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Case study: The Argentina Road Safety Project: lessons learned for the Decade of Action for Road Safety, 2011–2020

Veronica Raffo¹, Tony Bliss², Marc Shotten¹, David Sleet³, Claire Blanchard⁴

¹World Bank, Washington, DC, USA.

²Monash Injury Research Institute, Monash University, Australia.

³Centers for Disease Control and Prevention, Atlanta, GA, USA.

⁴International Union for Health Promotion and Education, Saint Denis, France.

Abstract

This case study of the Argentina Road Safety Project demonstrates how the application of World Bank road safety project guidelines focused on institution building can accelerate knowledge transfer, scale up investment and improve the focus on results. The case study highlights road safety as a development priority and outlines World Bank initiatives addressing the implementation of the World Report on Road Traffic Injury's recommendations and the subsequent launch of the Decade of Action for Road Safety, from 2011–2020. The case study emphasizes the vital role played by the lead agency in ensuring sustainable road safety improvements and promoting the shift to a 'Safe System' approach, which necessitated the strengthening of all elements of the road safety management system. It summarizes road safety performance and institutional initiatives in Argentina leading up to the preparation and implementation of the project. We describe the project's development objectives, financing arrangements, specific components and investment staging. Finally, we discuss its innovative features and lessons learned, and present a set of supplementary guidelines, both to assist multilateral development banks and their clients with future road safety initiatives, and to encourage better linkages between the health and transportation sectors supporting them. (*Global Health Promotion*, 2013; 20 Supp. 4: 20–36).

Keywords

Argentina; guidelines; injury; management; road safety; World Bank projects

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Correspondence to: Veronica Raffo, Latin America and Caribbean Region, World Bank, Washington, DC, USA. vraffo@worldbank.org.

Conflict of interest and disclaimer

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Introduction

Road safety as a development priority

In developing countries, the sheer scale of health losses from road crashes makes road safety a development priority. Road crashes killed 1.24 million people in 2010 (1) and were the eighth leading cause of death globally (2). Over 90% of the world's fatalities on the roads occur in low-income and middle-income countries (LMICs), which have only 48% of the world's registered vehicles. Estimates of the total costs of road traffic injuries for LMICs fall between 1% and 2% of their total Gross National Product (GNP) (3).

In response to this public health crisis, the recently proclaimed United Nations (UN) *Decade of Action for Road Safety 2011–2020* has set an ambitious goal to stabilize and then reduce the forecast level of road traffic fatalities in LMICs by 2020 (4). This represents around a 50% reduction from the predicted 2020 death toll and it is estimated to save 5 million lives and avoid 50 million serious injuries, with a social benefit of more than US \$3 trillion. Impacts on this scale enhance country and regional development opportunities, and present a challenge to development agencies to help identify and overcome the current barriers to success.

Country development aims to promote higher living standards for all, with an emphasis on improved health, education, employment, and people's ability to participate in the economy and society (5). Improving road safety in developing countries requires investments in infrastructure, governance and institutions; and related investments in the health of individuals. In particular, it addresses the vulnerability of citizens to catastrophic death and injury, especially for the poor and those thrust into poverty as a consequence (6). It recognizes the rights of vulnerable road users to safe transport and protection from the negative impact of rapid motorization.

There is also a growing awareness in transport policy formulation of the alignment between country road safety priorities and other sustainable development goals, and the resulting opportunities to capture the associated *co-benefits* of integrated initiatives (7). Road transport is a key contributor to ambient air pollution, which kills 3 million people globally every year. Similarly, a substantial proportion of the burden of physical inactivity, which is responsible for another 3.2 million deaths annually, is because of sedentary lifestyles resulting from growth in motorized transport. Safer infrastructure facilities that promote increased walking and cycling, and lower vehicle speeds, will also result in reduced greenhouse gas emissions and local air pollution, enhanced fuel efficiency, and improved physical and mental wellbeing. Road safety efforts can also contribute to and thus be considered as a strategy for addressing other major global issues, such as non-communicable diseases through cleaner air and more active populations, amongst others (8–11).

World Bank road safety initiatives

The World Bank has been engaged in country-level assistance for road safety for the last 3–4 decades. Over the last decade, the World Bank stepped up its global contribution in response to the growing recognition of road safety as a development priority. In a key step, it partnered with the World Health Organization (WHO) to jointly issue the *World Report on*

Road Traffic Injury Prevention, on World Health Day 2004 (3). The report's findings culminated in six overarching recommendations that set out the strategic initiatives necessary to improve country road safety performance:

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.

The report highlighted the fundamental role of the lead agency in ensuring the effective and efficient functioning of the road safety management system (3). Action plans prepared without a designated and adequately funded agency mandated to lead their implementation are likely to remain paper plans and make no lasting impact on results.

