Good Practice Manual: How to Face Child Passenger Road Safety
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Preface

The need to protect children and young people on our roads is a key principle of the UN Decade of Action for Road Safety 2011-2020. Children are particularly at risk – road crashes are already the number one killer of young people aged 10-24 globally. By 2015 road traffic injuries will also be the leading health burden for children over five years old. Children are increasingly at risk on our roads, a fact that makes the EDU-CAR project all the more important.

EDU-CAR, run by the Fundación Gonzalo Rodríguez, with support from a range of organizations both in Uruguay and internationally, is a pioneering initiative for child road safety. It is also set to make a key contribution to the UN Decade of Action. Of course, EDU-CAR’s primary aim is to save children’s lives, and this work is vitally important. However, other aspects of this project are also proving incredibly valuable. EDU-CAR has built up an impressive research base, carrying out data collection exercises, which have revealed for the first time, the level of risk that children are facing on Uruguay’s roads. Importantly, the research has also indicated the lack of awareness in society of these risks.

EDU-CAR has also had a powerful impact on Uruguay’s policy making. It has highlighted the lack of provision in national legislation for the protection of children, and through much concerted advocacy, EDU-CAR has helped address this issue. The progress made in these areas, has of course been of great benefit to Uruguay. For the global agenda, EDU-CAR’s experience is also important. It provides a powerful case study in building commitment and support of all stakeholders, and policy makers to implement key measures to protect children.

The scale of the challenge for Uruguay is still great, but EDU-CAR has already made incredible progress, taking the first crucial steps forward. We hope this can also provide a valuable example for initiatives around the world as we strive to save millions of lives during the Decade of Action for Road Safety.

David Ward
Director General
FIA Foundation

I commend this good practice manual to individuals, community-based organizations, road safety policy-makers, media representatives and those in the vehicle industry concerned with the safety of children on our roads. It powerfully combines the scientific rigor of an evidence-based approach to problem solving with the passion and unfettered commitment that we have come to expect from civil society organizations intent on improving the wellbeing of constituencies they represent. There is much we can learn from the approach taken to develop and implement the EDU-CAR Road Safety Plan for Children in Uruguay and Nani Rodríguez and her team are to be congratulated for their vision and capacity to act so purposefully and effectively.

The impetus for this initiative derived from the recognition that children are dependent on adults to guarantee their rights. Nowhere is this more starkly evident that in the case of very young children who travel in cars and who cannot speak or act for themselves, in terms of having the choice to travel in such a way or the means to protect themselves in the event of a road crash. Adults must take care of this and sadly the findings presented in the manual demonstrate that in their capacity as parents, vehicle providers and policy-makers adults are comprehensively failing children in this respect. However, the manual also demonstrates that it is possible to overcome this failure and make life safer for children at risk.

The focus on children’s road safety is integral to what we now call the Safe System approach which recognizes that road crashes are inevitable and that there are critical biomechanical limits to human survival and recovery from injury. The aim is to ensure that crash impact energies remain below the threshold likely to produce either death or serious injury and in the case of children, as covered in this manual, special measures must be taken to assure this.

We are now entering the UN Decade of Action for Road Safety and improving children’s safety in low and middle-income countries is becoming an urgent priority. The findings presented in this manual exemplify the benefits of taking action and the model it provides to improve performance will enhance the toolkits of other countries seeking to go down a similar path.

Tony Bliss
Road Safety Advisor
Transport, Water and ICT Department
The World Bank

More than 10 years ago in the Fundación Gonzalo Rodríguez (FGR) we assumed the commitment and the challenge of working with children from Uruguay, with a main premise that: the adults are responsible for assuring their rights. With the conviction that habits and customs incorporated in early ages will join us for lifetime, we have applied in each and every of our programs, this premise, which is the pillar that supports the development of our EDU-CAR Plan, Road Safety Plan for children.

