

**Developing road safety in Latin America  
and the Caribbean: towards a vision of  
“Never again / *Nunca más* / *Nunca mais*”**

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## Abstract

Road safety is a very important challenge for the Latin America and the Caribbean (LAC). To tackling successfully this challenge, it is important that road safety policies strengthen the legal and technical measures under a national and cross-sector institutional framework, considering adequately the cultural and social complexity of our region.

This report highlights the need to re-think and reform the institutional management functions in terms of understanding how the state should approach the road safety challenge. The report also brings together elements that can help the institutional framework to be more effective. It is always necessary to look at the foundation on which the road safety management system is built. In order to make this part effective, seven functions must be considered: i) result focus; ii) coordination; iii) legislation; iv) funding and resource allocation; v) promotion; vi) monitoring and evaluation; and vii) research and development. The result focus function is pivotal in determining what the goal of a given country will be. Nonetheless, the functions taking together help the societal system to build a sustainable road safety policy. The interaction among them and also with the organizations that surpass state functions is critical.

Cooperation is also fundamental, and includes different perspectives (i.e. the multisectoral approach) and societal representatives (government, non government and private) which when seriously integrated will achieve any giving goal by working together. Cooperation also implies sharing positions that are closer to the decision-making process, thus making more democratic decisions. To facilitate a process where societal cooperation is applied, thereby fulfilling a societal result that is beneficial to everyone requires a national road safety agreement/pact.

Ultimately the agreement of developing a road safety national vision needs to align with the rights and perspectives of the road users, society, non-governmental and private organizations with the primary objective being zero deaths and injuries due to traffic crashes. A vision that commits to the idea of a “nunca más / nunca mais / never again” implies that the society as a whole wishes to go beyond the road safety crisis that several LAC countries are currently facing, and ensure that all road users are safe when travelling from one place to another.



## Introduction

Each year approximately “one million people are killed and 50 million people injured on roads around the world. This level of road trauma imposes huge economic costs. In addition, deaths and disability cause great emotional and financial stress to the millions of families affected” (OECD/ITF, 2008). With the development of Latin America and the Caribbean (LAC), the region faces another crucial challenge: road safety.

The LAC region has one of the highest road traffic fatality rates in the world. Sánchez and Wilmsmeier (2005) states that the road traffic death rate (per 1,000,000 vehicles) for the region is 10x higher compared to high income countries. On the other hand, the World Health Organization (WHO) states that in 2004 the fatality rate (per 100,000 population) was 26.1 (WHO/WB, 2004), while in 2008 this indicator was 15.1<sup>1</sup> (WHO, 2009).

**TABLE 1**  
**MODELED ROAD TRAFFIC INJURY FATALITY RATES (PER 100,000 POPULATION), BY REGION AND INCOME GROUP**

Region	High income	Middle income	Low income	Total
African region	---	32.2	32.3	32.2
Region of the Americas	13.4	17.3	---	15.8
South-East Asia region	---	16.7	16.5	16.6
Eastern Mediterranean region	28.5	35.8	27.5	32.2
European region	7.9	19.3	12.2	13.4
Western Pacific region	7.2	16.9	15.6	15.6
Global	10.3	19.5	21.5	18.8

Source: Global Status Report On Road Safety. Time for Action, WHO (2009).

<sup>1</sup> The countries considered for this information were: Argentina, Bahamas (The), Barbados, Belize, Bolivia, Brazil, British Virgin Islands, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

The LAC region lacks high quality data on road safety; no data systems exist that are consistent with international standards for recording and classifying road deaths and injuries, nor is there reliable information regarding risk factors (seat-belt use, speed average, drinking and driving, helmet use, risk pedestrian behaviours, among others) (UN, 2003; WHO, 2009; and IDB, 2009). Furthermore, as we will observe throughout this document, the institutional development of road safety in this region has, at best, an emerging character, and civil society activity remains low. Specifically, few countries have declared to achieve desired long and medium-term road safety results. The alignment of the measures to obtain certain impacts is also not addressed properly and leading agencies should have proper political, financial and technical resources. Lastly, civil society road safety organizations do not have a specific room to monitor road safety policies, since civil society and states relationship in the LAC region have been problematic.

Even though a very significant decrease is observed in the last decade in some countries, many of the most important challenges of road safety remain untackled. These challenges include: development of a “Safe System” approach; strengthening/building the institutional capacity; developing civil society road safety associations; implementing modern and effective monitoring systems; conducting sufficient data collection and analysis to understand crash risks and current performance; allocating proper human and financial resources; investing heavily on road safety; the transferring of knowledge; and finally, the substantial scaling up of international effort.

Efforts to understand the challenge of road safety in the region have been carried out by different organizations [Planzer, 2006; Instituto de Seguridad y Educación Vial (ISEV), 2008, WHO, 2009 and Inter-American Development Bank (IDB), 2009]. Even though these studies focus on important matters such as data analysis, institutional frameworks and implemented measures, there remains a clear need to not only analyze the road safety system situation but also enhance it<sup>2</sup>. Hence, the objectives of this document will be threefold:

- To describe the LAC region by clustering countries in terms of their current institutional road safety system functioning as well as historically analyzing the role of civil society.
- To discuss the institutional approaches implemented by the countries in terms of advantages and disadvantages, and
- To discuss a societal approach to tackle some of the most relevant and current road safety issues of the region.

When developing the third objective, we will work on the approach proposed by Bliss and Breen (2009) and the OECD/ITF (2008), since these authors focused on the steps or phases associated to implement the six recommendations of the *World Report on Road Traffic Injury Prevention*<sup>3</sup> and also Del Valle (2009). However, the main focus of this part will be on the relevance of implementing a long term response<sup>4</sup> to the LAC road safety challenge, which needs to be holistic/integral, sustained and accountable. Therefore, a societal approach is needed to tackle the structural problems in the LAC region.

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<sup>2</sup> One serious attempt has been carried out by Alfredo del Valle, where he proposes ten principles that tackle the formation of an effective road-safety policy (Del Valle, 2009).

<sup>3</sup> The six recommendations are: i) Identify a lead agency in government to guide the national road safety effort. ii) Assess the problem, policies and institutional setting relating to road traffic injury and the capacity for road traffic injury prevention in each country. iii) Prepare a national road safety strategy and plan of action. iv) Allocate financial and human resources to address the problem. v) Implement specific actions to prevent road traffic crashes, minimize injuries and their consequences and evaluate the impact of these actions. vi) Support the development of national capacity and international co-operation (WHO and WB, 2004).

<sup>4</sup> Even though the concept of institutional responses can be very elusive since it may lead us to different meanings and therefore making the understanding of the road safety social dynamic difficult, here it is understood as a group of social norms that are embedded into social systems in such a way that they influence the behavior of actors within those social systems (Little, 1991). At a first glance this may suggest that only positive road safety outcomes can be led by a formal authority (the state), however this is only formally correct. The change starts when the group of social norms are modified, and this can be achieved by including all the actors of the road traffic system (governments, non-governmental organizations, private sector and road users).



It will be argued that for the LAC region, a three-step strategy is necessary. Firstly, this region must build and strengthen its road safety management system such that two critical elements are present: institutional management functions and civil society and private actions. The harmony between both is a critical issue that needs to be raised, since, as we will see further, former relationships have both boosted and weakened policies. A second step is to set accountable reduction targets as a means to promote a national (and regional) cohesion, and thus, the necessary strength to guide a more focused process. This second element becomes very critical because it is not explicitly considered in the six recommendations of the WHO/WB. It can be argued that this element is behind recommendations stated in ii) and iii), however, in order to implement effective action plans, national commitments expressed in numbers or targets need to be socially, politically and technically in place. Thirdly, parallel to the second step, a consensus regarding the ethical imperative of a zero philosophy/vision needs to be developed. A “*Nunca más / Nunca mais / Never again*” vision in the LAC countries is likely to trigger a stronger regional and national road safety commitment.



## I. Latin American and the Caribbean road safety indicators

### A. Assuming the inexplicable

As we can appreciate in table 2, the average fatality rate (per 100,000 population) has not increased significantly. In 1996, the rate was 13.8<sup>5</sup> while in 2008 it was 15.1<sup>6</sup>. However, when we breakdown the period, there is an observable inflection point in 2004. The region at that time had the highest fatality rate in the world.

In order to explain this trend thoroughly we would need a great deal of information regarding intermediate outcomes, which the region precisely lacks (per year per country). Intermediate outcomes include seatbelt-wearing rates, helmet-wearing rates, the physical condition or safety rating of the road network, average traffic speeds, the proportion of drunk drivers in fatal and serious injury crashes, standard or safety rating of the vehicle fleet response of emergency medical services<sup>7</sup>.

**TABLE 2**  
**ROAD TRAFFIC INJURY FATALITY RATES (PER 100 000 POPULATION), FOR LAC BY YEARS 1996, 2004 AND 2008 AND INCOME GROUP**

Region	1996*	2004**	2008***
Latin American and the Caribbean region	13.8	26.1	15.1

Sources:

- \* Seguridad Vial en la Región de América Latina y el Caribe. Situación Actual y Desafíos, Planzer, CEPAL (2006).
- \*\* World Report on Road Traffic Injury Prevention, World Health Organization and World Bank (2004).
- \*\*\* Global Status Report On Road Safety. Time for Action, WHO (2009).

<sup>5</sup> In graphs 1 and 2 detailed information of every country can be found.

<sup>6</sup> Since there was no data available for Mexico in 1996, this country was not included in the region's fatality rate for that year. 2008 average fatality rate for the region without Mexico was 14.8 (per 100,000 population), and therefore the analysis carried out here remains useful for both cases with and without Mexico.

<sup>7</sup> ECLAC along with the National Commission of Road Safety of Chile proposed a methodological tool to collect information regarding all these indicators. This index is called INSETRA and it helps assess the road safety situation of a given territory. It has only been applied in Chile (Nazif et. al, 2006).

On the other hand, in order to establish what specifies desired results, with respect to the case of intermediate and final outcomes, a consolidated road safety management system is necessary. When we analyze whether or not a given country of the region has a road safety agency (one specific indicator of a mature road safety management system), we appreciate that this effort has been reached by 25 countries in the LAC region (table 3). Interestingly, several countries in the region accelerated their process of designing and implementing a road safety lead agency, specifically Argentina, Brazil, Bolivia, Peru and Paraguay in the last five years (Pérez Salas, 2009). Only Jamaica and Chile had assumed this political commitment before 1996. Therefore, two important conditions (lack of road safety indicators and a management system which rationally pushes a road safety strategy) necessary to explain the fluctuations of this trend were not present. Even though the trend cannot be fully explained, the publication of the Global Status Report on Road Safety (GSRRS) offers valuable information for the region that can help assess the current situation.

