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Building Road Safety Institutions in Low- and Middle-Income Countries: The Case of Argentina

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Abstract

Traffic injuries remain a leading health concern in most low- and middle-income countries (LMICs). However, most LMICs have not established institutions that have the legislative mandate and financial resources necessary to coordinate large-scale interventions. Argentina provides a counterexample. Argentina is a federal country where the decentralization of authority to provincial governments was a key barrier to effective national interventions. In 2008, Argentina passed a law establishing a national road safety agency, and subsequently received a World Bank loan to build the agency's capacity to coordinate actions. Although traffic injuries in Argentina have not yet begun to decline, these developments raise important questions: *Why did Argentina come to view road safety as a problem? Why was institutional reform the chosen solution? What was the political process for achieving reform? What are the broader implications for institutional reform in LMICs?* We explore these questions using a descriptive case study (single-case, holistic design) of Argentina.

The case illustrates that focusing events, like the Santa Fe tragedy that killed nine children, and advocacy groups are important for raising political attention and creating an opportunity for legislative reform. It highlights the importance of policy entrepreneurs who used the opportunity to push through new legislation. While the political dynamic was predominantly local, international actors worked with local advocates to build demand for safety, and develop solutions that could be deployed when the opportunity arose. Most importantly, the case emphasizes the importance of developing institutions with the resources and authority necessary for managing national road safety programs.

Keywords: Road traffic injuries; health systems; Safe System; agenda setting; institutional reform

1. INTRODUCTION

Road traffic injuries remain a leading health and development concern in most low- and middle- income countries (LMICs). While LMICs have made substantial progress in improving longevity and reducing infectious diseases, traffic injuries are either increasing or remain stable at a high level. Globally, traffic injuries are the sixth leading cause of population health loss, slightly higher than in 2000 (ranked 8th) (1). The global traffic death toll has remained at approximately 1.3 million for the last two decades and now exceeds that from HIV/AIDS, tuberculosis or malaria, all of which have seen large declines of 30%, 30%, and 22%, respectively, over this period (2).

Traffic injuries in LMICs remain a serious problem despite a substantial and coordinated global response over the last 15 years. In 2004, the World Bank and WHO jointly issued the World Report on Road Traffic Injury Prevention (3), followed by a series of eight resolutions (approximately one every two years) by the UN General Assembly and the World Health Assembly calling for global action on road safety (4–11). The 2012 UN resolution proclaimed the period 2011-2020 the global Decade of Action to stabilize and reverse the rising trend in traffic deaths and urged LMICs to adopt the global action plan developed by the UN Road Safety Collaboration. The guiding principle underlying the action plan are the five pillars of road safety. The first of these pillars—building institutional capacity for road safety management—receives the least attention in the current global advocacy efforts. The other pillars are technical focusing on improved roads, cars, road user behavior, and post-crash care. Among these, current global advocacy focuses primarily on changing driving behaviors through enforcement and, to a lesser extent, on road and car design.

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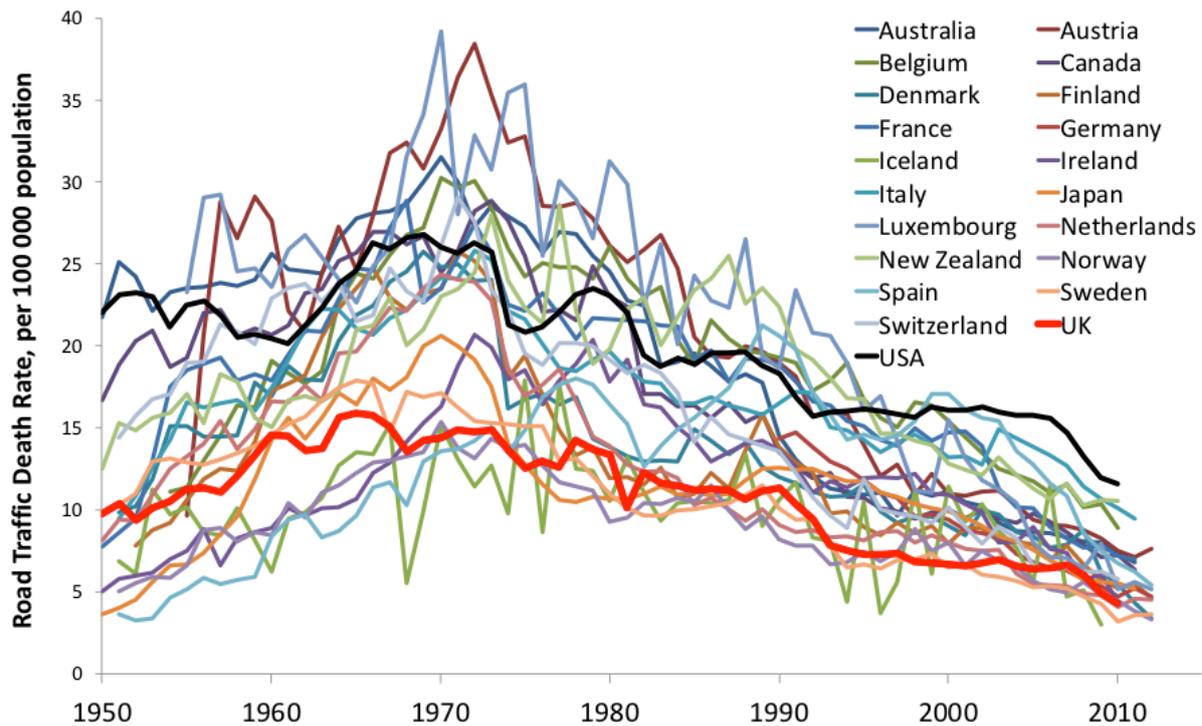