The challenge of “Protect the children of today and educate them as tomorrow’s drivers” is the first step to take in order to begin working in Road Safety world. It is the means by which we understood the complexity of the reality that we live and above all we understood how complex our future may be if now we don’t take the necessary measures to face this pandemic. The trip is intense and very enriching. The goals and objectives are being accomplished and the topic is definitely established in the Uruguayan society. We believe and feel that we must share our knowledge and experiences. We are eager to replicate the successful model of EDU-CAR Plan in other countries and therefore, we proudly present this Good Practice Manual. We understand it will be a great help for those interested, concerned and committed with the topic. We wish to make them know that the most difficult part is the first step, but working with love and commitment, changes are possible.

I congratulate and thank all the FGR team and collaborators. They poured all their efforts, dedication and affection in making EDU-CAR Plan and specially this Manual to be real. We will keep working for what moves us and motivates us everyday, in order to change the present and the future of children living in vulnerable situations.

María Fernanda Rodríguez
President
Fundación Gonzalo Rodríguez
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Executive Summary

EDU-CAR Plan is part of a long-term project focused on Child Road Safety in Uruguay and the LAC Region (Latin America and the Caribbean). The projects aims at getting to know challenges faced by children in their different mobility roles, as pedestrians, passengers of two-wheeled and private vehicles, and school and public transport.

The decision to prioritize the study of child passengers on private vehicles and school transport in these first years of work was not easy but there is a justification for it. In Uruguay in 2007, the National Road Safety and Traffic Law Nº 18,191 was passed, making mandatory the use of seat belts by all school transport vehicle occupants. It was thought that this regulation, once implemented, would promote the mandatory use of Child Restraint Systems in private cars, thus reducing resistance to change.

EDU-CAR Plan was designed to reduce road accidents among children aged 0-14 years old. Since its beginning, the Plan has overcome many challenges and obstacles in order to accomplish the objectives defined. This Manual studies what has been done, pointing out the difficulties met and the lessons learned to find solutions to a serious problem. The solution to said problem only depends on the involved stakeholders’ actors’ and commitment to implement and carry out a road safety plan for children. European road safety models were analyzed by EDU-CAR Plan and those of special interest were looked into detail. Some models of road safety in Latin America were also studied. For the Latin American models we also collected information regarding the opinion of the civil society and other stakeholders involved in road safety in their countries. It is important to highlight that no specific plans for child road safety have been found. Child road safety is generally included as a section within general road safety issues.

The implementation of EDU-CAR Plan in Uruguay revealed that there is no unified system of road safety data collection and processing, making data generation unreliable. Within this context, it was important to reset objectives since the initial information to identify the cause of road accidents involving children was missing. Statistical studies were carried out to establish traveling conditions among children aged 0-14 in Uruguay with the new objective of “Protecting today’s children and educating them as tomorrow’s drivers”, focusing our efforts on children’s safety as vehicle occupants in cars and school transport.

Some of the most remarkable conclusions drawn after the technical and statistical studies were:

- Only 1% of children travel safely and 73% travel completely unrestrained.
- 90% of adults do not know which is the safest way for a child to travel.
- 80% of brand new models are not equipped to transport children safely. The percentage is lower within used cars.
- 85% of seat belts and 68% of Child Restraint Systems (CRS) on the market do not comply with any international standards.
- Regarding school transport, seats of low mechanical resistance, inadequate materials and deficient welding, were found. In addition, most of the vehicles did not have any kind of seat belts, what makes the overall situation potentially risky for a child when traveling in a vehicle.

Regarding the Regulatory Framework, it was found that the ongoing and recently created Traffic legislation makes no reference to child road safety. As a result, national authorities were provided with technical advice for the promotion of legislative changes that effectively protect children. As part of EDU-CAR Plan’s job, agreements were established and signed with many national entities that showed their commitment and support to accomplish the objectives.