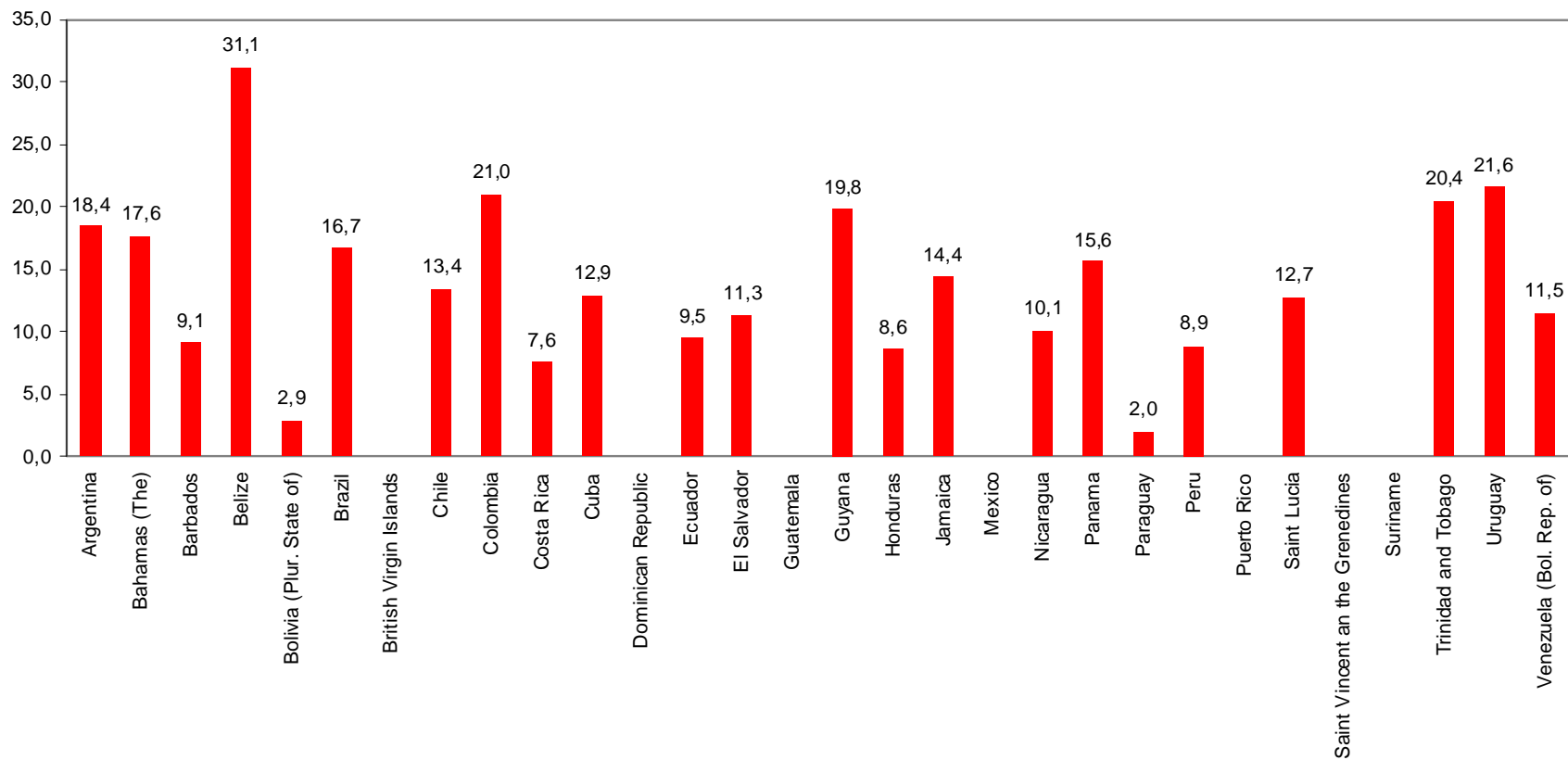
## **B. LAC's baseline and main road safety institutional indicators**

The need for quality information is critical for any process of designing, implementing and/or monitoring public policy (Linders and Peters, 1991). One of WHO's main objectives in publishing the GSRRS was to enhance road safety information in the world. Unlike previous attempts, WHO developed and applied a methodology where different institutions of a given country had to complete a questionnaire, and agree on its answers, to foster multisectorial collaboration by linking road safety practitioners working in the same country. It also brought together a unique set of data on a number of road safety variables for 178 countries encompassing over 98% of the world's population (WHO, 2009).

These two elements help us assume that the current information can be considered a baseline for the LAC region since several official and national authorities participated in communication with WHO on road safety indicators. Unlike WHO/WB (2004), ISEV (2008) and IADB's (2009) reports, in which the sources of road safety information were predominantly supported by the Global Burden of Disease version 1 database, several studies and unique national sources, the key was suggesting that the national respondents reach a consensus when informing and completing the questionnaire. Another important characteristic was that they statistically analyzed road fatality population rates reported by each country in order to address issues of underreporting and to help make comparisons.

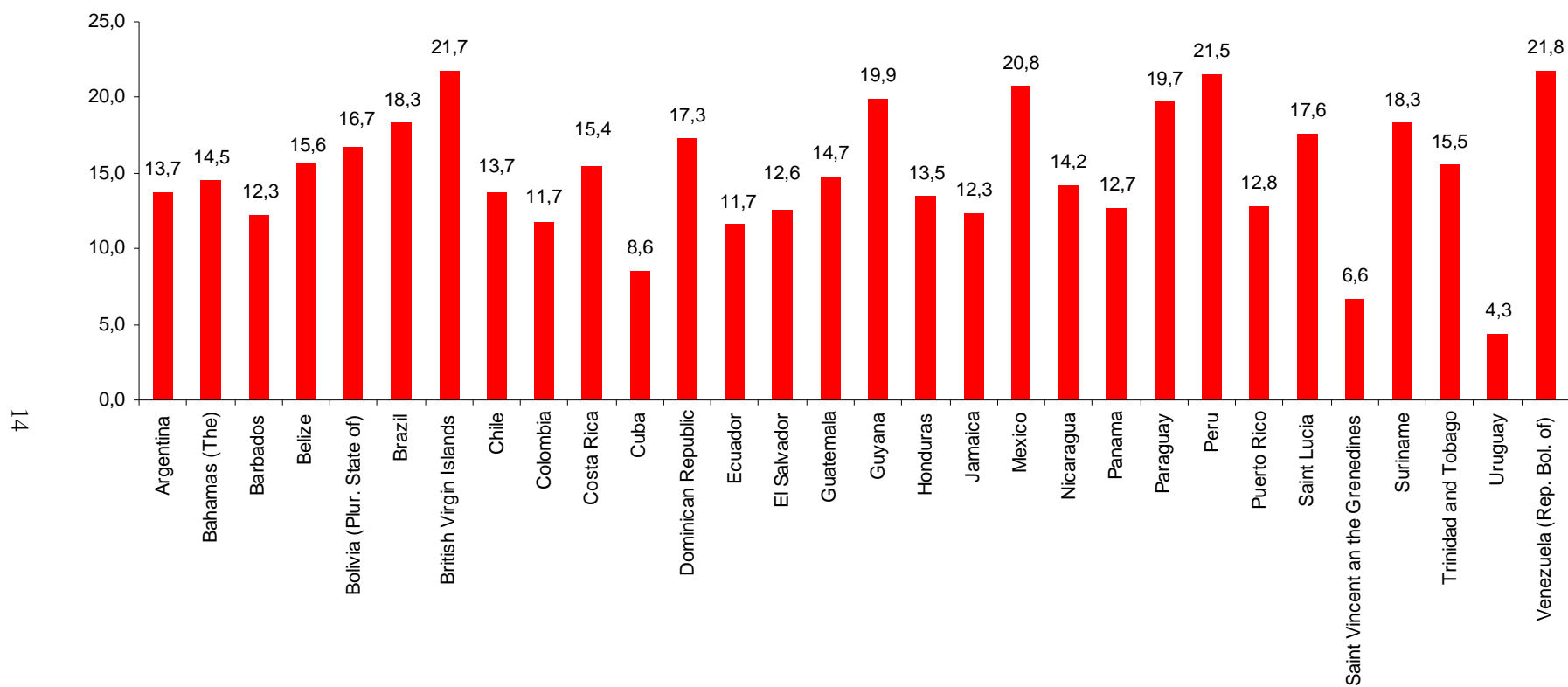
The GSRRS is also very useful in describing the road safety situation in LAC since the document tackles issues regarding strategies, policies, road safety audits, driving tests, car insurance, among others. Table 3 summarizes some indicators for each country of the LAC region with respect to the institutional and transport/infrastructure dimensions of the road safety system.

**FIGURE 1**  
**ROAD TRAFFIC INJURY FATALITY RATES (PER 100 000 POPULATION), BY LAC COUNTRIES (1996).**



Source: La Seguridad Vial en la Región de América Latina y el Caribe. Situación Actual y Desafíos, Planzer, CEPAL (2006).

**FIGURE 2**  
**MODELED ROAD TRAFFIC INJURY FATALITY RATES (PER 100 000 POPULATION), BY LAC COUNTRIES (2008).**



Source: Global Status Report On Road Safety. Time for Action, WHO (2009)

**TABLE 3**  
**ROAD SAFETY RATES AND INDICATORS BY LAC COUNTRIES (2008)<sup>8</sup>**

Country	Modeled road traffic injury fatality rates (per 100,000 population)	Road Safety Institutional System				Transports and Infrastructure		
		A lead agency is present	The lead agency is funded	There is a national strategy	The strategy includes measurable national targets	There are policies to promote investment in public transportation	Formal audits on new roads	Regular audits on existing roads <sup>9</sup>
Argentina	13.7	Yes	Yes	Yes	Yes	No	No	No
Bahamas (The)	14.5	Yes	Yes	Yes	No	No	Yes	Yes
Barbados	12.3	No	n/a	Multiple strategies	n/a	No	No	Yes
Belize	15.6	Yes	No	Yes	No	No	Yes	Yes
Bolivia (Plur. State of)	16.7	Yes	No	Yes	Yes	No	No	No
Brazil	18.3	Yes	Yes	Multiple strategies	n/a	Yes	No	No
British Virgin Islands	21.7	No	n/a	Sub-national	n/a	No	...	No
Chile	13.7	Yes	Yes	Yes	Yes	Yes	No	Yes
Colombia	11.7	Yes	Yes	Yes	Yes	Yes	No	Yes
Costa Rica	15.4	Yes	Yes	Yes	Yes	No	No	Yes
Cuba	8.6	Yes	No	Multiple strategies	n/a	No	No	No
Dominican Republic	17.3	No	n/a	No	n/a	Yes	No	No
Ecuador	11.7	Yes	Yes	...	n/a	No	Yes	No
El Salvador	12.6	Yes	Yes	Yes	No	No	No	No
Guatemala	14.7	Yes	Yes	Sub-national	n/a	No	No	No

<sup>8</sup> According to the GSRRS, Paraguay did not have a lead agency, whereas Trinidad and Tobago did not responded to the WHO's survey, Bahamas and Belize had responded positively to the question regarding the existence of measurable national targets, and Chile was classified without a national target. Barbados is without regular audits on existing roads. ECLAC organized three seminars, where different national representatives helped clarify this information, and therefore there is a difference with the GSRRS.

<sup>9</sup> In following the proposal developed by the European Project RIPCORDER, audits can be performed in new schemes or when re-designing existing roads due to changes in local conditions (RIPCORDER, 2009). The WHO Report, in this case, meant road safety inspection.

TABLE 3 (CONT.)