Figure 1. Road traffic death rates in OECD countries since 1950
 Source: Author's analysis of national vital registration statistics

Unlike LMICs, high-income countries (HICs) of North America and Western Europe have had steadily declining traffic deaths for five decades (Figure 1). By the 1960s, traffic death rates in these countries had risen to levels similar to those in LMICs today (12). However, the 1960s saw a paradigmatic shift in how HICs addressed road safety—a shift away from trying to change reckless road users and towards the use of state institutions capable of regulating transportation risk at the national level. For instance, in the US, the period saw road safety become a political priority and the passage of the Motor Vehicle Safety Act and the National Traffic and Motor Vehicle Safety Act in 1966, which, among other things, led to the establishment of the US national road safety agency with the resources and a mandate to regulate road safety nationally (13). Thus, the 1960s saw a reinterpretation of the problem of road safety in HICs, and a repositioning of the solution within the regulatory authority of the state. The new regulatory approach that developed in these countries eventually came to be called the Safe System approach (14,15), which focuses strongly on the role of institutions and institutional processes in allowing large-scale interventions to be deployed effectively for reducing injuries. This institution-building approach has clearly had a substantial effect on road safety in HICs, where the approach allowed long-term investments in large (population-wide) safety interventions that have been remarkably successful (12).

Although institutional reform for road safety receives relatively little attention in LMICs, the case of Argentina provides a useful counterexample. In 2008, the president of Argentina sent a national road safety bill to congress that was passed unanimously. The bill created a new national road safety agency with sustained funding and a legislative mandate to manage road safety across the country. Next, the government approached the World Bank for a loan to strengthen the capacity of the agency to effectively coordinate national road safety programs. The project that was supported by the loan aimed to implement the Safe System approach, which required addressing the problem that traffic and health in Argentina were under the authority of sub-national governments creating a structural impediment to the new agency's ability to coordinate country-wide action. These developments raise several important questions for road safety in LMICs: *Why did Argentina come to view road safety as a pressing problem that needed policy attention? Why was institutional reform and, specifically, the Safe System approach, the chosen solution? Can other LMICs be coaxed into establishing national road safety agencies? If so, how?* This study explores these questions by studying the case of Argentina and drawing analytically generalizable lessons.

2. METHODS

We use a descriptive case study (single-case, holistic design) for study design because it provides context-specific description of the complex political economy of institutional reform (16). The case study focuses on

Argentina because it is one of the few examples of a completed World Bank loan structured to exclusively promote the implementation of Safe System road safety policies (17). These loans aim to support stand-alone (i.e., focus solely on road safety) multi-sectoral projects and ideally focus on strengthening institutional frameworks and the capacity to manage large-scale road safety initiatives. Argentina is often presented in World Bank documents and other global road safety advocacy literature as a successful example of a country that has recently adopted the Safe System framework (14,17–19). In 2014, the World Bank requested KB to assess the reasons for the perceived success of Argentina, which was the genesis of this case study.

The information presented in this study was obtained from a review of relevant documents, including academic literature, government reports, news stories, and World Bank loan documents. In addition, we conducted interviews with six key informants based in Argentina and Washington, DC, including researchers, government and public officials, and experts about their professional opinions related with road safety policy in Argentina. Interviewees were assured anonymity. Questions were designed to be open-ended and interviews included space for exploring emerging themes. Questions were adapted to match the expertise and experience of the participants. Researchers and policy makers who were familiar with how the national road safety agency was established were eligible to be interviewed. Maximum variation and snowball sampling was used to identify potential participants. All sampling decisions were taken by KB after early discussion among both authors. Interviews were typically approximately one hour long and were conducted by phone, Skype, or in-person, and were audio-recorded with permission of the participants. The review, informal discussions, and key informant interviews focused on the events that occurred in Argentina that led to the formation of the national road safety agency, the history of the Safe System approach, the World Bank loan, and the resulting Argentina Road Safety Project.

The primary focus of our analysis is on understanding why there was institutional reform for road safety in Argentina that led to the establishment of a federal road safety agency to coordinate national programs. Therefore, we examine the political economy of the events in Argentina that allowed [1] road safety to rise to prominence in the policy agenda, [2] the passage and ratification by provinces of a new federal law establishing the national agency, and [3] the implementation of the law and the activities of the newly formed agency. The political economy of road safety policies in LMICs has received little attention, with a few notable exceptions, such as the work by Hoe (2015)(20) that examined why tobacco control received political priority in Turkey but traffic injuries did not. However, there is a broader literature on agenda setting in public policy (20–23) that can provide a useful lens for understanding what happened in Argentina. Notable theories of the policy process include Kingdon’s metaphor of multiple streams (20), top-down and bottom-up implementation (22), and punctuated-equilibrium (21). Among these, we draw especially on Kingdon’s model of multiple streams (20), which is useful for explaining the roles of focusing events in bringing attention to a problem like road safety on the policy agenda and opening a window of opportunity for policy action (24), policy entrepreneurs in developing ideas about how problems could be addressed, interests groups in maintaining political pressure, and high-level political leadership for mobilizing policy action. A crisis such as a disaster can be a catalyst for these streams to converge and briefly open a window of opportunity for policy reform. At this moment, if a viable policy alternative is available, policy entrepreneurs can seize the opportunity to push through policy change.

