety Facility indicate that a clearly defined results focus is often absent, coordination arrangements are ineffective, supporting legislation is weak, funding is insufficient, promotional efforts are poorly targeted, monitoring and evaluation systems are ill-developed, and knowledge transfer is limited. Interventions are fragmented and often do not reflect good practice. Little is known about the results achieved.

Capacity weaknesses are not just confined to countries. Global and regional institutional capacity to address road safety priorities is also weak and requires strengthening. Knowledge and skills within the international and regional development banks are lacking and there has been limited investment in building road safety management capacity by the UN Regional Economic Commissions and other UN and development agencies [9].

Against these formidable challenges, what then are the prospects for the implementation of the *Global Plan*? How far does the *Global Plan* and related initiatives address the implementation issues foreseen, though not addressed, in the *World Report*?

6.2. Provisions in the *Global Plan*

A central aim of the *Global Plan* is to serve as a tool to support the development of national and local plans of action. The *Global Plan* is expressed in terms of good practice interventions and related performance measures, starting with the important recognition in its first crucial pillar that road safety management capacity must be strengthened. It provides a systematic presentation of *what* needs to be done, but is silent on *how* this will be done. However, it does acknowledge that substantially increased levels of funding support for countries will be required and efforts are now being initiated globally to raise these funds.

What the *Global Plan* does not address is the paradox of how to implement the good practice models being advocated when there is insufficient country capacity to manage this process. The assumption

is implicitly made that countries will be able to incorporate the plan's recommendations into their current arrangements, whereas in-depth experience of country management systems reveals that this will be difficult without a planned sequencing of initiatives designed to overcome management capacity barriers to implementation. Guidelines and tools can assist this but their value is contingent on a country's willingness to support and promote their use with strong institutional leadership and sustained investment producing substantial and measurable results.

6.3. Increasing investment and related management tools and processes

In implementing the *Global Plan* there will be opportunities for low and middle-income countries to tap into an array of related global initiatives that have been designed to support them on their pathway to bringing road safety outcomes sustainably under control. Central to this will be the recent Multilateral Development Bank Initiative launched at the World Bank in April 2011 which recognizes the need for a systematic multisectoral response and aims to develop a shared approach to strengthening road safety management capacity, improving road infrastructure safety, enhancing road safety data collection and performance measures, and mobilizing resources for road safety [20,21].

It is envisaged that this initiative will support significant road safety investment operations in low and middle-income client countries with regional training programs; planning tools such as the International Road Assessment Programme (iRAP); other initiatives created by the World Bank Global Road Safety Facility such as capacity building services provided by the International Road Policing Organization (RoadPOL) and the International Road Traffic Accident Database Group (IRTAD); and management tools such as the World Bank guidelines and the emerging ISO 39001: Road Traffic Safety (RTS) Management Systems [37]. These latter tools set out state of the art processes for road safety management and its assessment and aim to provide complementary approaches and guidance to decision-makers and practitioners in government and other organizational entities on systematic frameworks and steps to achieve the ambitious results sought in the global *Decade of Action*.

The World Bank guidelines [9] provide a pragmatic approach designed to overcome country capacity barriers and achieve sustainable results. They have been prepared to assist country road safety professionals, World Bank and regional development bank staff, international consultants, community groups, private sector organizations, and all other global, regional and country partners and stakeholders undertaking country road safety investments. The road safety management assessment framework set out in the guidelines has been endorsed by the OECD [19] and widely applied in low, middle and high-income countries.

Complementary to the World Bank framework, the International Standards Organization is developing a new road safety management system standard (ISO 39001) to assist organizations of all types and sizes to establish and implement road safety management systems that address the safety of their staff and other road users impacted by their operations. It is one of a family of ISO management system standards and uses a 'Plan, Check, Do and Act' process framework. Key elements include the requirements for an organization to adopt the *Safe System* goal and decide on targets and objectives for improved safety outcomes then consider a range of measurable safety performance factors covering areas within the organization's sphere of influence that are known to help achieve this. The aim is both to guide organizations through a process of continual improvement in road safety performance towards the goal of no road deaths or serious injuries arising from their activities and support the transfer of knowledge about successes achieved.

This initiative is expected to reach the Draft International Standard stage in 2011 and be published in early 2012. It has the potential

to provide a powerful tool to assist systematic road safety management in all relevant organizational entities throughout a country and help align their initiatives with the national road safety strategy. A key challenge will be to ensure that ISO 39001 is presented in a way that is accessible and recognizable to potential users that have had no previous association with ISO procedures and protocols. In the case of low and middle-income countries this has required its careful alignment with key aspects of the road safety management framework promoted by the World Bank.

7. Critical success factors if the *Decade of Action* goal is to be achieved

The creation of the Decade has been an extraordinary effort. Ten years of advocacy requiring hard work, vision and commitment, has been demonstrated by the key global players. Yet it must be recognized that the planned action for the future in the *Global Plan* faces far more formidable barriers to change, at least an order of magnitude more difficult to overcome [2]. Setting goals and targets is one thing, meeting them another [19]. Moving forward will require a deeper consideration of how improved road safety performance is produced and the institutional dimension to this process. Critical issues for success are how to build road safety management capacity through institutional reforms? How to accelerate knowledge transfer and leapfrog previous paradigms? How to scale-up investment? How to sustainably increase international cooperation and development aid support? Meeting the management challenges of the Decade of Action for Road Safety will require these four critical success factors to be addressed, if its ambitious goal is likely to be achieved.

7.1. Building road safety management capacity through institutional reform

Insufficient attention has been paid to the institutional benchmarks for good performance set by high-income countries. When considering the strategic policy challenges faced by low and middle-income countries this omission is critical and without directly addressing it little sustained success can be anticipated.