Country	Modeled road traffic injury fatality rates (per 100,000 population)	Road Safety Institutional System				Transports and Infrastructure		
		A lead agency is present	The lead agency is funded	There is a national strategy	The strategy includes measurable national targets	There are policies to promote investment in public transportation	Formal audits on new roads	Regular audits on existing roads <sup>10</sup>
Guyana	19.9	Yes	Yes	No	n/a	No	No	Yes
Honduras	13.5	Yes	Yes	Multiple strategies	n/a	No	Yes	Yes
Jamaica	12.3	Yes	Yes	Yes	Yes	Yes	No	No
Mexico	20.8	Yes	Yes	Yes	Yes	Sub-national	No	Yes
Nicaragua	14.2	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panama	12.7	Yes	Yes	No	No	No	Yes	Yes
Paraguay	19.7	Yes	Yes	Yes	Yes	Sub-national	No	No
Peru	21.5	Yes	Yes	Yes	Yes	Sub-national	No	No
Puerto Rico	12.8	Yes	Yes	Multiple strategies	n/a	Yes	No	No
Saint Lucia	17.6	Yes	No	No	n/a	No	No	No
Saint Vincent and the Granadines	6.6	Yes	No	No	n/a	No	No	No
Suriname	18.3	No	n/a	No	n/a	No	No	Yes
Trinidad and Tobago	15.5	No	n/a	Multiple strategies	n/a	No	No	No
Uruguay	4.3	Yes	Yes	Yes	n/a	No	Yes	Yes
Venezuela (Bol. Rep. of)	21.8	Yes	Yes	Multiple strategies	n/a	Yes	Yes	Yes
Average or percentage of positive answers	<b>15.1</b>	<b>83.3%</b>	<b>66.6%</b>	<b>46.6%</b>	<b>33.3%</b>	<b>26.6%</b>	<b>26.6%</b>	<b>43.3%</b>

Source: Global Status Report on Road Safety, WHO (2009). The need to establish coordinated measures for the reduction of road accidents in Latin America and the Caribbean Nazif and Pérez Salas CEPAL (2009).

<sup>10</sup> In following the proposal developed by the European Project RIPCORDER, audits can be performed in new schemes or when re-designing existing roads due to changes in local conditions (RIPCORDER, 2009). The WHO Report, in this case, meant road safety inspection.



## C. Classification of LAC countries

Classification of objects (countries, in this case) into meaningful sets is an important procedure in all of the social sciences. To propose a typology or classification is relevant in this specific case because it will help identify which countries would require more political and technical efforts, or other specific institutional measures, to successfully decrease road traffic fatalities and their consequences. As appreciated in Table 3, the indicators selected are all characteristics that a country should have in order to tackle road safety successfully<sup>11</sup>. Four indicators are used to identify which countries have a more complete road safety institutional system; they include the presence of a lead agency, funding, a national strategy and the presence of measurable national targets. To classify countries regarding their performance in transport and infrastructure, the three indicators are also very useful (policies in place that promote investment in public transportation, formal audits on new roads and regular audits on existing roads).

In order to cluster similar countries into groups, the Two-Step Cluster Analysis was applied. According to Norušis this method:

... can produce solutions based on mixtures of continuous and categorical variables and for varying numbers of clusters [and] because cluster analysis does not involve hypothesis testing and calculation of observed significance levels, other than for descriptive follow-up, it's perfectly acceptable to cluster data that may not meet the assumptions for best performance... (Norušis, 2009:380).

Since, Table 3 has categorical variables, and the objective of this report is to cluster countries in terms of similar road safety institutional systems and performance in transport and infrastructure, this method was the most suitable.

In Table 3, all cells containing “n.a”, “Sub-national”, “Multiple strategies” or “...” were coded as “No”, as all of them implied a slow road safety performance. Certainly, to classify “Multiple strategies” as “No” for the indicator “National strategy” could be disputable; however, for the particular purpose of the report, “multiple strategies” was considered as a complication for the achieving of the national goal.

### 1. Classification of LAC countries according to road safety institutional system indicators

Using the Two-Step Cluster Analysis, the countries that are in better conditions to setup an effective road safety institutional system or have already started to setup an effective road safety institutional system were revealed. According to the application of this method, these countries can be classified into two groups (Table 4).

Group 1 contains those countries whose road safety institutional systems are a few steps behind that of Group 2. These countries may not have a lead agency, nor a road safety strategy or measurable national targets. However, when comparing the average road traffic fatality rate per 100,000 population of Group 1 (15.2) with the average of Group 2 (14.8), it is clear the difference is small. Group 1 can be labeled as an “Informal Road Safety Institution System” since there are some isolated road safety institutional activities in these countries.

In Group 2 are countries that have more positive answers for the four indicators. From this classification the 9 LAC countries scoring positive answers for all four indicators were identified (in

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<sup>11</sup> It must be pointed out that these indicators are only references that describe the situation in the LAC region by country. For instance, total funding per agency is important information that is currently not available. This information would allow us to see the phases of investment strategies that every country is facing. Phases of investment strategies have been extensively studied by Bliss and Breen (2009) and Mulder and Wegman (1999).

Table 3, these are highlighted in green). However, when traffic fatality rate by 100,000 population is compared to high-income countries of the European region (7.9), Group 1 (15.2), remains high, and thus this group is labeled as “Formal Road Safety Institution System Emergence”. Even though the recommendations of the *World Report* are being followed, results in Group 2 are far from being successful; Group 2 is only emerging because the recommendations of the GSRRS have been recently taken into account.

**TABLE 4**  
**CLASSIFICATION OF LAC COUNTRIES ACCORDING TO ROAD SAFETY**  
**INSTITUTIONAL SYSTEM INDICATORS**

Group 1	Group 2
Informal Road Safety Institution System	Formal Road Safety Institution System Emergence
Barbados	Argentina
Brazil	Bahamas (the)
British Virgin Islands	Belize
Cuba	Bolivia (Plur. State of)
Dominican Republic	Chile
Ecuador	Colombia
Guatemala	Costa Rica
Guyana	El Salvador
Honduras	Jamaica
Panama	Mexico
Puerto Rico	Nicaragua
Saint Lucia	Paraguay
Saint Vincent and the Granadines	Peru
Suriname	Uruguay
Trinidad and Tobago	
Venezuela (Bol. Rep. of)	
15.2*	14.8*

Source: Own elaboration from Table 3.

Note: \* Average of fatality rate by 100,000 population per group

## 2. Classification of LAC countries according to transport and infrastructure road safety measures

Using the three indicators previously mentioned (policies in place that promote investment in public transportation, formal audits on new roads and regular audits on existing roads) to analyze transport and infrastructure is not sufficient. Ideally, measures such as black spot management, network safety management and road safety impact assessments should have been incorporated; however, this specific information was not available at the regional level<sup>12</sup>.

<sup>12</sup> In following the definitions proposed by RiPCORD (2009) we understand: Road safety inspections as a measure check whether a series of items are consistent with road safety concerns; Black spot management as the identification and treatment of hazardous road locations, hot spots or sites with promise. In general, black spots should be identified as any location that has a higher expected number of crashes than other similar locations as a result of local risk factors; Network safety management as the identification and treatment of hazardous road sections A hazardous road section is any section between 2 and 10 kilometers that has higher number of severity of crashes than other similar road sections as a result of section based crash and injury risk factors.

Application of the Two-Step cluster analysis to assess transport and infrastructure resulted on the formation of 5 groups (table 5). The Group 1 cluster is referred to as “lack of transport/infrastructure measures” and contains 11 countries. Countries of this group do not have policies to promote investment in public transportation, formal audits on new roads or regular audits on existing roads. In this Group, countries such as Argentina, Bolivia, El Salvador, Paraguay and Peru, which were all classified as members of the group “Formal Road Safety Institution System Emergence” clearly have an important challenge to incorporate issues of transport and infrastructure into their road safety institutional systems. British Virgin Islands, Cuba, Guatemala, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago, are also countries that, in terms of the indicators analyzed, need to work more effectively at improving these two dimensions of road safety institutions: transport and infrastructure.

Brazil, Dominican Republic, Jamaica and Puerto Rico were clustered into Group 2, titled “Only presence of transport measures”. Jamaica is the only country that has been classified as part of the “Formal Road Safety Institution System Emergence” group, and therefore indicators of road safety infrastructure should be an explicit part of their road safety strategy. Regarding the other three countries, the Department of Transport seems to have an important role in promoting public transportation; thus, an initial challenge is to link this measure to a road safety strategy.

Barbados, Costa Rica, Ecuador, Guyana, Mexico and Suriname were classified in Group 3, titled “Presence of audits on new or existing road”. Both Costa Rica and Mexico are part of the group “Formal Road Safety Institution System Emergence” and so their institutional response seems to be stronger than their counterparts: Barbados, Ecuador, Guyana and Suriname. In order to move forward, this group would need to carry out both types of measures: audits in new and existing roads, in doing so they will tackle pre-active and reactive measures for road safety.

The main difference between Groups 3 and 4 is that countries belonging to the latter have both types of audits implemented. Group 4 consists of the Bahamas, Belize, Honduras, Panama and Uruguay. Of these five countries, Honduras and Panama need to confront the institutional indicators analyzed here, as both countries are also part of the “Informal Road Safety Institution System” group.

Lastly, Group 5, titled “Presence of transport/infrastructure measures”, comprises Chile, Colombia, Nicaragua and Venezuela, in which all countries have indicators in both transport and infrastructure. The first three countries belong to the “Formal Road Safety Institution System Emergence”, and are therefore in a condition where a decrease in traffic fatality rates should start, or at least, trends should tend towards stabilization. Venezuela is likely to move forward as soon as the country sets measurable targets.

**TABLE 5**  
**CLASSIFICATION OF LAC COUNTRIES ACCORDING TO TRANSPORT AND INFRASTRUCTURE INDICATORS**

Group 1 Lack of transport/infrastructure measures	Group 2 Only presence of transport measures	Group 3 Presence of audits on new or existing roads	Group 4 Presence audits on both new and existing roads	Group 5 Presence of transport/ infrastructure measures
Argentina	Brazil	Barbados	Bahamas (the)	Chile
Bolivia (Plur. State of)	Dominican Republic	Costa Rica	Belize	Colombia
British Virgin Islands	Jamaica	Ecuador	Honduras	Nicaragua
Cuba	Puerto Rico	Guyana	Panama	Venezuela (Bol. Rep. of)
El Salvador		Mexico	Uruguay	
Guatemala		Suriname		
Paraguay				
Peru				
Saint Lucia				
Saint Vincent and the Granadines				
Trinidad and Tobago				
15.4*	15.6*	16.4*	12.1*	15.4*

Source: Own elaboration from table 3.

\* Average of fatality rate by 100,000 population per group.

### 3. Classification of LAC countries according to phases of road safety management

According to Bliss and Breen (2009), in the last fifty years successive shifts in road safety management have been evident in high-income countries. These authors have identified four phases that explains the progress of road safety. Their theoretical proposals are very useful for the objectives of this report, particularly in identifying at what phase countries of the LAC region are in. With their proposal it becomes easier to answer the following two questions: i) what are the advantages and disadvantages of the road safety institutional responses that the LAC countries have implemented and ii) what institutional response can be proposed to these different phases.

#### a) Phase 1: Focus on driver interventions

At this phase, safety management is generally characterized by dispersed and uncoordinated, insufficiently-resourced institutional units that perform isolated functions (Trinca et al, 1988). According to Bliss and Breen (2009), in order to change driver behaviors, the emphasis was first modifying the legislation rules and implementing public campaigns. Here, education and control seem to be the only answers for the road safety challenge. It is a top-down type of policy, since members of the government are often capable of understanding the complexity of road safety (Dye, 2001).