3. WHAT HAPPENED IN ARGENTINA?

3.1. Decentralization of politics, economics, transport, and health: a brief history

Argentina was classified as an upper-middle-income country by the World Bank until recently before being reclassified as high-income (25). It ranks high-middle on the Institute of Health Metrics and Evaluation’s Socio-Demographic Index (SDI), which is a composite indicator of national development that includes income, education, and fertility (26). (The SDI is a new indicator that does not include population health as an input because it is intended for comparing national health performance.) Argentina is a federal country with 23 provinces whose governments have substantial autonomy over laws and policies that affect the economy, transport, and health. As we shall discuss, this decentralization of state power was a key barrier to effective road safety management that needed to be addressed through institutional reform.

Until recently, Argentina’s political and economic history has been marked by boom-and-bust economic cycles and frequent periods of military rule (27). This instability has had an important effect on decentralization of political power, resources, and responsibilities to subnational units of government, which (as we discuss below) has been a key barrier to implementing national safety programs. In general, countries globally have had a trend towards dispersion of political power driven partly by a decline in credibility of the centralized state (28). In Latin America, the transition from military centralism to civilian control was another important driver of devolution of power to the provinces (28,29).

In addition to political decentralization, the deep economic crisis of the 1980s was followed by fiscal decentralization in Argentina. For instance, the 1989 transport sector reforms involved decentralization of expenditure and financing to local governments (30–32). Economic reforms in the 1990s led to the privatization of about 70% of the national roads with the highest traffic volume (32). Private contractors were allowed to build, maintain, and operate roads in exchange for the right to charge tolls to road users. Thus, government role in road infrastructure shifted towards regulation of privatized monopolies (30). Paralleling these developments in the transport sector, the 1990s saw several efforts at restructuring the health sector towards managed care and market-oriented policies (33,34). Nevertheless, the health system remains fragmented with one-third of the population having no health insurance and relying solely on the public health sector, which is decentralized to the provinces. The role of the federal ministry of health is narrow with tax-supported funds flowing directly to provincial budgets with little federal influence (35).

Despite these systemic challenges related to federal structure, population health in Argentina has undergone a dramatic and rapid epidemiological transition, with a health profile that has shifted away from infectious diseases of childhood to chronic diseases and injuries that affect adults (Figure 2). Since the 1990s, life expectancy at birth has grown by 4.6 years, and death rates from neonatal disorders and maternal disorders have declined by 68% and 40%, respectively (2). Like many middle-income countries, however, Argentina has struggled to manage chronic diseases and injuries.

3.2 Argentina’s Road Safety Problem

Traffic injuries were the seventh leading cause of health loss in Argentina in 2016, slightly higher than in 1990 (ranked eighth) (1). Traffic death rates during this period have grown and by the mid-2000s corresponded to a death rate of 14 per 100,000 (Figure 2). Local nongovernmental organizations, such as Luchemos por la Vida (“Lets fight for life”), had been advocating vocally for improving road safety. Their seatbelt campaign got front-page coverage in major newspapers in 1999 when the former President Raúl Alfonsín was involved in a near-fatal crash in which he was ejected from his car because he was not wearing his seatbelt. However, without adequate police enforcement these social marketing campaigns had relatively little success (36). Although the traffic death rate in Argentina during this period was not exceptionally high for an LMIC, it was nevertheless about three times the death rate of the best performing European countries and similar to that in the 1960s in many OECD countries (Figure 1) when they underwent a paradigmatic shift that redefined road safety as a problem that needed to be addressed through state regulation and led to the establishment of national road safety agencies with the resources necessary to implement large-scale safety programs (12,14).