The WHO *Global Status Report 2013* highlights the dramatic under-reporting of road injury deaths in official government statistics. WHO point estimates can be over 5 times higher than those reported by national governments in low-income countries (2). These results further highlight the ongoing need to construct estimates from available health sector data sources, to validate government statistics and hence facilitate improvements in reporting, a key area when considering the type of overseas aid needed by countries, when addressing road safety projects.

The Safe System approach

Lessons learned from road safety management systems in high-income countries can assist LMIC to achieve greater success, but will require LMICs to shift rapidly to a 'Safe System' approach, with a focus on results that aims to eliminate road deaths and serious injuries, rather than chart a fatalistic pathway that accepts these impacts as an inevitable price of economic progress (Box 1).

The World Bank has been shifting its practice and is promoting 'Safe System' road safety projects aimed at anchoring country road safety strategies in systematic, measurable and accountable investment programs that simultaneously build management capacity while achieving rapid improvements in safety performance. In the past, projects were implemented as fragmented single-sector initiatives, with outcomes too small to be measured, and were often one-off projects with no follow-up activities. In rethinking the approach, a focus on results and sustainability became an essential ingredient of success, and so the World Bank embarked on a new approach to road safety investments that centered on building institutional capacity and accountability as priority requirements. Guidelines were prepared to support this new emphasis (13,14).

In 2008, a major report published by the Organisation for Economic Co-operation and Development (OECD) and International Transport Forum reviewed the success of targeted national road safety strategies and recommended that all countries, regardless of their level of road safety performance or economic development status, should adopt the 'Safe System' approach. The report also endorsed the road safety management framework set out in the World Bank guidelines and related capacity review tools and a knowledge transfer strategy, which were successfully piloted in high-income, as well as LMICs (15).

Over the coming *Decade of Action for Road Safety 2011–2020*, road safety performance objectives will be aligned with the five pillars of the *Global Action Plan* that was prepared to address key priorities: road safety management capacity, safer roads and mobility, safer vehicles, safer road users and post-crash care (16). The World Bank's focus will be on creating mainstream road safety investment strategies and related projects, in accordance with its 'Safe System' guidelines.

The Argentina Road Safety Project

The *Argentina Road Safety Project* exemplifies the innovative application of the new World Bank guidelines (17). The project's primary emphasis was on reinforcing 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.

We summarize here the road safety performance and institutional initiatives of the World Bank in Argentina, and then describe the project and its innovative features. Finally, we discuss lessons learned from project planning and implementation and look ahead to future developments.

Road safety performance and institutional initiatives

A World Bank analysis in 2003 estimates that the road crash fatality rate in the Latin American and Caribbean region would increase by about 50% between 2000 and 2020, to the highest regional fatality rate in the world at 31 deaths per 100,000 people, unless road safety efforts were intensified and new measures introduced (18). The 2010 *Global Burden of Disease Report* identified deaths from road injuries as a top 10 cause of death in all five sub-regions of Latin America and the Caribbean. In addition to deaths, non-fatal crashes result in substantial morbidity. Overall, road injuries accounted for 6 million disability-adjusted life-years lost in 2010, which was more than 3% of the total health lost in the region due to disease and injury (19).

The situation in Argentina provided strong evidence for these trends. Argentina made an impressive recovery from its deep economic crisis of 2001–2002 (20) and, sparked by increasing exports and consumption with its GDP in 2008 surpassing the pre-crisis level, has grown at an average annual rate of around 9% between 2003 and 2007; also achieving 7% growth in 2008, despite the global economic crisis (21). This steady increase in GDP per capita was accompanied by a rise in the rate of motorization, which in turn increased the risk of road traffic crashes, fatalities and injuries on urban and rural roads (22). In 2008, it was estimated that about 5760 people died from road crashes in Argentina, and over 95,000 were

injured, compared with an estimated 3960 road fatalities in 2004 (23, 24). Figure 1 provides some key fatality statistics. In 2008, more than one-half of the road fatalities took place on the national routes in Argentina, reflecting their high traffic volumes and vehicle speeds. Drivers accounted for more than two-thirds of the fatalities, followed by passengers (20.1%) and pedestrians (11.3%). Young people aged 15 to 34 were the most affected age group, comprising more than 40% of all fatalities.

In the meantime, best practice countries such as Sweden, the UK and the Netherlands were targeting performance improvements that would result in reducing by one-half their road fatality rates. Looking ahead under the 2003 scenario modeled by the World Bank, by 2020 Argentina's projected fatality rate would be at least at 10 times the rate of best practice countries in Europe unless urgent action was taken, representing a socially and politically unacceptable developmental disparity.