#### b) Phase 2: Focus on system-wide interventions

At this phase, approaches give way to strategies, acknowledging the need for a system approach to intervention. Bliss and Breen (2009) argue that this phase, being the influence of Dr. William Haddon, is relevant, since this scholar had developed a model where infrastructure, vehicles and users were all considered. Therefore, the “scope of (road safety) policy broadened from an emphasis on the driver in pre-crash phase to also include in-crash protection and post-crash care” (Bliss and Breen, 2009). As these authors point out, this approach underpinned a major shift in road safety policies, noting that a very important piece of the road safety policy process was still missing: the institutional management functions to produce the specific interventions suggested by Haddon are successful, but not addressed directly. Finally, as Bliss and Breen (2009) suggest “in many ways much of the contemporary debate (...) is still bounded by the dimensions of the ‘Haddon Matrix’, which only addresses system-wide *interventions* and for this reason institutional management functions and the related focus on results still receive limited attention”.

#### c) Phase 3: Focus on system-wide interventions, targeted results and institutional leadership

At this phase, countries use intervention focused plans to achieve numerical outcome targets with packages of system-wide measures based on the evidence generated from research and evaluation. Specifically, after an increase in motorization rate in high-income countries, the road traffic fatality rates actually reversed. Bliss and Breen (2009) argue that this was achieved by continuous and planned investment in the quality of the traffic system. They describe this system with the following characteristics:

- clear institutional leadership role identified
- inter-governmental coordination processes set on place
- funding and resource allocation mechanisms aligned with the results required
- identification of intermediate and final outcomes<sup>13</sup>

<sup>13</sup> Bliss defines final and intermediate outcomes as follows: “[the former] consist of social costs, fatalities and serious injuries. They are what the country seeks to avoid. Targets can be expressed in absolute terms and also in terms of rates per capita, vehicle and volume of travel. [And the latter] are not desired for themselves but for what they entail—better final outcomes. They include average traffic speeds, the proportion of drunk drivers in fatal and serious injury crashes, seatbelt-wearing rates, helmet-wearing rates, the physical condition of the road network and the standard of the vehicle fleet” (Bliss, 2004).

At this phase a radical change occurred, the target of road safety moved from drivers to road users, and for this to be achieved, a change in the process of tackling road safety was necessary. However, it has been pointed out that there is an important limitation to this approach: “setting ambitious, but achievable targets (these) could inhibit innovation (...) thus blunting the aspiration to go beyond what existing evidence suggests is achievable” (Bliss and Breen, 2009).

**d) Phase 4: Focus on “Safe System”, long-term elimination of deaths and serious injuries as well as shared responsibility**

Countries at this phase acknowledge that improving ambitious targets require re-thinking of interventions and institutional arrangements. There is an ethical imperative: road deaths and injuries are seen as an unacceptable price for mobility. At this phase, speed management as well as road and vehicle design is central, and thus, “the blame the victim culture is superseded by the blaming the traffic system which throws the spotlight on the shared responsibility and accountability for the delivery of a *Safe System*”. Targets in this phase are conceived as milestones on the pathway whose end is zero death and injuries; the interventions are shaped by the level of ambition, whereas in phase 3 it was vice versa. According to Bliss and Breen, by moving, this approach will restate and revitalize everything known about road safety in the LAC region, and also speed up the process of introducing proven road safety measures (Bliss and Breen, 2009:15).

Each of the LAC countries can be grouped into one of the three first phases described. However, as we pointed out before, the fatality rate of the region is very high when compared to the high income countries of the world. In other words, even if certain countries can be formally classified in phase 3, their results do not support the notion of a clear reversal of fatality rate. Therefore, the question is, what countries are in phase 1 and 2? To identify the phases of road safety management for each LAC country, cluster analysis will be employed. For this analysis eight variables (one continuous and seven categorical) will be introduced<sup>14</sup>.

Regarding road safety management systems, countries in Phase 1 are performing isolated single functions, and the road safety measures are likely to be dispersed and uncoordinated. On the other hand, road safety management systems of countries in Phase 2 have developed a systematic framework since measures in different dimensions are considered.

It is important to analyze specific cases that help us understand this classification more clearly. Even though Brazil has led one of the most important initiatives by region since reducing the Blood Alcohol Content (BAC) to 0,02% for drivers (Nazif, 2009), this intervention focuses exclusively on driver behavior. Measures like these are necessary but not sufficient to reduce traffic fatality rate long term.

Comparing these results to table 4, we see that Bahamas, El Salvador and Uruguay now belong to a group which is facing more road safety challenges (Phase 1). The cases of Mexico, Paraguay and Peru, which are part of Phase 2, deserve a closer inspection since these countries have a fatality rate close to 20 (per 100,000 population). These three countries have recently started the phase of focusing on system-wide interventions. Specifically, they have designed road safety strategies which have measurable national targets. Argentina, Bolivia and Nicaragua have a similar situation to the former countries; however, the main difference is that their traffic fatality rates are much lower. Belize is also at phase 2 since it seems to have started the consolidation of a more integral

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<sup>14</sup> Certainly if more variables are added to the application of Cluster Analysis, we expect to observe more changes in the formation of groups, that is, certain countries would be in a different phase. Therefore, it must be pointed out that this application is provisional and can be enhanced as more information becomes available. The application is also relevant because the fatality rates of LAC countries are very high, their positions on the phases of road safety management will vary to Phases 1 to 2.

infrastructure approach (audits for new and existing roads are present)<sup>15</sup>. Lastly, Chile, Colombia, Costa Rica, and Jamaica represent a particular sub-cluster characterized by having implemented a road safety management system that focused on system-wide interventions a few years prior to publication of the *World Report*. These countries have a leadership role within the region, however, it must be pointed out that their leadership reaches its highest position at Phase 2.

In summary, using a theoretical framework that describes the different phases of road safety management developed by high income countries, data collected by WHO and the Two-Step Cluster Analysis, we observed that LAC countries performed differently in their road safety management: 36% of LAC countries are at Phase 2 (Focus on system-wide interventions) and 67% at Phase 1 (Focus on drivers interventions). To improve on phase placement, to where the reduction of traffic fatality rates becomes a sustainable trend, each LAC country requires changes at the management and institutional level.

**TABLE 6**  
**CLASSIFICATION OF LAC COUNTRIES ACCORDING TO PHASES OF**  
**ROAD SAFETY MANAGEMENT**

Phase 1 Focus on driver interventions	Phase 2 Focus on system-wide interventions
Barbados	Argentina
Bahamas (the)	Belize
Brazil	Bolivia (Plur. State of)
British Virgin Islands	Chile
Cuba	Colombia
Dominican Republic	Costa Rica
Ecuador	Jamaica
El Salvador	Mexico
Guatemala	Nicaragua
Guyana	Paraguay
Honduras	Peru
Panama	
Puerto Rico	
Saint Lucia	
Saint Vincent and the Granadines	
Suriname	
Trinidad and Tobago	
Uruguay	
Venezuela (Bol. Rep. of)	
14.5*	15.9*

Source: Own elaboration from table 3

\* Average of fatality rate by 100,000 population per group.

<sup>15</sup> It is important to point out that information which also supports the result of classifying Belize in Phase 2 was available thanks to the realization of the Regional and National Road Traffic Casualty Reduction Targets For Caribbean Countries Workshop organized by ECLAC in Guyana, Georgetown on September, 2009 (Henderson, 2009).





## II. Bringing civil society and social cohesion back in

In analyzing the road safety management phases previously described, a very important element that needs to be taken into account is a consolidated presence of civil society<sup>16</sup>, such as in western European nation-states (ECLAC, 2009; Salamon, Sokolowski, and List, 2003; Oxfhorn, 1996; Eisenstadt, 1993). In general terms, civil society help equilibrate state institutional functioning. Societies in these countries have conditions where “no social group, category or institution [has not] effectively [monopolized] the bases of power and resources of the society so as to exclude the possibility of other groups having access to power” (Eisenstadt, 1993:2).

Certainly, Bliss and Breen (2009) are right when they point out that “safety management capacity weakness in low and middle income countries present a formidable barrier to progress and institutional management functions require strengthening”. However, Alaerts (1999) points out “the strengthening of an organization that has to operate (...) without an enabling environment [can be] quite useless”. To be effective and efficient in the LAC region, road safety policies need to be supported by an enabling environment. An enabling environment involves bringing civil society back in and promoting its development capacity process.

A balance between civil society and social cohesion is critical, since issues of sustainability, accountability and effectiveness can arise quickly (Caldwell, 2002). Sustainability can be improved if the relationship between both functions becomes institutionalized. Accountability is increased when actors of civil society organizations help monitor the progress and commitment of a given road safety policy. Effectiveness is increased when state institutions can lead the production of road safety as goods and service.

### A. Past and current patterns of civil society in LAC

It is important to recall several factors that explain why civil society in the LAC region has not developed in the same way as developed countries. Eistendant (1993) argues that the strength of Europe’s civil society can be explained by a few basic cultural and institutional practices. Europe has:

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<sup>16</sup> Civil society is understood as “a broad array of organizations that are essentially private, i.e., outside the institutional structures of government; that are not primarily commercial and do not exist primarily to distribute profits to their directors or “owners”; that are self-governing; and that people are free to join or support voluntarily” (Salamon, L., Sokolowski, S. and List, R. 2003).

- a multiplicity of centres;
- a relatively small degree of overlapping between boundaries of class, ethnic, religious, and political entities, and their continuous restructuring;
- a comparatively high degree of autonomy of groups and strata, and of their access to the centres of society;
- multiplicity of cultural and "functional" (economic or professional) elites, a high degree of crosscutting between them, and a close relationship between these elite groups and broader, more ascriptive strata;
- highly autonomous cities as centres of social and structural creativity leading to the formation of collective civic identity (Eistendant, 1993)

Oxhorn (1996) points out that for the LAC region “the patterns of colonial trade and administration were highly centralizing influences, concentrating economic, political, and social resources in a few major cities and ports throughout the region”. Conversely, Eisenstadt (1993) argues that in

“... LAC - albeit to various degrees in different places - has experienced an overall tantalization of the hierarchical principle, with at least an initial transposition of the egalitarian orientations above all to other-worldly religious spheres. (...) Hierarchical conceptions became fully institutionalized, (...) - but also in the general conception of the social order and in the political realm ...”

Another factor that affected civil society was the insertion of LAC countries into the international system, where the elite countries have retained political and economic power to this day (Oxhorn, 1996). This type of social form allows us to understand why channels among civil society and the state institutionalized very weak access to the decision-making process of society in the LAC region. Since relationships between state functions and civil actions in LAC have become problematic, social and institutional crisis have been triggered (i.e. populism and authoritarian regimes). In sum, “whereas societal pluralism characterizes civil society in developed countries, in LAC seems to be more one of the concentration and centralization of economic and political resources and power” (Oxhorn, 1996). Lastly, Sorj and Tironi (2008) argue that development in Latin America, compared to that of European countries, and the United States, has taken a very particular form. Latin America is different than Europe because the prevalence of the state, as a body that triggers social cohesion is low, and components of civil society, such as individual ethic, associations and market are weak. LAC is therefore at an intermediate stage where neither state nor civil society is capable of leading societal processes.

To compare the strength of civil societies in developed countries and the LAC<sup>17</sup>, three indicators are useful: i) the civil society organization workforce as a percent of the economically active population; ii) the volunteer share of civil society organization workforce, and iii) the sources of civil society organization revenue (fees, government and philanthropy). Before analyzing Salamon et al (2003)<sup>18</sup>, it is worth noting that the road traffic fatality rate per 100,000 population of developed countries<sup>19</sup> is 7.5 and 17.2 in the LAC regions. In general, civil societies in developed countries are stronger but at the same time have more equilibrated relationship with governments.