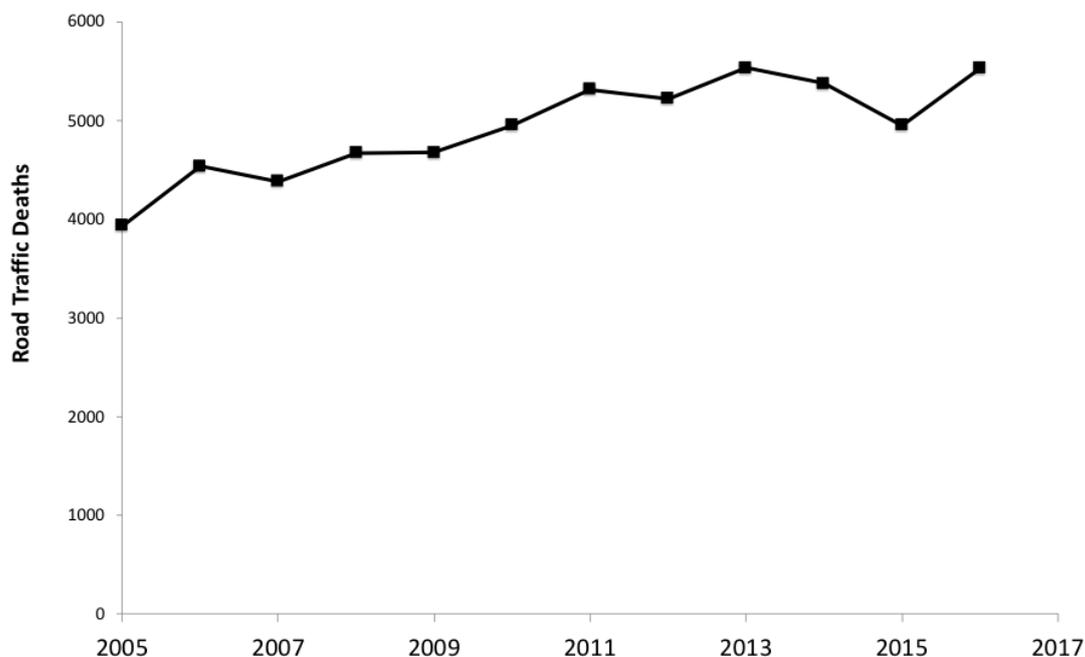


Figure 2. Road traffic deaths in Argentina
Source: Author’s analysis of national vital registration statistics

Like many LMICs, Argentina has made several unsuccessful attempts to address its national road safety problem. Notably, in 1995, a National Traffic Act was passed in the face of dramatic growth in traffic deaths during the recovery after the 1988 economic collapse (37). Decentralization of the authority to regulate traffic and health to provincial governments was understood to be the central issue that made coordinated action across the country difficult. Therefore, the legislation aimed to establish a common code of traffic and safety regulations across all provinces. However, this was not an easy task. Consider, for instance, that there are about 1600 centres that issue driver's licenses in the country. Ultimately, the legislation failed to address this problem partly because sufficient resources were not made available to establish and oversee the new harmonized practices. In 2005, the National Ombudsman, 14 civil society organizations, and the WHO released a report that highlighted the high social costs of traffic crashes, the failure of the state to effectively regulate safety, and notably, the need for a national road safety authority to coordinate a multi-sectoral road safety program (38,39). A year later another opportunity arose for the national government to address the issue of decentralization.

3.2. The Santa Fe tragedy

On October 8, 2006, a truck crashed into a bus in the province of Santa Fe, killing nine students and a teacher (40). The students had been returning from a solidarity mission to Chaco, an impoverished province of the country, where they had distributed food and clothes to poor children. The truck driver was not properly licensed and was drunk. The driver had been drinking at a roadside bar while watching a soccer match and had consumed so much alcohol that his blood alcohol concentration was more than three times the legal limit. The incident received extensive coverage on national news, with television stations interrupting regular programming to give updates on the tragedy. President Nestor Kirchner's government sent an airforce transport plane to Santa Fe to bring the remains of the victims back to the capital. The event became known as the "*Tragedia de Santa Fe*" (The Santa Fe Tragedy) and became a watershed in the history of road transport in Argentina. The national education ministry incorporated October 8 into the school calendar as the national day of student solidarity. The families of the students founded a group, the Family and Friends of the Tragedy of Santa Fe, that played an important role in pressing for a major shift in road safety perception and policy in the following years. The group repeatedly met with the president, and high-level political leaders responsible for education, transportation, and interior affairs, demanding that road safety be treated as a state policy, and, notably, emphasizing the need for a national road safety authority (41).

3.3. A new road safety law and a new government agency

The Santa Fe Tragedy created an opportunity to cut through the jurisdictional barriers that had plagued coordinated action in road safety in Argentina. In the months that followed, President Néstor Kirchner, who was close to the end of his term, used the tragic event to push through new reforms. Working with citizens society groups, his government declared 2007 the "Year of Road Safety" in Argentina, obliging public administration documents to carry the slogan on their letterhead (42). The National Ombudsman, Eduardo Mondino, with support from several NGOs, launched a campaign ("Porque la Vida Vale") to collect 400,000 signatures in support of a national road safety bill that aimed at institutional reform (39,43). The campaign presented road safety as a human rights issue ("violation of the rights to safety, health, and to the enjoyment of a dignified life"). By April 2008, the campaign had collected over 300,000 signatures. Later, the Ombudsman declared the week of 23 April 2007 as Road Safety Week. The President charged the Federal Road Safety Council to develop new legislation on road safety. The Council, which had representation from all provincial governments, also received substantial input from the newly mobilized victim groups (37). In August 2007, a new law, the Federal Agreement on Traffic and Road Safety, was signed by the federal government and the provinces. A few months later, Cristina Kirchner, the spouse of Néstor Kirchner, was elected president. She brought the law to congress as one of the first items on her policy agenda and the law was unanimously approved. NGOs and victims' groups had maintained such a prominent media presence since the Santa Fe crash that political opposition to the proposed law did not emerge.