Mounting social and political disquiet about this escalating issue in Argentina led to the establishment of the Argentine National Road Safety Agency (ANSV) in April 2008, within the Ministry of Interior (25–27). The agency's mission is to reduce the rate of road deaths in the national territory, through the promotion, coordination, control and monitoring of both national and international road safety policies. ANSV adopted an organizational structure that established six main directorates: Driver Licenses and Traffic Records; Interjurisdictional Coordination; National Road Observatory; General Administration; Road Safety Training and Campaigns; and Legal and Judicial Affairs. The creation of ANSV was first envisioned in August 2007, in the Federal Agreement on Traffic and Road Safety, and was later enacted by Argentina's Congress, through Law 26,363. This law transfers the National Registry of Traffic Records from the jurisdiction of the Ministry of Justice, Security and Human Rights to the ANSV. Also, road safety interventions were sharpened into focus, and now encouraging signs of road safety performance gains are emerging (Table 2).

It is too soon to attribute specific measures as being responsible for these performance gains, but some observations can be made. Road safety activities started to become mobilized under the Federal Agreement on Traffic and Road Safety, in 2007, and they became more focused and visible nationwide, through the well-branded efforts of the newly-established ANSV in 2008. In particular, road policing initiatives became more targeted and widespread, covering increasingly larger sections of the high-risk road network. On the other hand, the global economic crisis of 2008 dampened Argentina's economic progress and the lowered traffic growth could be expected to reduce exposure to road crash risks; however, overall, Argentina's national economy still grew strongly through the crisis and the improvements in national road safety performance provided an encouraging indicator of the effectiveness of the new road safety management arrangements. Continued improvements in performance confirm this. During 2012, the average death rate per 1 million veh/km travelled in selected high-risk corridors was 0.019, reflecting a 29.87% reduction in the project baseline measures taken in 2010 (28).

Soon after it established the ANSV, the Government of Argentina approached the World Bank for technical assistance to strengthen ANSV's strategic delivery capacity and reduce

the extent and severity of road crashes in Argentina, aligning the project with the Bank's Country Partnership Strategy with Argentina, by focusing on three pillars (20):

- a. The promotion of equitable and sustainable economic growth;
- b. Social inclusion; and
- c. Improved governance by strengthening institutions, increasing accountability and increasing transparency.

A series of World Bank initiatives followed, culminating in a planning workshop in 2008, to reach a shared understanding of road safety management priorities in Argentina, the role of the lead agency in their delivery, and the design and preparation of a related 'Safe System' road safety project (29). Detailed project preparation commenced in 2009, with the World Bank Board approving a loan to finance the first phase of the project in March 2010.

Project development objectives

The Argentine project was designed to:

1. Strengthen the management capacity of the ANSV by the development of a national driver's license registry system and a national registry of traffic records and infractions for Argentina;
2. Increase public awareness of road safety issues through education and communication campaigns;
3. Improve the capabilities of the emergency response services;
4. Strengthen the general deterrence capacity of traffic enforcement and control services;
5. Create an innovative fund to reimburse the road initiatives put forward by provincial and municipal authorities; and
6. Support the establishment and capacity-building of the National Road Safety Observatory.

Lending instrument

Investment in the project was structured as a 2-phase Adaptable Program Loan (APL), to be executed over the period 2010–2019. Phase 1 covered the period 2010–2015, with its achievements defining Phase 2, set for completion by 2019. It is crucial to phase the project in such a way as to build capacity for stronger institutions and collaborative practices, and to test different road safety initiatives, while controlling the pace of reforms and taking into account the lessons learned from the ongoing activities.

Results

Phase 1

Phase 1 comprised three components (Table 3), selected following consultations with ANSV sector staff and other government representatives, representing a consensual approach to strengthening and improving road safety, in line with the National Plan for Road Safety.

Systematic road safety framework

The Phase 1 project components and related activities comprehensively cover elements of the systematic road safety management framework presented in the World Bank project guidelines (14), and complement related road infrastructure investment activities and ANSV initiatives. In particular, the components address the strengthening of the lead agency in the delivery of its core institutional management functions (a results focus, coordination, legislation, funding and resource allocation, promotion, monitoring and evaluation, research and development, and knowledge transfer). They also cover specific interventions addressing the planning, design, operation and use of the road network; entry and exit of drivers and vehicles to and from the road network; and the recovery and rehabilitation of crash victims extracted from the road network.

Project investment

Investment allocated to Phase 1 components totaled US \$38.5 million, with a further US \$30 million proposed for Phase 2.

Investment staging

Table 3 specifies the performance indicators designed to track progress against project objectives and Table 4 specifies the triggers set to begin Phase 2, primarily contingent on achieving advances in the development of the institutional management framework for road safety in Argentina.

Innovative features

In its application of the World Bank guidelines, the Argentina Road Safety Project demonstrated innovation that can usefully guide multilateral development banks and their country clients in the design and implementation of transformative road safety investment projects aimed at achieving sustainable improvements in results. These were as follows.