It is important that any initiatives designed to improve country road safety performance are centered on the lead agency role and driven from the objective of strengthening national leadership, in accordance with the priority given to this by the key overarching *World Report* recommendation. Particular attention should be paid to the leadership required to provide effective program and project management and related inter-agency coordination functions, assisted by mentoring from recognized road safety specialists with successful strategic management experience at country and international levels.

7.2. Accelerating knowledge transfer

The *Safe System* approach is recognized as international best practice in managing for results. It builds on the best of previous approaches and promotes innovation and the adoption of technologies that are based on well-established safety principles. While its full take up is challenging for even the most advanced road safety management systems that have evolved over a period of long investment, a body of good practice is emerging [38,9,19].

Despite these challenges international development organizations agree that the opportunities provided by *Safe System* approach to low and middle-income countries summarized in Box 3 are substantial and especially relevant. In view of the impact of the unprecedented levels of motorization taking place, the OECD and World Bank are encouraging emerging economies to shift rapidly and directly to the *Safe System* approach to benefit from the costly lessons learned by high-income countries in their evolutionary pathway in bringing road safety outcomes under control [9,19].

Box 4**Building management capacity – the Argentina Road Safety Project.**

As defined in the World Bank guidelines, *Safe System* projects are preferably stand-alone, multisectoral initiatives targeting high-risk corridors and urban areas, with outcomes large enough to be reliably measured. A crucial feature is that their management arrangements are designed to strengthen the vital lead agency contribution to directing and sustaining the production of improved road safety results and maximize the potential for the lead agency to rapidly assert itself in this role and build its capacity accordingly. The Argentina Road Safety Project exemplifies the innovative application of these new guidelines.

The project was prepared in collaboration with the transport and health sectors. It aims to reinforce the central role of a newly created lead agency in Argentina to enable it to effectively and efficiently deliver its institutional management functions and build and strengthen its leadership and partnership capacity in the process. A two-stage output-based investment process finances institutional capacity strengthening priorities such as improved data management and monitoring an evaluation system, targeted multisectoral interventions in high-risk corridors, and policy reforms where weaknesses have been identified. The project includes an incentive fund designed to attract participation by community-based organizations and municipalities. It also benefits from international peer-to-peer partnerships facilitated by the World Bank Global Road Safety Facility which have engaged the International Road Assessment Programme (iRAP) for project corridor safety surveys and the specification of infrastructure safety improvements, the International Road Traffic Accident Database (IRTAD) Group and the transport and health Ministries from Spain for support with road safety database establishment and management, and the International Road Policing Organization (RoadPOL) for support with the management and delivery of effective general deterrence road policing in the project corridors.

Important lessons are being learned from the implementation of this project. First, it is necessary to adapt the World Bank guidelines to the unique circumstances encountered at the country level. In the case of Argentina the prior creation of a new lead agency in a Federal government context created opportunities to tailor initiatives like the implementation of a national driver licensing system to support their establishment needs in building relationships with provincial and municipal levels of government. Second, the importance of sequencing key initiatives has been reinforced and Argentina exemplifies the envisaged implementation of the *World Report* recommendations (see [Box 1](#)) with the timely creation of the new lead agency enabling the country's first national road safety strategy to be owned and directed with authority, and its second national strategy to be more firmly grounded in a well resourced set of partnerships and enhanced performance management framework. Third, the creation of a lead agency with professional staff makes it possible to manage greater complexity and project implementation can move quickly and efficiently. Fourth, when best practice measures are taken with high visibility, 'South-South' dialog on a regional basis can be stimulated and result in new and related initiatives such as the growing demand for a regional road safety observatory along the lines of the national observatory being created by the project. Fifth, the project highlights that while 'political will' for improved road safety clearly matters, it must be given tangible form through empowered and adequately funded institutional management arrangements.

Building management capacity and accelerating the transfer of knowledge must be grounded in practice by a 'learning by doing' process backed with sufficient targeted investment to overcome the barriers presented by evident weaknesses at the global, regional and country levels.

7.3. Scaling up country investment

Substantial investment in road safety management capacity is vital to success but requires a staged approach related to the learning and absorptive capacity of the country concerned. Successful implementation of country investment strategies will hinge on designing programs that *simultaneously* accelerate the transfer of road safety knowledge to low and middle-income countries, strengthen the capacity of participating partners and stakeholders, and rapidly produce results that provide benchmark measures to dimension the next stage of the investment program.

This staged approach to scaling up investment acknowledges the barriers imposed by weak safety management capacity and addresses the challenge of accelerating the necessary process of institutional strengthening of participating partners and stakeholders required to effectively govern the production of improved road safety results. In effect the long-term investment strategy is implemented by a program of successive projects that build on the results achieved and the management capacity created in the process.

7.4. Sustainably increasing international cooperation and development aid support

Efficient and effective implementation of the *World Report's* recommendations will require countries working in partnership with the international development community to scale up, refocus and

harmonize their road safety activities, with an emphasis on managing for results. As an overarching priority institutional capacity building at global, regional and country levels must underpin this endeavor if improved country road safety performance is to be sustained in the longer term.

7.5. Achieving the Decade goal

Meeting the expectations of the *Global Plan* presents considerable management challenges. Without strengthened institutions and the accelerated knowledge creation and transfer central to this, plus scaled-up investment and increased international cooperation and development aid, it is easy to envisage ill-prepared low and middle-income countries being overwhelmed by the sheer scale and rapid spread of the crisis they are facing. Action is now required and for it to be effective these critical success factors must urgently be addressed.

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