Next, adherence to the new law needed to be ratified by each of the provincial legislatures. This was an arduous process that required sustained pressure from politicians, bureaucrats, and advocacy groups. It took four years before all the provinces were onboard. Pressure from the victims' groups and high-level political leaders played a critical role. During this period, it was common for the Minister of the Interior, Florencio Randazzo, to appear on TV to present the road death toll. The province of Santa Fe was among the last to ratify. In part, the reason was that local officials and legislators felt that they had already been working to address road safety with some success. However, in September 2010, a van carrying children from a dance troupe collided with a truck leaving 14 dead in Santa Fe (44). In the intense media coverage that followed, safety advocates appeared on TV and blamed the government for not ratifying national legislation. The province of Santa Fe then fell in line.

Arguably the most important aspect of the 2008 law was the creation of a new federal national road safety agency, the Agencia Nacional de Seguridad Vial (ANSV). The law gave the agency jurisdiction over regulating road safety and also established a secure funding stream for the agency, allocating 1% of vehicle insurance fees, initially for a period of 10 years but made permanent in 2018 (Law No 27431) (17,45). Sustained funding is important because it allows long term investments in road safety programs. Equally importantly, a secure funding stream buffers the lead agency against political currents and waning commitment to road safety. Specific tasks for ANSV included the coordination of security officers and drivers licensing. Partly for this reason, ANSV was located within the Ministry of Interior, which was led by Minister Florencio Randazzo, who was a vocal champion for road safety and had been instrumental in the creation of the agency. Since negotiating power with provinces was the first obstacle confronting the agency, the first administrator of the agency (Felipe Rodriguez Laguens) was chosen partly for his reputation as a consensus builder. Within months of his appointment, Rodriguez Laguenz traveled to Washington, DC, to explore the possibility of a World Bank loan focused on building the institutional capacity of the new agency to coordinate road safety.

3.4. A World Bank loan for building the capacity of the new road safety agency

During the early 2000s, the World Bank had been developing a new approach to road safety in its projects in LMICs. In 2002, the Bank hired Tony Bliss, who was the former General Manager of the Strategy Division of the New Zealand’s transport safety authority, where he had led the development and delivery of a remarkably successful national road safety plan. Bliss was a leading figure in the development of the Safe System approach to road safety, which was credited with dramatic reductions in traffic death rates in OECD countries (46,47). The Safe System approach (14,15) has several important differences from traditional road safety approaches. Most importantly for this case study, the Safe System prioritizes the development of institutions that can coordinate large-scale safety programs. At the core of the framework (Figure 3) are institutional management functions, which guide and produce interventions, which affect road safety performance. Under Bliss’ leadership, the World Bank’s Global Road Safety Facility developed a step-by-step approach to help countries assess their institutional capacity and develop an investment strategy that aimed to continuously improve national road safety performance through successive projects based on results (48,49). This new emphasis on institutions for road safety at the World Bank dovetailed with the most pressing needs of the newly formed road safety agency in Argentina (17).

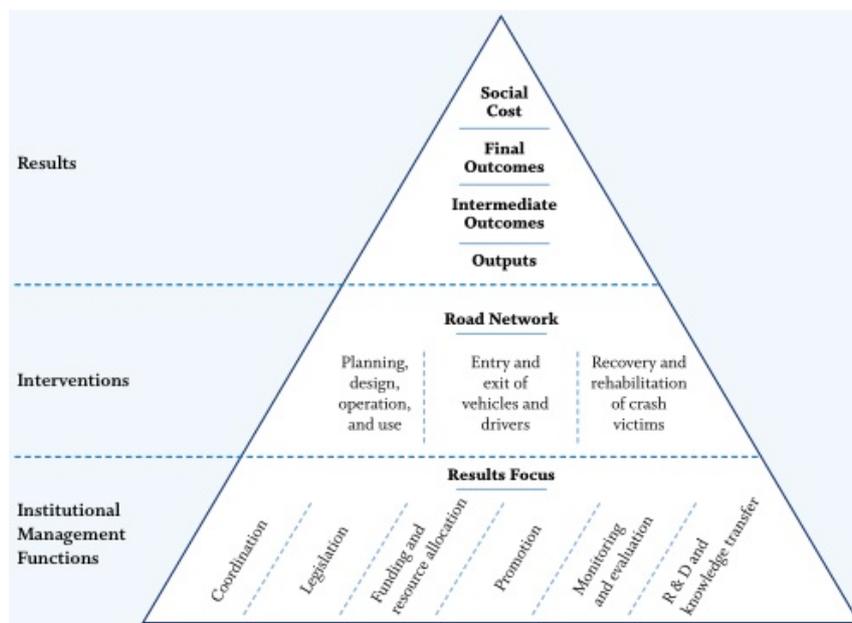


Figure 3. Road safety management in the *Safe System* approach
Source: World Bank, 2013 (49)