Lead agency ownership

Unlike many LMICs, the government of Argentina took the decisive step to create a lead agency, and empower and resource it to act. Creating lead agency ‘ownership’ of the nation’s road safety resulted; its direction of all key partnerships targeted to improvements is the ultimate goal of the investment projects, designed in accordance with the guidelines, and this must be a staged process, depending on the circumstances encountered in that country.

In Argentina, the rapid establishment of the ANSV provided an opportunity for the project to support the exercise of its powers within a cooperative framework, where the shared

responsibility for improving road safety results was accepted by all levels of government under the leadership of the ANSV.

Central to this was the creation of a national driver license registry system, and a national traffic records and infractions registry system. The shift to a unified, national driver license registry system strengthened entry and exit measures for drivers, and enhanced the effectiveness and efficiency of the enforcement programs, compared with the disparate and disconnected provincial and municipal systems that it replaced. It also provided a platform to accommodate future driver license system reforms that will have significant safety benefits, especially in the case of graduated driver licensing systems for novice drivers.

Crucially, the implementation and ongoing management process of the driver licensing and national registry systems helped legitimize the ANSV in its lead agency role, and created the federal presence that is so vital to effectively and efficiently manage road safety as a national priority, requiring more targeted and sustained attention.

Health sector collaboration and partnership

The project was prepared as a collaborative effort and partnership between the transport and health sector teams in the Argentina World Bank Country Office, and their counterparts in the relevant government agencies. This helped to broaden and deepen the understanding of road deaths and injuries as a growing public health priority in Argentina, and led to more effective and efficient data management initiatives concerning the integration and cross-matching of police crash data with health sector data; as well as strengthening emergency response capacity, which was enhanced by the establishment of a regional emergency network with a unique emergency call number and training in improved incident response, initial assessment of trauma patients and ongoing emergency care. A data collection structure was also developed to help improve the important contributions made by health centers and hospitals in reporting road deaths and injuries (that occur within the agreed 30-day period) to the National Road Safety Observatory.

This collaboration between the transportation and health sectors also resulted in the use of more innovative evaluation tools to build the business case for the project, with benefits from measures to be implemented expressed both in terms of health gains (monetized healthy life-years saved) and a willingness to pay for 'statistical' lives saved (expressed in terms of GDP).

Importance of a road safety observatory

The project invested, as a priority, in road safety monitoring systems and analysis tools, both at the central level to support the crucial role of the National Road Safety Observatory and in terms of related interventions in demonstration corridors, to build the results-management platform crucial to the long-term mission of the ANSV. A new road crash data collection system was established by the National Road Safety Observatory, using what is known as the 'Orange Form,' with standard procedures and protocols to ensure consistency across the nation. Specific crash management system software is also being developed, to support its application. A national traffic ticketing administration system is being implemented, with associated collation of unsafe road behaviors and surveys focusing on seat belt usage, lights,

helmet usage and distractive factors, to provide baseline data and monitor the progress in reducing road traffic injuries and fatalities.

The Observatory's Directorate of Road Infrastructure and Vehicle Safety developed in-house tools for assessing highway safety risks, and the Directorate also collects and analyzes vehicle safety data. The Directorate has already surveyed more than 50,000 km of key national roads and facilitated agreements between ANSV, the Ministry of Industry and Production, and carmakers, with the objective of improving the safety of new vehicles sold in Argentina. Improvements to vehicle safety standard regulations have been made, including ABS, airbags, seatbelt alerts, and central headrests, on the basis of the recommendations by this Directorate (30). The project also financed the Directorate's participation in the World Forum for Harmonization of Vehicle Regulations (Working Party 29).

Targeted police engagement

A crucial aspect of setting out the legal authority of the ANSV concerned the issue of traffic safety law enforcement across 25 provinces and over 2000 municipalities. Law 26,363 delegated certain functions to the ANSV, to promote and coordinate traffic control and supervision undertaken by federal, provincial and City of Buenos Aires police; and security forces throughout the nation. It also empowered ANSV to authorize the placement and use of related automatic and semi-automatic traffic safety enforcement systems. All partner jurisdictions were required to enact legislation stating their adherence to this national law (31).

ANSV has already developed and implemented road safety campaigns with its police partners, targeting speeding, drunken driving, and the use of safety belts and helmets. The campaigns were launched at high-profile media events and were complemented by extensive advertising concerning the safety themes.

Related surveys have started to collect baseline performance data that will be tracked on an annual basis, to allow for rigorous evaluation of campaign performance.

Engaging provincial and local governments, NGOs and the private sector

The project was designed to encourage an inclusive approach to the delivery of road safety interventions in the demonstration corridors and elsewhere in the road network. Funding and other support was made available to encourage NGO and private sector participation. An Incentive Fund was created to catalyze provincial and municipal engagement in the delivery of the national road safety strategy. These initiatives proved highly effective in developing a unified approach and sense of shared responsibility for the achievement of the ANSV's mission, and a strong commitment to ensuring its success as a lead agency.