<sup>17</sup> As Salamon et al. (2003:3) point out, studying civil society in terms of statistical conventions is itself problematic because “even the most basic information about these organizations—their numbers, size, activities, economic weight, finances, and role—has therefore been lacking in most places, while deeper understanding of the factors that contribute to their growth and decline has been almost nonexistent” (Salamon, Sokolowski, and List, 2003:3). For the particular case of road safety at the LAC region this becomes quite relevant, because, the problem of basic statistical information has had an influence in the development of this matter. LAC lacks both proper crash statistics and civil society information.

<sup>18</sup> In this study the following countries were considered developed countries: Australia, Austria, Belgium, Finland, France, Germany, Ireland, Israel, Italy, Japan, Netherlands, Norway, Spain, Sweden, South Korea, U.K. and U.S. The LA countries were: Argentina, Brazil, Colombia, Mexico and Peru.

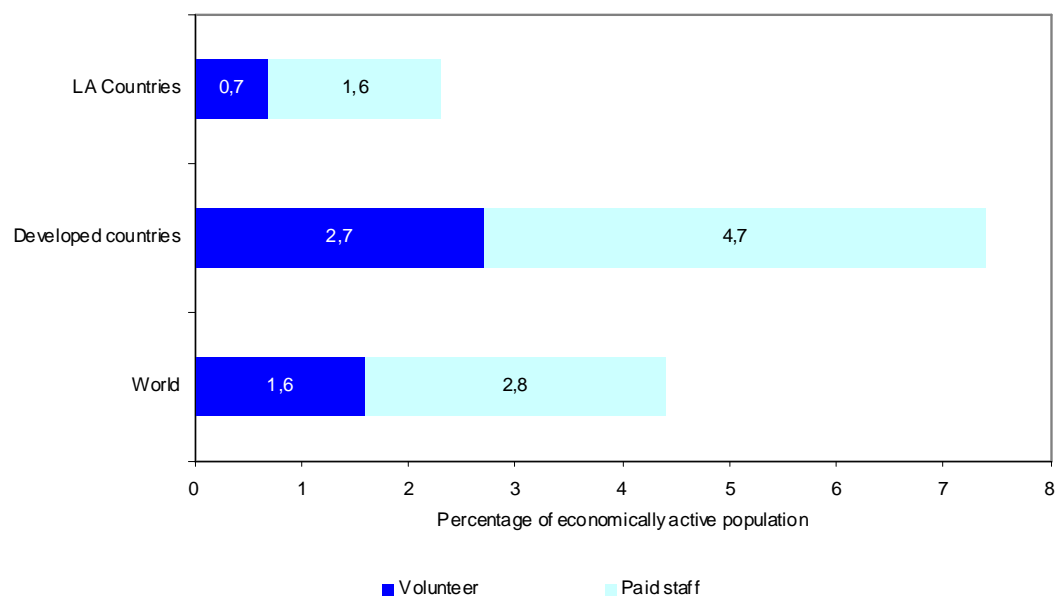
<sup>19</sup> South Korea was excluded of this analysis because the GSRRS did not include its information.

Figure 4 suggests that the civil society sector is relatively larger in the more developed countries. In fact, the civil society organization workforce in the developed countries is proportionally more than three times larger than that in the LAC countries (7.4 percent vs. 2.3 percent of the economically active population, respectively).

Similarly, figure 5 suggests that the volunteer force in developed countries is relatively larger than in the LAC region (38.5% and 26.9% respectively). This denotes a larger commitment to participation in societal processes and contributions to the autonomy of civil society organizations. In the LAC region, Argentina is an exception because its volunteer force percentage is even larger than the average of developed countries (40.1% and 38.5% respectively).

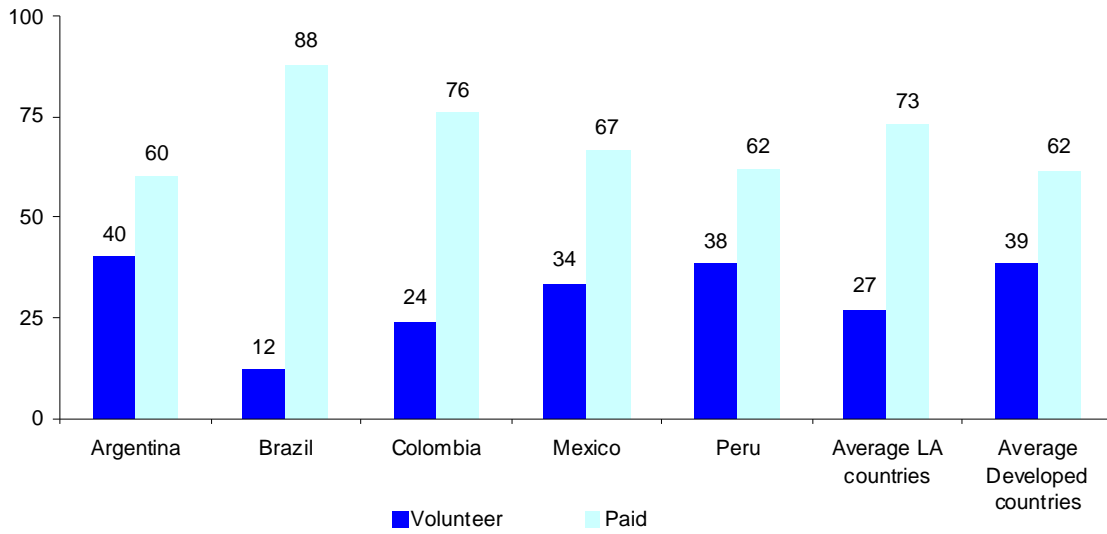
Lastly, figure 6 describes the distribution of sources of civil society organization revenue. As Salamon et al (2003) points out “fees and charges constitute an unusually large share (74%) of total civil society sector revenue in Latin America (...) By contrast, government support—at 15 percent of the revenue—is unusually low, making it difficult for civil society organizations to extend their reach to those in greatest need”. Precisely for that reason this element becomes fundamental in successfully tackling the LAC road safety challenge. A closer relationship between state and civil society is necessary to design, implement, monitor and evaluate whether or not a road safety policy is achieving its goals.

**FIGURE 4**  
**CIVIL SOCIETY ORGANIZATION WORKFORCE AS A PERCENT OF THE**  
**ECONOMICALLY ACTIVE POPULATION, BY COUNTRY CLUSTER PERCENT**



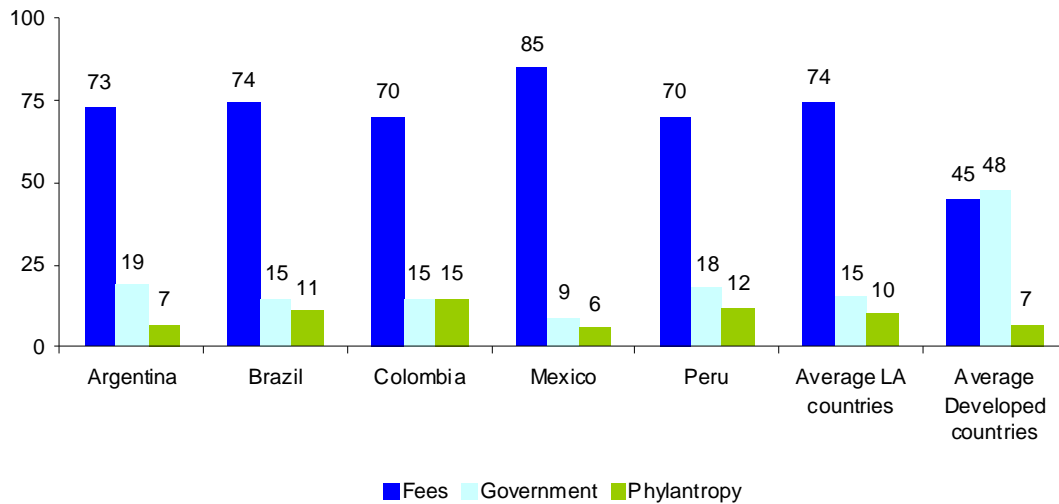
Source: Own elaboration from Global Civil Society an Overview. Salamon, L., Sokolowski, S. and List, R. (2003).

**FIGURE 5**  
**VOLUNTEER SHARE OF CIVIL SOCIETY ORGANIZATION WORKFORCE, BY LA**  
**SELECTED COUNTRIES AND DEVELOPED COUNTRIES**



Source: Own elaboration from Global Civil Society an Overview. Salamon, L., Sokolowski, S. and List, R. (2003).

**FIGURE 6**  
**SOURCES OF CIVIL SOCIETY ORGANIZATION REVENUE, BY LA**  
**SELECTED COUNTRIES AND DEVELOPED COUNTRIES**



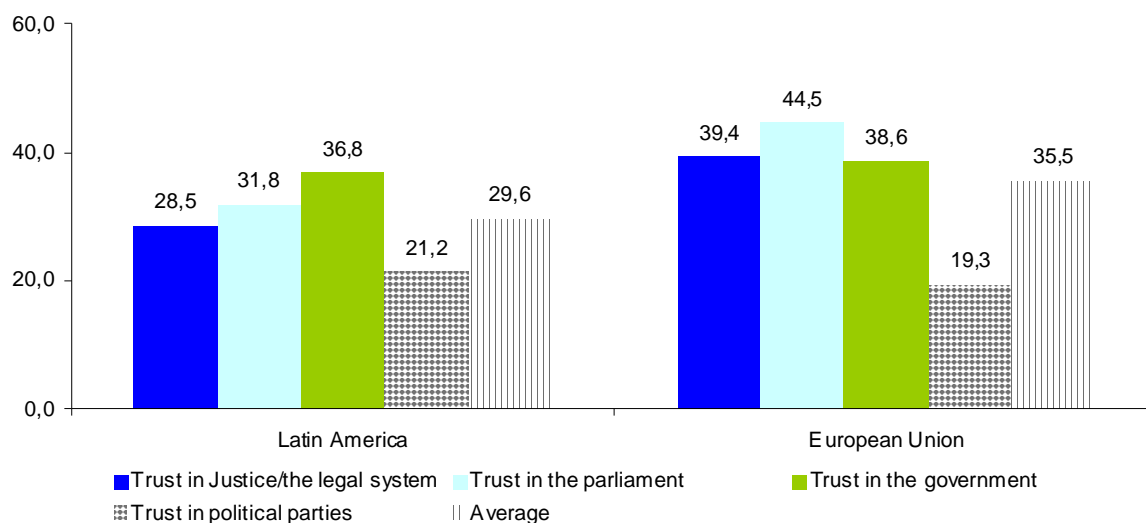
Source: Own elaboration from Global Civil Society an Overview. Salamon, L., Sokolowski, S. and List, R. (2003).

## B. Social cohesion in the LAC region

Societies with high levels of social cohesion enable better institutional frameworks necessary to launch and maintain more sustainable and effective public policies, as these permit clearer goals and stronger, more trusting, environments. ECLAC's study on social cohesion in the LAC region demonstrates the relationship between a) the region's remarkable achievements in the last 30 years in welfare indicators such as life expectancy, infant mortality, malnutrition, education, and access to improved water sources and sanitation, with b) the region's slow economic development; for example, its low economic dynamism, lack of employment creation and weak state capacity to increase its resources. The report concludes that the relationship has shaped social cohesion in the LAC region (ECLAC, 2007: Chapter 3).