Following the creation of the national safety agency, the government of Argentina approached the World Bank for a loan of \$30 million (two-phase, Adaptable Program Loan) (50) to support a national road safety program from 2010 to 2019 by “*strengthening the Borrower’s institutional framework and management capacity for road safety.*” Although not explicitly stated, examining the workplan of the Argentina Road Safety Project that was financed by the World Bank loan (Table 1) helps explain how the loan sought to address the key issues of

decentralization and road safety management in the country (50,51). First, the project emphasized institution development rather than implementing interventions. This is an important distinction. The largest component of the project and its largest subcomponent (Components 1 and 1.1) focus explicitly on strengthening institutional capacity to conduct large scale interventions. World Bank staff familiar with this loan note that the Argentina project was unlike other projects in that it wasn't a "Christmas tree" that simply included a list of everyone's favourite interventions (what health systems researchers call the "laundry list" approach (52)). In fact, if viewed solely through the lens of effective interventions, Component 1.1 has questionable value. The component focuses on creating national registries for drivers' licenses, traffic records and violations. The effect of such registries on injury rates is impossible to measure through impact evaluation studies and many road safety researchers would likely argue that in isolation such registries have no direct impact on road safety. However, these registries weren't intended as road safety interventions and, in fact, the World Bank's economic appraisal of the loan made no attempt to attribute any health benefits (i.e., lives saved or disability) to this component (50). Instead, the purpose of the component was to strengthen the leadership role of the national agency and place the provincial and local governments in productive partnerships. This is not to say that the registries do not have a useful function in the management and administration of road safety. They undoubtedly do. However, their role in the ARSP was much less about their direct impacts on road safety outcomes, and more about legitimizing the authority of the national agency to coordinate action with the provinces in the longer term (53).

The ARSP also created the opportunity for provinces and municipalities to undertake specific road safety interventions through an incentive fund (Component 2.1 in Table 1). However, even here, the core objective was to strengthen the ANSV's role as the lead agency and to coax the provinces to cooperate. In fact, adherence to the 2008 law was made a precondition for the provincial governments before they could get access to the funds. The component aimed to speed up the roll-out of road safety action plans by providing performance-based reimbursements for implementing road safety interventions from a pre-determined list. Over the course of the project, the incentives fund financed hundreds of projects including the development of local strategic plans replicating national plans, mass media campaigns, infrastructure improvements, and road safety workshops. The plethora of small projects also helped to keep road safety at the forefront of government agendas at the provincial and municipal levels.

Table 1. Components of the Argentina Road Safety Project (US\$ 38.5 million; Bank share US\$ 30 million)

<p>Component 1: Institutional Capacity Building (US\$ 19.985 million)</p> <p>1.1: Support to strengthen ANSV institutional capacity (US\$ 6.62 million) Including, creation of national driver license registry system, national traffic records, and infractions registry system and preparation of 2010-2015 strategic plan</p> <p>1.2: Communication, awareness and education campaigns (US\$ 4.7million)</p> <p>1.3: Improve emergency response capacity (US\$ 0.965 million) Including, implementation of improved emergency coordination systems, equipment and training for emergency response personnel</p> <p>1.4: Strengthen capacity of the traffic control and enforcement agencies (US\$ 5 million) Including training, equipment (alcoholmeters, speed control radar guns, and other fixed or mobile radar technology), and development of a national speed control plan.</p> <p>1.5: Project management (US\$ 2.7 million) Including support for ANSV staff, and operational expenditures to support project management.</p> <p>Component 2: Demonstration corridors and Incentive Fund program (US\$ 11.140 million)</p> <p>2.1: 'Safe Corridors' demonstration program (US\$ 1.14 million)</p> <p>2.2: Incentive Fund (US\$ 10 million) For the implementation of road safety policies and practices to finance innovative provincial and municipal road safety initiatives</p> <p>Component 3: Support for the National Road Safety Observatory (US\$ 3.3 million) Source: World Bank's Project Appraisal Document for the loan</p>

In 2018, at the end of the loan, the World Bank's review of the project deemed the project a success, noting that it *"had made significant contributions toward institutionalizing enhanced road safety policies in Argentina and allowing the country to stabilize road traffic fatalities for a number of years If this trend continues, it would mean that the country has reached a tipping point and is on track to reduce crashes in the medium term."* That last caveat is noteworthy. The institutional reform that occurred in the US and Europe in the late 1960s was marked by clear evidence of decline in deaths in a decade in most countries. This is not yet true of the death toll in Argentina.

4. LESSONS FOR ROAD SAFETY IN LMICs

There are several broad lessons for understanding road safety policy in LMICs that can be drawn from this study of a major change in political priority for road safety in Argentina.

4.1. Importance of focusing events and the role of mass media

Problems can rise to the attention of policy makers because of changes in systematic indicators (such as a rising national traffic death toll, which precipitated the 1995 National Traffic Act (37)), feedback from ongoing programs, or by focusing events like disasters. In most countries, a wide range of health and social issues, including traffic injuries, have been understood to be important problems for a long time. Therefore, for a particular issue like road safety to rise to prominence from among the set of issues competing for attention often requires a real crisis (20,21). In Argentina, the Santa Fe tragedy provided a focusing event that attached a powerful symbol of dead children to the issue. Policy entrepreneurs were alert to the symbolism and opportunity and acted rapidly to push through major new legislation. Mass media played a critical role in bringing the event to people's attention. Usually media attention tends to change rapidly and often has little effect on policy agendas. In this case, media attention was sustained over time and was critical for the new law to be ratified by the provinces.