Carrying out a Road Safety plan for children, having the above described situation as a starting point, implies the empowering of the society as an agent of change. Bearing this in mind, it was crucial to work with and through the media. By doing this, apart from making the situation visible, the society started participating in awareness raising activities and press campaigns to provide solutions for a problem of deep concern that requires an urgent commitment and action by authorities and the population.

After finishing the public interventions, some measurements were made and significant statistic changes were detected: the percentage of children traveling completely unrestrained in Montevideo decreased 6.4 points in percentage points (from 73.3% to 66.9%) while CRS use increased 4.8 points (from 9.5% to 14.3%).

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1 Capital city of Uruguay, almost half of the country’s population live in the city.
These little steps forward are quite significant if we consider that between the initial and the final measurements there were no legislative changes on child road safety promoting them, with the exception of one on school transport that comes into force in February 2011. This implies a great change of mind in those adults responsible for transporting children regarding the CRS advantages to protect their lives when traveling.

It becomes evident that, if it is possible for a civil organization, with limited human and economic resources, to activate changes focusing public attention on the situation of child passengers and the problem it represents, it is essential to count on the political will to get the topic on the national agenda and to promote regulations making compliance effective.

It is necessary to make Road Safety a reality, to transform it in a state policy and to consider it a priority in state programs. Moreover, awareness should be raised and the society should prevent this “epidemic” from killing our children. It is our job to give them the right to travel safely.
Introduction

The “Global Road Safety Status Report,” conducted by the World Health Organization (WHO) in 2009, shows that over 90% of the world’s road accidents occur in low-income and middle-income countries, which have only 48% of the world’s registered vehicles. These figures are even more alarming since road accidents represent the No.1 cause of death for people aged 15-24 years.

According to the World Health Organization and the World Bank (WB) Road Traffic Injuries will represent the third cause of death by 2020 if awareness is not raised and global behavior does not change.

Latin America and the Caribbean are currently the regions with the highest accident rate in the world and will still have the highest rate in 2020 if effective measures are not implemented.

Despite this critical situation, there are only a few child road safety plans in the region. Child road safety is generally included as an additional section in general road safety manuals. It is however, essential to analyze child road safety since children are victims of a situation that can be substantially improved if appropriate measures are taken.

Main causes of mortality; comparative information from 2004 and 2030

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<tr>
<th>Main causes</th>
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<td>1 Ischaemic heart disease</td>
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<td>2 Cerebrovascular disease</td>
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<td>3 Lower respiratory infections</td>
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<td>3 Chronic obstructive pulmonary disease</td>
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<td>4 Chronic obstructive pulmonary disease</td>
<td>5,1</td>
<td>4 Lower respiratory infections</td>
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<td>5 HIV/AIDS</td>
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<td>5 Road traffic injuries</td>
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<td>6 Tuberculosis</td>
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<td>7 Trachea, bronchus, lung cancers</td>
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<td>9 Road traffic injuries</td>
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<td>10 HIV/AIDS</td>
<td>1,9</td>
<td>10 Prematurity and low birth weight</td>
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<td>11 Nephritis and nephrosis</td>
<td>1,7</td>
<td>11 HIV/AIDS</td>
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<td>12 Diabetes mellitus</td>
<td>1,7</td>
<td>12 Self-inflicted injuries</td>
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<td>13 Malaria</td>
<td>1,7</td>
<td>13 Liver cancer</td>
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<td>14 Hypertensive heart disease</td>
<td>1,7</td>
<td>14 Colon and rectum cancers</td>
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<td>15 Birth asphyxia and birth trauma</td>
<td>1,7</td>
<td>15 Stomach cancer</td>
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<td>16 Self-inflicted injuries</td>
<td>1,4</td>
<td>16 Violence</td>
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<td>17肩头癌</td>
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<td>17 Alzheimer and other dementias</td>
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<td>18 Cirrhosis of the liver</td>
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<td>19 Breast cancer</td>
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<td>20 Tuberculosis</td>
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<td>20 Colon and rectum cancers</td>
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Since the moment we decided at the Fundación Gonzalo Rodríguez (FGR) to develop the Road Safety Plan for Children, EDU-CAR, there have been many difficulties to overcome, from bureaucratic processes to lack of data or lack of a unified criteria for data collection, some related to the complexity of the topic, others related to the national context (there were national and provincial elections in 2009 and 2010).