Road safety advocacy efforts were strengthened, as a result, and victims' groups in particular have become more engaged in working with government partners to contribute to the achievement of improved safety outcomes. The strong commitment of the victims' groups to improved road safety outcomes was reflected through the organization of events all over

Argentina, such as music concerts, radio and TV awareness campaigns, and educational seminars and workshops.

Providing open access to safety data

The project funded the development and implementation of a web-based project-monitoring tool provided by an independent NGO with specialist skills in this area. The tool is hosted on the ANSV website and provides open access to project performance data. The website also hosts National Road Safety Observatory data, including IT tools and interactive maps with geo-referencing of crash sites, crash injuries data and high-risk sections on the national and provincial road networks, as well as information arising from road safety audit reports and high-risk section treatment prioritization guidelines.

Responsive funding mechanisms

Output-based funding was adopted by the project's Incentive Fund, to ensure a fast, demand-responsive disbursement of funds to provincial and local government in an otherwise complex political and institutional environment. This helped to create appropriate incentives for all jurisdictions to buy in and engage quickly, to support a country-wide rolling out of ANSV's road safety strategy.

The overarching aim of the Incentive Fund was to bring the issue of road safety to the forefront of government agendas at the provincial and municipal levels. Already many hundreds of local interventions have been financed, including local strategic plans, mass media campaigns and other initiatives, such as low-cost infrastructure improvements and road safety workshops.

Global and regional knowledge partnerships

The project was designed to take advantage of relevant global and regional knowledge partnerships with potential to support the preparation and delivery of key project components. In particular, the International Road Traffic Accident Database Group (IRTAD), in partnership with the World Bank Global Road Safety Facility, supported a twinning opportunity between its Spanish member agencies and agency partners in Argentina, to provide data management services that assisted in the development of the National Road Safety Observatory.

Communication, awareness and education campaigns

A number of awareness campaigns were developed by ANSV since 2008. They aim to promote safe road use by focusing on everyday stories, to raise society's awareness of the dangers they confront and ways to prevent them. The campaigns are aligned with targeted police enforcement operations and focus on five main topics that contribute to the most severe crash fatality outcomes (speed limit compliance, drunk driving, seat belt use, helmet use and cell phone use). ANSV also launched a YouTube channel in March 2009 (32).

ANSV hosts the Road Safety Education Strengthening Program website, primarily targeted to the educational community, where trainers (such as primary and secondary school teachers) can exchange their road safety education experiences (33). This program is jointly

developed with the Interior and Education Ministries, to incorporate road safety education in all school curricula throughout the country of Argentina. By late 2011, educational material had been distributed to more than 55,000 public and private schools (initial and elementary levels), to reach more than 500,000 teachers and almost 9 million students.

Addressing the UN Decade of Action pillars

Measures implemented by the project reflect each of the main pillars recommended by the UN Global Plan for the Decade of Action 2011–2020: road safety management, safer roads and mobility, safer vehicles, safer road users and post-crash response (16). Given the emphasis on supporting the ANSV's lead agency role, the project's focus was on the road safety management pillar, which in turn addressed all pillars in a systematic way, with special attention being paid to safer road users and post-crash interventions.

Discussion

Lessons Learned for the Decade of Action for Road Safety, 2011–2020

Important lessons have already been learned from the design and implementation of the Argentina Road Safety Project. These are as follows.

Adapting guidelines to unique country circumstances

The importance of adapting the World Bank guidelines to the unique circumstances encountered at the country level was highlighted in Argentina. Every country is different and presents specific entry points for engagement, depending on the capacity of their road safety management system. The prior creation of the ANSV in a federal context created opportunities to directly tailor an investment strategy to support their establishment needs.

Sequencing of World Report recommendations

The sequencing of key initiatives matters. Argentina and its early successes exemplify the correct sequential implementation of the *World Report* recommendations, something that is rare, as many countries are still addressing their road safety issues by considering specific interventions that can address key risk factors, without building the necessary institutional capacity to implement them on a sustainable basis.

Managing complexity

Complexity can be managed. Following on from the first two lessons, the existence of a lead agency in Argentina with professional staff made it possible to develop and implement complex road safety interventions and funding arrangements, and communicate this effectively to all participating and affected parties, across government and its agencies, communities and the business sector.

Securing stable funding for the lead agency

Securing a stable funding base was crucial to the success of the ANSV, both during its establishment phase and in terms of its ongoing development. The ANSV was granted

financial autonomy by law. It receives 1% of all collected vehicle insurance fees as its funding base.