Disasters are not the only kind of focusing event. For example, in the mid 1960s in the US, the focusing event was the revelation that General Motors had hired private investigators to follow consumer advocate Ralph Nader with the intent of blackmailing him. Nader had written a book called "Unsafe at Any Speed" that exposed a safety design flaw in the Chevy Corvair. The book may have gone relatively unnoticed except that General Motors' response resulted in extensive media attention and hearings in the US Congress (54). These events forced a direct confrontation with the auto industry's hegemonic control of the problem of auto safety. Until then the industry, which was the primary sponsor of road safety research, had ensured that road safety was seen as a problem of driver behaviour and successfully marginalized critics concerned with vehicle design (13,55). After GM's overzealous response to Nader, this was no longer possible, and in 1966 the US Congress unanimously voted to approve two motor vehicle safety acts, which established the national road safety agency.

4.2. The paramount importance of local politics

While the Santa Fe tragedy was clearly important in focusing attention on road safety in Argentina, mass casualty traffic crashes occur fairly regularly across the region and are usually quickly forgotten. For instance, only a few months earlier, a tour bus in neighboring Chile had plummeted into a canyon killing 12 tourists (56). In 2002, a bus carrying Roman Catholic pilgrims had plunged into a gorge in Catamarca, Argentina, leaving 47 dead including many children (57). The Santa Fe tragedy mattered because policy entrepreneurs, advocacy groups, and the political leadership used the event to galvanize action. In fact, the problem (road safety) had been on the political agenda for many years, and there was consensus among key actors about the solution (institutional reform). In 2005, prior to the Santa Fe tragedy, a prominent report from the National Ombudsman, had explicitly called for a road safety authority to coordinate national efforts (38). Following the disaster in Santa Fe, the families formed an activist group that created bottom-up pressure for changes in policy (14). Néstor Kirchner's government, who already had a high-sensitivity to the problem, saw the policy window created by the Santa Fe tragedy and the resulting citizen group mobilization to push through the institutional reform that was needed. Fortunately for these reforms, at the end of his term, Cristina Kirchner, his spouse, was elected president, which helped maintain policy continuity to complete the legislative process her husband had started. Ratification of the new law by the provinces took another two years of intense political bargaining, negotiating and power play. In fact, the first administrator of the national road safety agency was picked partly for his ability to navigate national politics. Thus, the politics that allowed meaningful policy action on road safety was entirely domestic within Argentina.

With the recent growth of an international road safety movement, it is common for researchers and practitioners to highlight the large public health burden of traffic injuries in LMICs and express frustration at the lack of national policy action. The case of Argentina highlights, however, that the political processes that affect policy

agenda are often domestically rooted and depend on such things as public mood, advocacy campaigns, national disasters, and changes in political administration.

4.3. Role of international actors: Creating a demand for safety and sensible solutions

Of course, local policy entrepreneurship can only succeed if there are meaningful policy alternatives available when the opportunity arises. For instance, while the GM's response to Nader's book created a focusing event in the US in the 1960s, there was already more than two decades of advocacy and technical work that had been done by engineers (e.g., Hugh DeHaven and John Stapp), surgeons (e.g., Claire Straith), and public health professionals (e.g., William Haddon). This work had established that car design flaws led to injuries and there were inexpensive design modifications that could lead to substantial reductions in injuries. This technical work made it possible to have a substantive discussion on the importance and process of regulating car design when the opportunity arose (13).

In LMICs, international actors can play an important role in working with national advocates, academics, and policy entrepreneurs to do the long-term work of building a demand for road safety among the general public and in policy communities, and developing sensible proposals for solutions. In the case of Argentina, World Bank staff members and national advocates had been working together for years before the national agency was created (17). This work involved sensitizing and persuading the government and the public about the scale of the impact on health and wellbeing and potential solutions. Often this dialogue was in the context of road infrastructure loans from the World Bank that had road safety components that were poorly executed. In project meetings and in discussions with various ministries and the Chief of Cabinet's office, World Bank staff members emphasized the need for a coordinating agency to address the sectoral and jurisdictional barriers faced by their road safety projects. Simultaneously, the World Bank through its Global Road Safety Facility helped develop solutions to the road safety problem framed in the Safe System approach. Prior to the loan, the Facility had issued a grant to conduct road safety capacity management reviews in two provinces, which focused on assessing institutional weaknesses from a Safe System perspective. The Facility also funded safety ratings of three national highway corridors by the International Road Assessment program. These ratings highlight best practices in road design. Similarly, a Memorandum of Understanding between the Facility and the International Road Traffic Accident Database (IRTAD) facilitated a collaboration between the new national agency and experts from Spain to help design the framework of the national safety strategy and the road safety observatory (17,51). Strong data systems are a fundamental underpinning of successful road safety management systems (14). Thus, international actors and national policy entrepreneurs did the long-run work on developing solutions before the opportunity for reform was created by the Santa Fe Tragedy. In both the US and Argentina, the chances for meaningful policy attention to road safety were much higher when the opportunity for reform arose because the problem came with a solution attached.