This Manual will describe the different approaches adopted and findings made through a trial-and-error process. Combining these two aspects the Manual will suggest solutions to optimize resources when carrying out a Child Road Safety Plan.

Reasons for developing a Road Safety Manual focused on children

After 36 months of hard work it became necessary for the EDU-CAR Plan to start systematizing and reflecting on the actions taken. Although many difficulties arose during this period, many goals have been achieved. The original schedule had to be adapted in order to face the different challenges that such a reality required. Lessons learned, and knowledge acquired represented a main asset of this process, it allows to get a more practical and down-to-earth view of the situation.

This Manual represents a systematization of a Work Plan adapted to the reality of a Latin American country. It is important to consider also that considering only one Latin American situation would be false. The different countries in the continent represent a cluster of situations so varied and complex that could not be considered a homogeneous group. They do, however, share a number of aspects that can allow for their treatment as a whole.

Because of all this Manual contains a series of measures and suggestions contextualized in the region’s reality, it intends to be a guide for all those actors that decide to start up a project of similar characteristics in any other Latin American country.

In the end, this Manual intends to disseminate information and raise adults’ awareness on the topic; adults are responsible for the protection of children’s lives.

Target Audience

This Manual aims at reaching agencies related to Road Safety in general and Child Road Safety in particular. This Manual has not been written for a specific stakeholder but for a variety of agencies and organizations related to this multidisciplinary topic. This Manual’s potential audience is made up of national and regional governments, legislators, members of the Judiciary system, NGOs, law enforcers, teachers, technicians, medical staff, vehicle manufacturers, passive and active safety devices, business people in the private and public sectors, stakeholders, agencies and companies.

Project Limitations

This Manual does not intend to be complete or to cover all the aspects concerning Child Road Safety; it does not intend to be a Procedures Manual either. It is based on EDU-CAR Plan’s experience and on the experience of those involved in its development to help identifying practical and effective measures to protect child occupants in private vehicles and school buses; that is why these actors’ points of view are, in part, included in this Manual. There may be other successful interventions not mentioned in this Manual.

Children’s situation

Children’s situation is equally alarming, representing the most vulnerable group on the roads. As way of example, 1,100 children die annually on European roads; this figure reaches 100,000 if injured victims of road accidents are included. However, there are no trustworthy data regarding Latin America and the Caribbean, where figures are believed to be much higher, making children especially vulnerable on the roads.
Likewise, case studies and contributions by partners, collaborators and public and private agencies simply represent ideas presented in the main text.

From the initial stages it became clear that the Plan’s success was dependent on the cultural adaptation of each country. Information presented in this Manual intends to be the base for the development of other plans adapted to each country’s reality.
Road Safety
a global priority
According to the WHO, by 2015 road crashes may become the main cause of disability and death among children older than 5 years old. We hope great progress will have been made by this date in order to achieve “The Millennium Development Goals”, but this progress will be shadowed if we do not prevent young people from getting killed on the roads.

This epidemic, already killing as many people as Malaria, will continue destroying families as the number of fatalities reaches more than two million by 2030. This was the reason why the United Nations (UN) together with the WHO proclaimed the period 2011-2020 as the Decade of Action for Road Safety, with the goal to reduce by 50% the predicted global death toll on the roads. This would mean saving 5 million lives and preventing 50 million injuries.

The importance of Road Safety Plans

Scientific research indicates there are several steps necessary to increase countries’ road safety plans. The WHO Global Road Safety Status Report, published in 2009, suggests several strategies to be implemented by governments in order to boost road safety actions.