Analyzing whether or not citizens trust their political authorities is, again, useful to compare social cohesion in the LAC region with that of high income countries. Figure 7 suggests that LAC's citizens have a lower trust in public institutions compared to the citizens governed by countries in the European Union (EU). In terms of road safety policies, an important finding is that with the exception of the government, where both percentages are quite similar (21.2 for LAC and 19.3 for Europe), the presence of the justice system and parliament (critical components in designing and implementing road safety measures) are very low compared to the EU and this element is critical as legitimization concerns can arise. However, as it was pointed out, trust in the government, as it is at the level of European citizens, has a positive effect on social cohesion when designing or redesigning an effective public policy.

**FIGURE 7**  
**PERCENT OF TRUST IN PUBLIC INSTITUTIONS BY LA (AVERAGE 2004 - 2008)**  
**AND EU COUNTRIES (AVERAGE 2004-2005)**



Source: Statistics and Indicators of Social Cohesion, ECLAC-ECLACSTAT



### III. Road Safety in LAC: Calling for capacity development

The main results of the former analysis were two:

- Institutional management functions were not directly addressed or performed at best fragmented efforts. These functions produce specific road safety measures successfully. Specifically, in the LAC region there is a formal response (i.e. road safety lead agencies in 25 countries in place) and few countries have measurable national targets (10 countries); however, fatality rates remain greater than high income countries.
- Civil society and social cohesion of LAC countries when compared to developed countries needs to be considered to help the institutional management functions perform effectively, and achieve its goals to develop a road safety vision.

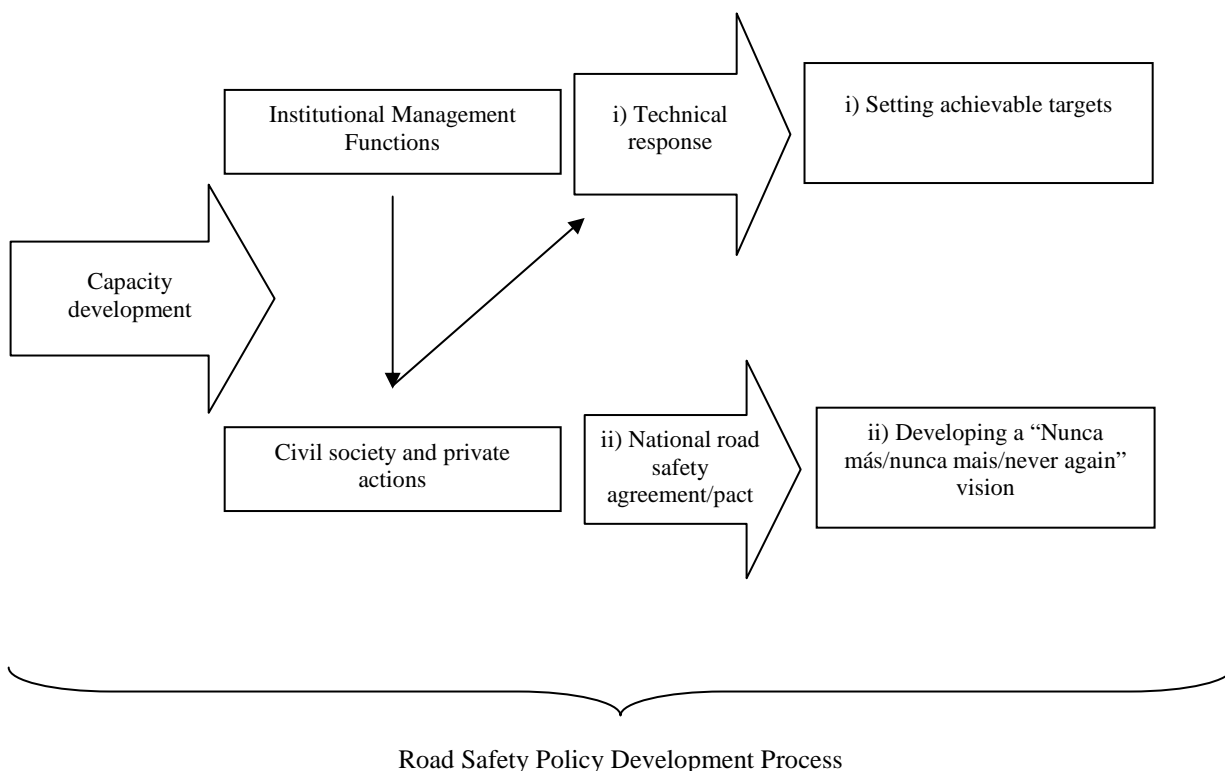
Both reducing the traffic fatality rate and developing a road safety vision remain important objectives and represent inevitable technical and ethical imperatives for the LAC region. The main question remains: how can this be implemented? In terms of the phases previously described, this question can be reworded to: how can these countries scale up to phases 2, 3 or 4?

Are some LAC countries able to jump from phase 1 or 2, to phase 3 or 4? Certainly LAC countries are able to move from phase 1 to 3 or from 2 to 4. However, they need to achieve the results that are currently being realized in high income countries. In fact, international experiences shows that road safety policy processes are indeed very slow as they involve deep cultural changes at both institutional and societal levels. Specifically, moving from one phase to the next may take a decade (Bliss and Breen, 2009).

The strategy must consider two components: setting targets and building a broader national vision. This strategy should tackle the question directly: how can the LAC region reduce the traffic fatality rates and reach a consensus regarding the ethical imperative of zero traffic deaths and injuries?

Figure 8 suggests a possible answer to develop road safety within the LAC countries' management capacity, and second, by developing or re-developing this capacity, two products can be obtained: i) achievable targets, and ii) development of a road safety “Nunca más / nunca mais / never again” vision.

**FIGURE 8**  
**ANSWER'S PROPOSAL FOR THE LAC ROAD SAFETY CHALLENGE**



Source: Own elaboration.

## A. Capacity development

Understanding capacity development enables us to clarify two elements: i) A socially cohesive approach to road safety requires developing both institutional management functions and the foundations of a broader agreement, and ii) achieving societal goals are more plausible when institutional management functions, civil society and private actions are interwoven.

United Nations (UN) define capacity development as: “the process by which people, organizations and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through improvement of knowledge, skills, systems, and institutions” (UN, 2009:6). This concept extends the notion of capacity building as it involves both the creating and sustaining of capacity growth “(...) but also continuous efforts to develop institutions, political awareness, financial resources, technology systems, and the *wider social and cultural enabling environment*”. Emphasis is therefore put on the base of the social and cultural system, not only on knowledge, skills and institutions. In other words, the need for incorporating explicit, social aspects is fulfilled, and thus the overall performance of road safety is considered.

For road safety, the physical (infrastructure and vehicular technologies), technical, economical, and institutional components, as well as the social linkages between them all require that it is managed in an integrated and sustainable way. Capable institutions and institutional frameworks



for the cooperation with the civil society and private actors are the critical links in the chain to ensure a sustainable and cohesive management at the societal level. The capacity of:

...those designing them and those working in them needs to be strengthened [on certain cases built from the beginning] to achieve simultaneously two goals: *maximum effectiveness* in [road safety] delivery [how many people can be saved?], and *maximum efficiency* in the use of resources for that purposes (“do we obtain the highest output for a unit of input in terms of [saved lives and investment]?”)... (Alaerts, 1999).

The institution’s capacity to handle both dimensions should be sufficient to meet the efficiency and effectiveness criteria at present and in the future. Lastly, since the future is unknown, organizations should be able to make reasonable projections (or at least adapt developed methodologies<sup>20</sup>) to reduce road fatality and injury rates, and flexibility to adjust to new environments.

According to Alaerts (1999), both capacities and incentives generally define the quality of an organization. Capacities in road safety need to surpass human knowledge, because it entails the ability to perform effectively coordinated actions. This is a fundamental function of an effective road safety agency, acknowledging the need to incorporate actors that go beyond the state framework, i.e. civil society and private organizations. It also implies that civil society<sup>21</sup> and private organizations, once they have been institutionalized, should perform functions which allow them to, at minimum, participate in the designing or re-designing of their regional road safety policy, and opportunities to monitor it<sup>22</sup>.

In figure 8 we observe that the proposal for the LAC road safety challenge is a supportive process, in the same way as it has been proposed by WHO/WB (2004) and Bliss and Breen (2009). However, for this region capacity development is the starting process, where institutional management functions and civil society and private actions are considered equal. Both features are necessary conditions to establish an effective and efficient road safety policy. Nevertheless, it is important to clarify that both elements do not have the same leverage; the state remains as the main organization with the pivotal function of coordinating the road safety policy. It is also necessary to recall that, human, technological, political (i.e. legitimacy) and technological resources are different in both dimensions (institutional management functions and civil society and private actions), and lastly, a country’s autonomy will decide how these elements are equilibrated. The capacity however needs to be developed in a way that enhances technical response to set achievable targets but also allows the construction of a national agreement that ends in developing a “Nunca más /nunca mais / never again” road safety vision.

## 1. Adding management

Applying the right knowledge, skills, techniques and tools is a central function of every organization to fulfill a given expectation or need. In the context of road safety development in LAC, every national system should be coordinated in a way that there is zero deaths and injuries as a result of mobilizing. Certainly this is a very challenging task, since it requires reaching a consensus at the macro-level. Once the end goals are identified, the management of the available and potential resources should be fitted to fulfill these objectives.

In order to develop management capacity, issues of integration, scope, time, costs, quality, communication, human resources, and procurement must be all considered and they all must respond

<sup>20</sup> Kopits and Cropper (2003) developed a methodology that can be used as initial framework in this matter.

<sup>21</sup> It is important to point out that in countries with none, or very few road safety organizations, civil society organizations linked to human rights should be considered for two reasons: i) these organizations have developed regionally-specific expertise to both mobilize resources and interact with national and international representatives; and ii) road safety is inherently a human right as the protection of life is at the core of this policy. In sum, human rights organizations are very relevant road safety stakeholder.

<sup>22</sup> This concept is also highlighted by ECLAC when proposing social cohesion in the LAC region. When elaborating public policies, “participation, consultation and dialogue mechanisms are all pertinent when establishing public policies priorities, designing policies, and evaluating and monitoring their implementation”.

to a given Phase (previously described). For the LAC region, countries are either in Phase 1 or Phase 2 of the scheme proposed in Bliss and Breen (2009), and therefore, when allocating resources this scheme must be consulted. Under this framework two elements are highlighted for the LAC region: integration and procurement.

Integration processes are those “required to ensure that the various elements of the [road safety policy] are properly coordinated. It consists of (...) plan development, execution and change control” (Duncan, 1996). This becomes critical for the region since only 46.6% of the LAC countries analyzed have one national strategy developed, and especially for those countries where several strategies co-exist with each other. Since road safety is a societal good, what matters here is the interaction of different organizations to simultaneously create and offer road safety initiatives. In other words, different organizations, and certainly road users, are all part of the traffic system, and thus contribute to its functioning. In terms of outputs, this means to decrease the traffic fatality and injury rates and the associated economic and social costs as much as possible. In conclusion, a procurement function of LAC road safety lead agencies should be to integrate both civil society and private organization knowledge when designing, monitoring and re-designing road safety policies<sup>23</sup>.

## B. Institutional management functions

A model derived from New Zealand’s 2010 comprehensive road safety framework was proposed in Bliss and Breen (2009). The authors link institutional management functions, interventions and results, and in this section we will focus exclusively on these institutional elements. According to these authors, seven functions provide “the foundation on which road safety management system is built”. These are: i) result focus; ii) coordination; iii) legislation; iv) funding and resource allocation; v) promotion; vi) monitoring and evaluation; and vii) research and development.