It is worth noting that from the perspective of the World Bank—the main international actor in this case study—the creation of the national agency was a key development that allowed them to engage effectively in road safety in the country. Transport is the largest sector in the World Bank's portfolio of loans to LMICs (in 2016, there were 493 active projects and total net commitments of \$58 billion, 20% of the Bank's total lending portfolio) (58). While the World Bank advocates strongly for the inclusion of road safety components in road projects (59), these are loans to the country government and ultimately the ideal outcome is for the country to decide to routinely include safety measures like median barriers, guard rails, and other safety infrastructure. As road safety institutions in countries become stronger, so does the ability of international actors to ensure safety components in their transport, health, and infrastructure projects. For instance, the European Investment Bank (EIB) is able to enforce stringent guidelines for road safety as part of their road loans to EU countries in part because the EIB operates in a fairly mature market for road safety. In this sense, the formation of the national road agency in Argentina made it much easier for the World Bank to engage in road safety in Argentina. However, this does not mean that the World Bank waited for a political climate conducive to road safety institutions before engaging with the country on the issue. Instead, World Bank staff members worked with local advocates over many years to create demand for road safety, identify institutional reform as the key to progress, and develop a framework for a solution. These efforts bore fruit when a focusing event in the country mobilized civil society and created a political environment in which the institutional reform could be attained.

4.4. The importance of putting institutions ahead of interventions

Arguably, the most important lesson for road safety in LMICs offered by this case study is the need to address institutional barriers that stand in the way of building effective road safety programs. The academic literature and the policy dialogue on road safety are dominated by technocratic evaluations of interventions with relatively little acknowledgment that coordinating these interventions at the scale of a city, province, or a nation, requires the creation of effective institutions with trained manpower, financial resources, and legislative mandates. A

common problem faced by federal states is that traffic management and health are often under the purview of provincial governments.

Decentralization of power may have some advantages because local governments may know and be able to respond to the needs of people better than a central government, but that may not always happen in practice. Indeed, in arenas of specialized knowledge, such as road safety, centralization is important for developing technical expertise. Furthermore, successful action in road safety usually involves large-scale programs with coordinated action by government bodies across the nation, requiring a strong central agency with the authority to manage road safety. This was the core issue that Argentina had sought to address through the legislative process that established the national road safety agency, and the subsequent loan the country requested from the World Bank that gave the agency funds to use to incentivize cooperation with the provinces. There was precedent for such an approach in the health sector. In the health sector, two previous loans from the Bank to Argentina (Essential Public Health Functions Project, and support for Plan Nacer (60,61)) had similarly aimed to renegotiate the relationship between the provinces and the national government by using funding to lock-in important institutional changes. The loan for the Argentina Road Safety Project extended the logic of these institution building loans to road safety. At the World Bank, such loans represented a shift away from fragmented, one-off interventions, to more comprehensive solutions (“second generation projects”) aimed at creating an institutional environment conducive for road safety interventions in a Safe System framework (59).

There is a parallel here with the long-lasting debate in public health between proponents of vertical programs for single diseases (e.g., HIV or malaria) versus horizontal programs that strengthen health systems and hence address multiple diseases (62). In this context, the Safe System approach resembles the “diagonal approach” in health systems that seeks to strengthen institutions while simultaneously implementing the most important interventions (63). This approach has allowed OECD countries to successfully regulate road safety even though they continue to struggle with other multi-sectoral health issues such as tackling NCDs. Rolling out the Safe System approach to all low- and middle- income countries should be the main priority for road safety advocates.

5. CONCLUSIONS

The case study highlights the importance of addressing systemic issues that impede the ability of countries to intervene effectively to improve road safety. In the case of Argentina, decentralization of authority to provinces and municipalities created a structural barrier for large-scale coordinated interventions. While a previous legislative attempt (the 1995 national traffic act establishing a national traffic code) failed because of insufficient resources, in their second attempt, Argentina ensured that resources were commensurate with the scale of the problem. The 2008 legislation established a national road safety agency with dedicated resources and a mandate to coordinate safety programs across the country. The government next approached the World Bank for a loan that was primarily focused on creating incentives and mechanisms to establish the national agency in a leadership role. While there is no doubt that these actions have helped address the structural impediments to effective safety interventions, traffic deaths in the country have not yet started declining. In order to achieve progress in reducing road traffic deaths, the agency now needs to take a rational approach to its road safety programming, which includes setting ambitious targets, and using an evidence-based approach to identifying risk factors and prioritizing interventions within a Safe System framework.

This case study provides an encouraging lesson for how road safety researchers and subject-matter experts can engage effectively in the policy process. In Argentina, professionals who cared deeply about improving safety, worked for years to raise awareness, develop solutions, and disseminate good ideas to potential champions, while being cognizant of the political environment so that when the opportunity for road safety reform came to Argentina, they were ready to mobilize and push through institutional reform. With a national road safety agency established, the focus of road safety efforts now needs to shift to the technocratic aspects of attributing injuries to risk factors, identifying evidence-based interventions, assessing their cost-effectiveness, setting meaningful road safety targets, and rolling out interventions to achieve them. Ultimately, the only real measure of success of these efforts is a reduction in the traffic injury and death toll in Argentina which hasn't occurred yet.

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