This funding has allowed the ANSV to quickly build a professional staff and a well-branded institutional presence throughout society. It was also sufficient to provide support to key partners and stakeholders that make up the road safety community in Argentina, who in turn welcomed the ANSV's leadership and inclusive approach that gives a voice to all concerned and empowers them to act together to address their shared responsibility for improved road safety outcomes.

Mobilizing traffic safety police

Traffic police can be mobilized and engaged in effective general deterrence-style operations when the institutional roles, processes and resources are created to achieve this. There were interesting insights to be drawn from the 'control unit' model established within the ANSV.

Catalyzing partner and stakeholder engagement

Well-focused national leadership and supporting resources can catalyze effective partnership engagement with provincial and local governments, NGOs and the private sector, in order to achieve consensus on desired results and the measures to achieve them. In the case of Argentina, the Incentive Fund proved to be a powerful innovation that allowed the ANSV both to engage in a purposeful way with a wide body of partners and to legitimize its role with lower tiers of government and the community, at a more 'grass roots' level.

Speeding up project implementation

Project implementation can move fast when institutional roles, processes and resources are properly addressed, well managed and are the responsibility of an empowered lead agency. The speed of implementation in the Argentina Road Safety Project and the early results achieved compare very favorably with previous World Bank projects of similar ambitions, but lacking lead agency ownership.

Stimulating South-South dialogue and action

South-South dialogue and action engages developing countries in a cooperative process of sharing knowledge, skills, resources and technical know-how. On a regional basis this can be stimulated when best practice measures are taken and given high visibility. The Argentina Road Safety Project created interest in other Latin American countries facing the challenges of creating a lead agency to manage their national road safety efforts. It also spurred action to create a Regional Road Safety Observatory (34) and Argentina's development process, in partnership with the IRTAD Group and its Spanish counterparts, is serving as a model to assist the related development of regional protocols.

Monitoring and evaluating performance

Monitoring and evaluation of road safety performance underpins the delivery of sustainable road safety improvements. In particular, it helps shape the focus on results of the lead agency and its ability to provide clear, informed and authoritative direction to all partners and stakeholders. Credible, accessible performance data and related crash analyses are

crucial to carrying out this role. ANSV has already demonstrated the power of its strong partnerships with police agencies, the health sector and the IRTAD group to ensure that this capacity is built (35).

Translating priorities into action

Countries that have road safety as a high priority can be empowered to take action if adequately funded institutional arrangements can be accommodated. In the case of Argentina, there was evidence of political concern about the social and economic costs of road deaths and injuries, but little effective action had been implemented until the government took the decision to create and resource a lead agency that could be held accountable for the road safety results.

Looking ahead

The Argentina Road Safety Project is in the third year of its implementation and it is making promising progress. Early signs are that the proposed triggers to move into Phase 2 of the project will be met, well ahead of the planned schedule.

In terms of the new World Bank guidelines, successful delivery of Phases 1 and 2 of the project would complete the ‘establishment phase’ of implementing a long-term investment strategy for the country and it would set the scene to move to the ‘growth phase,’ where sufficient capacity has been built to manage a sustained and considerably scaled-up program of investment across the nation (14). It is at this stage that Argentina could reasonably be expected to achieve and sustain safety results approaching those of the better-performing high-income countries. The benefits of such a strategy would far outweigh the costs of implementation, and if they could be achieved, the seeds for such success would be found in the current project.

While the Argentina Road Safety Project was tailored to the unique institutional circumstances encountered in the country at the time, it provides innovative insights and lessons learned that show potential for adaptation in other LMICs. These innovative insights and lessons learned have since been further analyzed and prepared as general guidelines, to complement the new World Bank guidelines, and can be used as an extension of them to help highlight and elucidate their essential features and key messages (Table 5). They were designed to assist multilateral development banks and their country clients with the identification, preparation and implementation of road safety projects; and to encourage better linkages between the health and transport sectors that support these initiatives (36).

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Box 1.**The 'Safe System' approach.**

The Safe System approach:

- 1** Addresses all elements of the road traffic system in an integrated way;
- 2** Emphasizes the reduction of death and long-term injury, rather than the prevention of crashes;
- 3** Accepts that road users will remain fallible and crashes will occur;
- 4** Manages the transfer of crash energy to ensure that road users are not exposed to crash forces likely to result in death or serious injury;
- 5** Accentuates the shared and accountable responsibility of designers and users of the road network for achieving road safety results;
- 6** Demands equity in addressing the safety needs of both motorized and non-motorized users;
- 7** Aligns well with other sustainable development goals and seeks co-benefits, such as improved local air quality, greenhouse gas reduction, energy security, poverty reduction, social inclusiveness and occupational health and safety; and
- 8** Necessitates the strengthening of all elements of the road safety management system, especially institutional management functions, to achieve sustainable success.

Source: reproduced with permission from *IATSS Res*, 2012, (12).

Figure 1.