### i) Result focus

This function is the most relevant since it establishes the notion that results must be acquired. For Bliss and Breen the result focus is pivotal, because it guides the rest of the functions (described above). Specifically it operationalizes a country’s ambition to pursue road safety to certain levels. However, they warn, “[when] clear and accountable result focus [are absent], all other institutional functions (...) lack cohesion and direction, and the efficiency and effectiveness of safety initiatives can be undermined” (Bliss and Breen, 2009).

### ii) Coordination

This function organizes and aligns the relationship between governmental and community partners. Bliss and Breen distinguish four dimensions when dealing with different stakeholders (2009:11):

- horizontally across central government
- vertical from central to regional and local levels of government
- specific delivery partnerships between government, non government and business at the central, regional and local levels
- parliamentary relations at central, regional and local levels

Parts of this function, however, must be approached cautiously in the LAC region. For example, in federal countries (for instance Argentina, Brazil, Mexico and Venezuela,

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<sup>23</sup> The implementing stage was not considered since the state has a more prominent role. This is discussed more deeply in section 3.4 of this work.

countries which comprise 65% of the region's population) the second dimension can shape political outcomes in several ways. Gibson (2004) points out that these political systems may increase the number of veto players, multiplying the locus for political organization and mobilization, and affecting the flow of material resources “between the populations living in the federal union” (Gibson, 2004:9). The third dimension requires special attention; non-government organizations and businesses should participate actively in at least in two stages of the road safety policy: designing and monitoring. By introducing more legitimacy and keeping the ultimate goal of the road safety system updated, these stakeholders can make the road safety management system more effective for the countries in phases 1 and 2.

**iii) Legislation**

This function is related to the maintenance or creation of those legal tools necessary “for governance purposes to specify the legitimate bounds of institutions, in terms of their responsibilities, accountabilities, interventions and related institutional management functions to achieve the desired focus on results” (Bliss and Breen, 2009). Another aspect of this function is somewhat linked to the promotion function, since standards and rules should also be effectively communicated to road users.

**iv) Funding and resource allocation**

This function concerns how the interventions and the organizational structure can be financed on sustainable basis, and secondly, it helps properly determine the allocation of resources in order to achieve the results. As Bliss and Breen (2009) argue, this function is also critical because it explores new possible funding sources and mechanisms which will make the road safety management system more sustainable.

**v) Promotion**

This function is associated with “the sustained communication of road safety as a core [matter] for government and society and emphasizes the shared responsibility to support the delivery of the interventions required to achieve the desired (...) results” (Bliss and Breen, 2009). According to this definition, when the promotion of road safety is effective, it goes beyond the publicity of specific road safety measures. Hence, “promotion” entails a process that produces means in order to disseminate the road safety vision as a constant paradigm at the societal level.

**vi) Monitoring and evaluation**

This function consists of ongoing evaluation of the results of road safety policies and the interventions implemented. These studies should be used to re-design either the overall policy, or certain aspects of it. Information clearly goes beyond the requirement of having a complete crash injury databases, since it is also necessary to have surveys in road risk behaviors, transport registries for drivers and vehicles, and audits (among other sources of information) (Bliss and Breen, 2009).

**vii) Research and development and knowledge transfer**

This function is highly linked to the former (monitoring and evaluation) since it concerns “the systematic and ongoing creation, codification, transfer and application of knowledge that contributes of the improved efficiency and effectiveness of the road safety management system to achieve the [results programmed]” (Bliss and Breen, 2009).

## C. Civil society and private actions

When considering civil society and private actions in a context of developing capacity for road safety in the LAC region, it is possible to distinguish at least five actions that can contribute to the development of a national agreement/pact: participation, mobilizing resources, collaboration (in implementing certain road safety measures), monitoring and informing. These actions combine to reinforce the stages of the road safety policy development, and become the key components in creating an enabling environment that sustains this policy, helping achieve its goal and vision.

### i) Participation

Whereas results focus is the most important function for the institutional management system, participation is for the civil society and private organizations. Active participation in the development of the road safety policy is an important characteristic because it defines the strength and commitment of these groups. There are two stages where participation is critical; first, at the design phase, since this is when the policy gains legitimacy, and gathers its effectiveness. Specifically, as del Valle (2009) points out, by incorporating a large and diverse number of people into the design phase, “the whole complexity of road safety will be considered (...) the people’s stock of knowledge, experience and valuable insights is huge”. Adding more information and setting priorities will enhance considerably the quality of decision-making. The second stage is the monitoring stage. Even though this stage seems to be an exclusive function of the institutional management system, it is critical that civil society and private actors have access to studies and information sources (i.e. datasets). In sum, these groups can inject new ideas and expertise to help achieve the desired results.

### ii) Mobilizing resources

This is the action that helps civil society and private actors to become sustainable organizations. Depending on the country’s phase of road safety, these groups need to look at which types of resources should be considered in order to reach the goals of both organizational and road safety policies. Mobilized resource capacity needs to be developed not only to attain financial stability, but also to involve people in certain road safety requirements. When interacting with other actors, especially with governmental representatives, these organizations need to develop knowledge capacity in areas such as road safety, organization interaction and negotiation.

### iii) Collaborating (in implementing certain road safety measures)

Implementation is itself a function performed by state authorities since it may involve, for example, the legitimate use of force to enforce road safety norms, or the allocation of national resources to develop roads in certain territories. Even though, there is a constraint for civil society and private organizations, an important coincidence is related to the promotion of road measures, especially education, where every societal actor can participate collaboratively.

### iv) Monitoring

This action is concerned with improvements to the road safety policy development monitoring stage. Linked to the first action (participation), the actions here should be focused on understanding the results of intermediate and final outcomes, but also regarding the actions of governmental authorities. As Deere and Esty (2002) argue that “while public scrutiny may make government officials uncomfortable, openness and procedural inclusiveness are essential to good public decision-making”. Therefore, the attainment of road safety goals and vision are feasible.

**v) Informing**

Lastly, this action is very important because it reinforces the fourth action (monitoring). Reporting results and governmental actions publicly help strengthen policies such that the vision and goals can be corrected or innovative ideas incorporated by the public. Civil society and private organizations have the capacity to deliver information to citizens beyond mass media formats, which is why this step is very relevant.

**D. Between overlapping and differentiation: balancing institutional management functions, civil society and private actions**

For a road safety policy to reach its fullest potential in LAC, the interaction of institutional management functions, civil society and private actions needs to be considered. Furthermore, every road safety policy stage should be developed respectively. Thus, the objective here is to propose an interaction model between institutional management functions and civil society and private actions for every stage of the road safety policy process in terms of overlapping and differentiation. In simple words overlapping is the result of functions and actions performed by societal actors at the same time for the same stage. Overlapping could be either enabling or disabling depending on whether or not functions and actions are coordinated among themselves. Differentiation on the other hand, is a function or action performed exclusively by one actor in one stage. Differentiation could also be either enabling or disabling, depending on whether or not collaboration is clearly regulated in terms of who is responsible for what outcome in the complete societal system.

**1. When and what to overlap?**

Representatives of the state institutions, civil society and private organizations must overlap certain actions to ensure designing and monitoring of road safety policy processes will be sustained in the LAC region. Different degrees of overlapping will be required. First, at the designing stage, collaboration between several societal actors to propose a policy that builds a national agreement of what the society wishes to achieve with respect to road safety are necessary. The collaboration must be triggered formally by national authorities since they represent their citizens and are well trusted in the region. Second, overlapping of different societal groups is required to develop designing methodologies to collect and analyze information regarding road safety intermediate and final outcomes, which would be communicated to governmental management.

In the LAC region, to fulfill this component, a great deal of cooperation and coordination between all the actors is required, partially because the designing is one of the most underdeveloped stages in the region. The development of ad-hoc methodologies needs academic support of actors linked to planning, policy making, law and development among others. Gathering input from an array of public and private organizations will help channel efforts in proposing more objective methodologies that fit the required worldwide standards and national resources. The application of advanced technology to collect information, specifically on road crashes, is state responsibility and unfortunately is lacking in this region. Crashes ultimately involve private information that is protected by authorities particularly in the event of deaths and injuries due to legal issues. A final point is that the LAC region needs to improve its communication and societal access to road safety information. Citizens need to acknowledge the impact of the road policy; is the goal achieved? Is the vision being fulfilled? With citizen engagement, governments would be in a position to re-design aspects of the policy and implement new, more effective measures. When both civil society and private organizations are involved in achieving positive results, this helps create an environment of accountability and thus modernization of the road safety policy.

## 2. When and what to differentiate?

Differentiation at the implementation stage of any road safety policy should occur because the success of a public policy falls ultimately on one specific actor, the State. The State has the means to not only carry out most of the functions described in section 3.2 of this report, but also the legality to apply the road safety measures. There are functions in which private actors and civil society organizations can collaborate, for instance, promotion, education and crash respond; however, the State must carry out the measures, by regulating them or offering road safety services directly. A surveillance system is critical in this stage, because it allows the societal system to acknowledge what measures need to be regulated or enforced. Surveillance and enforcement here are understood generally as the process of monitoring road user's behaviors, the development of regional infrastructure and vehicle fleet.

Differentiation here is also important because in order to set achievable targets, methodologies need to be developed according to resources available to the institutional management system. For instance, the Public Works Ministry would be capable of carrying out or regulating road safety audits according to worldwide standards or could introduce safety criteria into the road building process. Another possibility is the potential of the Transports Ministry to measure how a given regulation will affect the safety standard of the vehicle fleet and also the capacity of the National Police to raise awareness of the importance of seatbelts. Finally, the Minister of Health could set goals to decrease crash response times. In sum, the function of implementing road safety measures, in a coordinated way according to a given national strategy, primarily requires the services of several state organizations.

Table 7 summarizes which groups overlap when and the differentiated institutional management and civil and private society functions at stages of the road safety policy process.

**TABLE 7**  
**MODEL BETWEEN INSTITUTIONAL MANAGEMENT FUNCTIONS AND CIVIL SOCIETY AND PRIVATE FUNCTIONS FOR EVERY STAGE OF THE ROAD SAFETY POLICY PROCESS FOR LAC REGION IN TERMS OF OVERLAPPING AND DIFFERENTIATION**

Road safety policy stages	Institutional Functions	Civil Society and Private action	Type of interaction required
Designing	Result focus Coordination Funding and resource allocation Legislation Promotion	Participation Mobilizing resources	Moderate overlapping
Implementing	Direct interventions <sup>24</sup>	Collaboration	Extreme differentiation
Monitoring	Monitoring and evaluation Research and development and knowledge transfer	Monitoring Informing	Extreme overlapping

Source: Own elaboration.

<sup>24</sup> Bliss and Breen consider the interventions as a group of measures directly linked to the institutional management functions (Bliss and Breen, 2009:10). Specifications of which ones should be carried out are related to countries' realities.

## **E. Technical response: setting achievable targets**

Research suggests that countries with quantifiable road safety targets perform better than countries without targets (Wong et al 2006). Targets suggest that governments are committed to reducing the death toll, supporting a road safety strategy and allocating sufficient resources to safety programmes (OECD, 2008:10). Setting achievable targets is both a technical task and very clear function of the institutional management system. When defining what targets a country is likely to set, one of the most fundamental issues to tackle is validating the information regarding road safety indicators, such as fatality and injuries rates, as well as average traffic speeds, the proportion of drunk drivers in fatal and serious injury crashes, seatbelt-wearing rates, helmet-wearing rates, pedestrian risk behaviors, the physical condition of the road network and the standard of the vehicle fleet. This is very critical because it allows policy makers to set baselines to observe how much the country is affecting these indicators by implementing a given set of road safety measures.