Argentina: road fatality statistics.

^a Includes motor cyclists and cyclists.

Source: reproduced with permission from Bulletin of the Road Safety Observatory, 2009, (23) and the Organisation for Economic Cooperation and Development (OECD), International Transport Forum (ITF), Road Safety Annual Report 2011 (24).

Table 2.

Reported road fatalities, injury crashes and rates: 2005–2011.

	2005	2006	2007	2008	2009	2010	2011	2011 % change over 2010	
Road fatalities	4391	4995	5428	5759	5219	5094	5040	−6.89%	+8.02%
Deaths/100,000 in the population	11.4	12.8	13.8	14.5	13.0	12.6	11.6	−7.94%	+1.75%
Deaths/10,000 vehicles	3.43	3.75	3.76	3.72	3.18	2.88	2.48	−13.89%	−27.70%
Motorization (motorized vehicles/1000 in the population)	332	342	367	390	411	437	467	6.87%	40.66%

Source: reproduced with permission from Bulletin of the Road Safety Observatory, 2009, (23) and the Organisation for Economic Cooperation and Development (OECD), International Transport Forum (ITF), Road Safety Annual Report 2011 (24).

Table 3.

Phase 1: Project components' performance indicators.

<i>Phase 1: Project outcome indicators</i>	
<ul style="list-style-type: none">A reduction in the death rate (number per 1 million veh-km traveled) on selected corridor sections;A reduction in reported non-fatal road traffic injuries on the selected corridor sections;Number of formal periodic project coordination meetings of the Argentine Federal Council for Road Safety, managed by the ANSV during the life-cycle of the project.	
Phase 1 project components	Corresponding intermediate outcome indicators
Component 1: Institutional capacity building	
This component was designed to finance consultancy services, technical assistance (training), human resources, non-consultancy services and goods (hardware and software), through various sub-components:	
1. Support to strengthen the institutional capacity of ANSV, including the:	
a. Creation of a national driver license registry system;	• Creation of a national driver license registry system;
b. Creation of a national traffic records and infractions registry system; and	• Creation of a national traffic records and infractions registry system;
c. The preparation of ANSV's Strategic Plan 2010–2015.	
2. Communication, awareness and education campaigns, including:	
a. A plan for national social communications and education campaigns;	
b. Development of road safety education kits for teachers, students and the general population;	
c. Use of educational campaigns through different mass media;	• Number of successfully delivered road safety education campaigns and workshops;
d. Provision of CAE grants to eligible NGOs, for carrying out of CAE subprojects;	• Number of hospitals that implement protocols and guidelines for emergency response;
e. Non-pecuniary support to corporate social responsibility initiatives; and	• Number of inter-jurisdictional joint operations by traffic enforcement forces with ANSV;
f. Provision of training and carrying out of road safety workshops and educational seminars.	• Number of road safety training workshops delivered to traffic enforcement units.
3. Improvement of response capacity in emergencies, including:	
a. Diagnosis of current capabilities and protocols of emergency services to road crashes on national roads;	
b. Design of action plans, improved protocols and guidelines for emergency response;	
c. Design and implementation of improvements in emergency coordination systems;	
d. Training for emergency response personnel; and	

- e. Acquisition of equipment to facilitate the work of road crash emergency personnel.

4. Strengthen the capacity of the traffic control and enforcement agencies, including:

- a. Delivery of training modules;
- b. Acquisition of alcohol meters, speed control radar guns, cinemometers, and other fixed or mobile radar technology; and
- c. Development of a national plan for speed control, including the implementation of speed controls, radar and photo recording systems.

5. Project Management, including:

- a. Support for key operational staff within ANSV;
- b. Supervision activities; and
- c. Other operational expenditures to ensure appropriate project management for the duration of the project, including concurrent audits for specific sub-components, during project implementation.

Component 2: Demonstration corridors and 'Incentive Fund' program

This component was designed to finance road safety initiatives that have a demonstrable effect on road safety improvements, to catalyze and encourage the national and provincial governments to extend the tested approaches to other parts of the country's road network, through the following sub-components:

1. 'Safe Corridors' demonstration program, including:

- a. Provision of support for the implementation of pilot interventions aimed at improving the safety of road infrastructure and operations;
- b. Improvement of road safety awareness through education and social communication campaigns;
- c. Acquisition of technological equipment to support better driving (better speed limit compliance, seat belt usage, helmet usage, control of drunk driving, etc.); and
- d. Support to improve emergency and post-crash response activities.

2. Incentive Fund for the implementation of road safety policies and practices, to finance innovative provincial and municipal road safety initiatives that would otherwise not be funded, due to competing demands for limited financial resources.

Component 3: Road safety monitoring and evaluation system within the National Road Safety Observatory.

This component was designed to finance data management and research services vital to the achievement of the ANSV's mission:

- a. Road safety information systems in the National Registry of Road Safety Statistics;

- Increased compliance with seat belt usage rate in the 'Safe Corridors' ;
- Increased compliance with speed limits in the 'Safe Corridors' ;
- Number of provinces and municipalities that developed Strategic Road Safety Plans.

- National Road Safety Observatory's public website is functioning with updated official yearly information on traffic crashes, fatalities and injuries; and the related contributing factors (human, vehicle and road) and infrastructure-based safety features.

- b. Road monitoring systems (including the design and development of a crash management system);
- c. Road crash data collection and reporting systems;
- d. Coordination among the National Road Safety Observatory and IRTAD;
- e. Monitoring and evaluation capabilities of ANSV;
- f. Quality control audits of national road crash data; and
- g. Road crash research studies relevant to the National Road Safety Observatory.

ANSV: Argentine National Road Safety Agency; CAE: Communication, Awareness and Education Grants; IRTAD: International Road Traffic Accident Database Group; km: kilometers; NGO: non-governmental organizations or non-profits; veh: vehicle.

Table 4.

Triggers for moving to Phase 2.

Triggers	Indicators
Establishment of National Driver License Registry System.	A national driver license registry system is in place, has been adopted and is being implemented in at least seven provinces.
Establishment of National Traffic Records and Infractions Registry System.	A national registry of traffic records and infractions is in place, and it receives updated data from at least seven provinces.
Disbursement of at least 50% of loan proceeds allocated for the Incentive Fund.	Incentive Fund to finance road safety initiatives is in place and at least 50% of the Project Incentive Fund has been transferred to reimburse RSI at the provincial and municipal levels.
National Road Safety Observatory is in operation.	A functional National Road Accident Database System is in place, with data on fatalities, serious injuries and black spots. National Road Safety Observatory is a member of IRTAD.
Adequate overall progress.	At least 40% of all APL1 loan proceeds have been disbursed.

APL1: Adaptable Program Loan, Phase 1; IRTAD: International Road Traffic Database Group; RSI: road safety initiatives.

Table 5. Country guidelines, based on the innovative features and lessons learned from the Argentina Road Safety Project.

GUIDELINE 1: Lead agency empowerment
The ultimate goal of road safety projects prepared in accordance with the World Bank guidelines should be to empower and resource the lead agency to take responsibility for a country's road safety performance and the direction of strategic partnerships targeted to improve it.
GUIDELINE 2: Health sector collaboration and partnership
The health and transportation sectors should collaborate and partner, to promote road safety investments, improve road crash injury data management, enhance post-crash emergency services, and strengthen the preparation of business cases for road safety project financing and performance evaluation requirements.
GUIDELINE 3: Sequencing of <i>World Report</i> recommendations and projects
The implementation of the <i>World Report</i> recommendations and preparation of related road safety projects should be properly sequenced, to ensure that the necessary country management capacity is well matched to the envisaged activities.
GUIDELINE 4: Strengthening monitoring and evaluation
The vital role of monitoring and evaluation of road safety performance should be given a high priority as a core road safety project component, funded and supported on a scale that ensures its effectiveness and longer-term sustainability.
GUIDELINE 5: Integrating project management arrangements
Project management arrangements should model the vital lead agency contribution to directing, coordinating and sustaining the production of improved road safety results; and be designed to maximize the potential for the lead agency to rapidly assert itself in this role and build its capacity.
GUIDELINE 6: Targeting road policing and communications support
The lead agency for road safety should play a key role in targeting and scaling up traffic safety enforcement programs and their linked communications campaigns as core road safety project components, and play a key role in evaluating their effectiveness.
GUIDELINE 7: Engaging all tiers of government, non-governmental organizations (NGOs) and the private sector
The core components of road safety projects should include sufficient resources to ensure the effective participation of national, provincial and local government agencies, and NGOs and private sector partners.
GUIDELINE 8: Ensuring access to project performance data
The management of road safety projects should include open access for all partners and stakeholders to related performance data.
GUIDELINE 9: Partnering with global and regional service networks
The opportunities to engage with global and regional road safety service networks should be identified when preparing road safety project components. Sufficient funding should be allocated to support effective and sustained partnerships.
GUIDELINE 10: Stimulating South-South dialogue and action
The potential for road safety projects to stimulate knowledge transfer and shared practices between developing regional country partners should be maximized by adopting good practice measures and giving them high visibility.
GUIDELINE 11: Accelerating project implementation
The institutional roles, accountabilities and financial incentives for the effective and efficient delivery of road safety projects should be clearly specified and systematically managed.
GUIDELINE 12: Adapting to unique country circumstances
The World Bank guidelines for implementing the recommendations of the <i>World Report</i> and preparation of related road safety projects should be flexibly applied and adapted to the circumstances encountered in the country concerned.