LAC countries have available at least three proposed methods for select road measures to use in order to guide their road safety policies towards a specific target. One is suggested by OECD, the second is by ECLAC, and lastly one carried out by Rizzi et al (2011).

OECD applied and analyzed a survey directed to road safety practitioners in order to identify which measures were the most effective ones in reducing the fatality rate of a given location. Its results suggest six measures to consider for the short term.

### **i) Speed management:**

According to OECD “enforcement of existing speed limits can provide immediate safety benefits, perhaps more quickly than any other single safety measure” (OECD, 2008). Setting standard speed limits, identifying roadside risks, road design, traffic volumes and consideration of vulnerable road users are necessary conditions to consider when implementing an effective speed management project. OECD also points out that “other essential components of speed management are infrastructure improvement and the use of new technologies, such as intelligent speed adaptation, to modify behavior” (OECD, 2008:11).

### **ii) Reduced drink-driving:**

According to OECD highly visible enforcement using random breath testing to enforce blood-alcohol limits that should not exceed 0.5g/l for the general population is very effective. When these measures are backed by extensive publicity and tough sanctions for repeat offenders, the decrease in fatality rates due to alcohol impairment can be substantial. OECD also argues that “alcohol interlocks fitted to all vehicles are a future option, subject to successfully increasing public acceptance” (OECD, 2008:11).

### **iii) Seatbelt use:**

Similar to alcohol enforcement, tough legislation, extensive police control and strong public campaigns are all measures that when put together can positively increase the rate of seatbelt use. OECD points out that “technologies such as seatbelt reminder systems and seatbelt ignition interlocks could almost completely counter the non-wearing of seatbelts if introduced universally but would require community and vehicle industry acceptance” (OECD, 2008:11).

### **iv) Safer roads and roadsides:**

OECD distinguishes between short and long term road and roadside initiatives. Short-term initiatives include the identification and treatment of the highest crash locations with specific “treatments such as audible edge-lining, shoulder sealing, clearing of roadside vegetation and the construction of passing lanes” (OECD, 2008:11). Long-term initiatives involve a complete

overhaul whereby holistic and sustainable considerations of road infrastructure design and renewal are the basic principles.

**v) Enhanced vehicle safety:**

Both passive and active safety features in vehicles have helped avoid numerous crashes which would have had fatal consequences, and OECD argues specifically that “Electronic Stability Control systems represent a major recent advance in active safety, with collision avoidance and lane departure warning systems examples of other promising technologies” (OECD, 2008:11).

**vi) Reduced young driver risk:**

Road safety practitioners also mentioned that to reduce young driver’s fatality rates and proportion in crashes, graduated licensing schemes along with extended training during the learner period is effective. OECD suggests the following components for a graduated licensing program: “night-driving and peer-passenger restrictions, graduated demerit points while on probation, zero blood-alcohol content tolerance and extended learning periods while under supervision to provide for driving in a variety of road and weather conditions” (OECD, 2008:11).

The methodology developed by ECLAC is complementary to that of the OECD and was prepared by setting regional and national road traffic casualty reduction targets workshops for the Latin America and the Caribbean region. After analyzing 38 measures individually this work goes into suggesting the implementation of 14 specific measures; some are similar to those proposed by OECD, while others are different. The main differences between the OECD and ECLAC reports are that the ECLAC measures by identifying specific impacts in the overall reduction of a given traffic fatality rate and by considering the reality of a LAC country adjusted the impact of each measure.

**TABLE 8**  
**14 EFFECTIVE ROAD SAFETY MEASURES**

Measure	Traffic fatality rate impact
1. Seat belt wearing	9 %
2. Daytime Running Lights	3 %
3. Speed enforcement with technological devices	3 %
4. Roads public lighting	3 %
5. Pedestrian segregation	2 %
6. Drink and driving: legislation, enforcement and recidivism	2 %
7. Road safety public campaigns	
8. Crash cushions	1 %
9. (Re) construction and design: low speed in residential areas	1 %
10. Airbags	1 %
11. Helmet wearing in cyclists and motorcyclists	1 %
12. Child restraints	0,5%
13. Event Data Recorders	0,3%
14. Bicycle side reflection	0,1%
<b>TOTAL</b>	<b>26,9%</b>

Source: Guía práctica para el diseño e implementación de políticas de seguridad vial integrales, considerando el rol de la infraestructura, Nazif (2011).



The reduction of 26.9% is to be over an 8-year period. This is a very conservative figure because its assumptions imply that there will be a gradual implementation of the measures at different stages over the time period. For instance, a given process might start with a certain number of controls then increase them, analyze certain conditions of the infrastructure and implement the changes accordingly, assuming certain characteristics of the vehicle fleet and then affecting them by regulating certain standards<sup>25</sup>.

Lastly Rizzi et al (2011) propose a methodology to guide the process of select the most promising measures, taking into account their cost-effectiveness. These authors identified eight measures: use of reflective elements by pedestrians and cyclists; pedestrian segregation; use of cycle helmets; automatic speed enforcement; reduction of maximum legal speed limits at night; random alcohol controls; enforcement of seat belt usage in light vehicles; and seat belts in inter-urban buses. Their potential benefits and costs of implementation were estimated using Chile as a case study. They took special care in choosing measures aimed at protecting vulnerable road users who represent around 50 per cent of road fatalities in this country. The plan they proposed has the potential of reducing 460 fatalities per year (i.e. 21%), as a conservative estimate.

## **F. National agreement/pact: developing a “Nunca más / nunca mais / never again” vision**

Cooperation includes both the means and the value in achieving the highest goal that a country can reach in terms of road safety, that being zero deaths and zero injuries. Cooperation includes different perspectives (i.e. the cross-sectoral approach) and societal representatives (government, non government and private) which when seriously integrated will achieve any giving goal by working together. Cooperation also implies sharing positions that are closer to the decision-making process, thus making more democratic decisions. To facilitate a process where societal cooperation is applied, thereby fulfilling a societal result that is beneficial to everyone requires a national road safety agreement/pact.

A national road safety agreement/pact entails a long term social commitment. This, however, is not a new political foundation whose basic premises are unknown, whereby all the stakeholders assume new duties and rights (Courtis and Espejo, 2007). The institutional management frame is not affected in its core since the state keeps, under the umbrella of its legitimacy, its role of demanding the fulfillment of certain duties and monopolizing the use of coercion (ECLAC, 2007:137). In political terms an agreement of this sort should produce continuity and grant power to its members, who by sharing a set of values, agree on a given social goal. However in order to strengthen its legitimacy, it needs to be supported by a diverse group of stakeholders (public and private ones), who are willing to negotiate and agree on wide matters regarding road safety (ECLAC, 2007). Under this paradigm every stakeholder needs to feel it is part of the entire process, and therefore willing to lower personal interests in favor of ones that benefit all of society. The development of road safety in the region would require the commitment of all the stakeholders to propose a common goal, which should first be targeted to protect vulnerable road users and then to every person who is mobilized as a pedestrian, passenger or driver.

A national road safety agreement is also a means of strengthening one aspect of social cohesion within a given country, since stakeholders have the possibility of increasing participation directly in the construction of a collective goal, and extending this offer to every member of the society (ECLAC, 2007: Chapter VI). This type of agreement needs to be treated as part of a broader protection system, whereby increasing social cohesion will lead to defining which road safety rights are valid, how these can be assured and how the country sets the conditions in order to achieve them.

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<sup>25</sup> A detail of the methodology and the definitions of the measures can be found in Nazif 2011.

Along the same lines as the OECD proposal, building a national road safety agreement entails that “those involved in the design of the *road transport system* need to accept and share responsibility for the safety of the system, and those that use the system need to accept responsibility for complying with the rules and constraints of the system” (OECD, 2008). However, the inclusion of road users as responsible individuals that comply with legislations needs to go beyond the situation outlined above because civil society and private organization representatives should also participate in the designing of the country’s road safety goal, but from a broader perspective.

The state is responsible for setting road safety targets because this decision-making process requires technical knowledge to calculate what is achievable and feasible in terms of the limited resources available. Nevertheless, state responsibility triggers a higher commitment, enlightening possible measures that might not have been considered and lastly motivating professional and technical *cadres* to assume the commitment of setting targets. Since professional and technical *cadres* would interact with representatives of other governmental offices, the opportunity to align road safety policies with broader transport and planning decisions would help meet wider economic, human and environmental goals.

It is still unclear whether the stakeholders that are a part of this broader process should be acknowledged as formal groups of the civil society and private sector or if collecting road users’ opinion regarding road safety matters (as completed in the project SARTRE in Europe) would be sufficient (SARTRE, 2004). Whichever is chosen vulnerable users must be included in this part of the process. Ultimately the agreement of developing a road safety national vision needs to align with the rights and perspectives of the road users, society, non-governmental and private organizations with the primary objective being zero deaths and injuries due to traffic crashes. A vision that commits to the idea of a “nunca más / nunca mais / never again” implies that the society as a whole wishes to go beyond the road safety crisis that several LAC countries are currently facing, and ensure that all road users are safe when travelling from one place to another.

## Conclusion

Road safety is a very important challenge for the LAC region. However, when tackling it, proposals go only from either listing road safety measures or considering institutional frameworks. Both elements are necessary to succeed, nevertheless, the LAC has its own cultural and social complexity, which has not been considered altogether, and attempts to design strategies or policies to reduce traffic fatality and injury rates seem futile if this part of the social reality is not considered.

This report highlights the need to re-think and reform the institutional management functions in terms of understanding how the state should approach the road safety challenge [as demonstrated in the Bliss and Breen (2009) proposal]. The report also brings together elements that can help the institutional framework to be more effective. It is always necessary to look at the foundation on which the road safety management system is built. In order to make this part effective, seven functions must be considered: i) result focus; ii) coordination; iii) legislation; iv) funding and resource allocation; v) promotion; vi) monitoring and evaluation; and vii) research and development. The result focus function is essential to build a sustainable road safety policy. The interaction among them and also with the organizations that surpass state functions is critical.

It has been argued that LAC countries, in terms of social cohesion and participation, are behind compared to high-income countries. An alternative to this situation would be to formally incorporate the perspectives of civil society and private stakeholders when designing, implementing (partially), monitoring and re-implementing road safety policies.

Two steps necessary for building effective and efficient road safety policies are: (1) to consider that specific institutional management functions need to fit the designing, implementing, monitoring and re-designing of a road safety policy and, (2) to acknowledge that participation of societal stakeholders and social cohesion are both very critical components of any attempt to reduce traffic fatality rates. Both steps need to be supported by developing capacities that include; enhancing technical expertise to mobilizing resources; from creating conditions to articulating the participation of all stakeholders and allocating the resources to obtaining specific goals. In facing this process, countries will balance differentiation and overlapping in terms of functions and road safety policy stages according to their own dynamics. Ultimately, the development of this societal capacity should channel the need of defining a national agreement/pact in terms of road safety; this will express the desired national vision.

Finally, it is argued that opening a process of building a national road safety agreement/pact is a fundamental action that LAC countries must undertake. This will help create the conditions to motivate the political, professional and technical cadres in tackling the design and application of methodologies necessary to set road fatality and injury targets. It will also help incorporate civil society and private organization perspectives. Road safety goes way beyond the saving of lives, it is also about deepening societal processes to make a more inclusive LAC region; developing road safety policies is an opportunity to fulfill human rights entirely.



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