1. Governments need to take into consideration the need of all road users when making policy decisions that impact on road safety.
2. Governments need to enact comprehensive laws that require all road users to be protected on the roads. Road users should be protected through enforcement of speed limits, through the stipulation of blood alcohol concentration limits, and through the use of appropriate occupant protection measures. Existing legislation should be reviewed and amended to conform to good practices that are based on sound evidence of effectiveness. The enforcement of comprehensive and clear legislation with appropriate penalties and accompanied by public awareness campaigns is a critical factor.
3. Governments need to ensure that the institutions nominated as responsible for actions on road safety are fostering multisectoral collaboration and have the necessary human and financial resources to act effectively, publicly
4. Governments should encourage the collection of data on road traffic accident injuries.
5. As road safety plans progress it is necessary to carry out systemic assessment to analyze this progress and compare results with other countries.

10 reasons + 10 years = Decade of Action

Ten reasons for actions against road fatalities:
1. 1.3 million people are killed on the world’s roads each year. Road crashes kill more people than Malaria.
2. Each year 50 million people are injured and many disabled as a result.
3. 90% of these victims live in emerging countries.
4. Forecasts predict road fatalities will increase to 1.9 million in 2020. This represents the No. 1 cause of death for young people worldwide.
5. By 2015 it will be the leading health burden for children over the age of five in developing countries.
6. The economic cost to developing countries is at least USD 100 billion a year. Injuries place immense burdens on hospitals and health systems.
7. Road crashes are preventable.

Source: Make Roads Safe – Campaign for Global Road Safety

Key recommendations from this report are:

1. Governments need to take into consideration the need of all road users when making policy decisions that impact on road safety.
2. Governments need to enact comprehensive laws that require all road users to be protected on the roads. Road users should be protected through enforcement of speed limits, through the stipulation of blood alcohol concentration limits, and through the use of appropriate occupant protection measures. Existing legislation should be reviewed and amended to conform to good practices that are based on sound evidence of effectiveness. The enforcement of comprehensive and clear legislation with appropriate penalties and accompanied by public awareness campaigns is a critical factor.
3. Governments need to ensure that the institutions nominated as responsible for actions on road safety are fostering multisectoral collaboration and have the necessary human and financial resources to act effectively, publicly
4. Governments should encourage the collection of data on road traffic accident injuries.
5. As road safety plans progress it is necessary to carry out systemic assessment to analyze this progress and compare results with other countries.
European experience on Road Safety

Road transportation represents one of the most dangerous types of transportation and the one that kills more people. The European Commission published in September 2010 the White Paper whose aim was to reconcile economic development and a society demanding ever more mobility and safety for a modern and sustainable transport system for the year 2010. In 2003, the European Union developed the European Road Safety Action Programme aiming at halving the number of road accident victims in the European Union by 2010.

The European Action Plan was based on the idea of involved parties sharing responsibilities in order to obtain the results expected, authorities at all levels (national, regional, and local), industry, transportation companies and private users. The Commission expected this programme to have the support of all those involved. To obtain this support the Commission proposed the creation and signing of the European Road Safety Charter to all those people involved in decision-making processes, all those socially or financially influential and those with a representation mandate. Besides committing to universal principles, signatories committed to the implementation of specific measures. The European Road Safety Action Programme ended as this Manual was being finished, thus there are no data on the Programme’s results.

The focuses on five main areas:
1. Encourage users to behave better, combining law enforcement, police work, and educational campaigns.
2. Make cars safer through technical progress.
3. Improve road infrastructure through IT technologies.
4. Improve assistance to road accident victims.
5. Collect and analyze data on physical injuries resulting from road accidents.

Outstanding European experiences

:: Sweden

Swedish Road Safety policy has been considered a model by the rest of the world and has been replicated in Norway and Australia. Road Safety has been a national priority in Sweden since 1997 when the Vision Zero program was implemented. This policy is based on the concept that the environment should be designed to take into account our bodies’ biomechanical tolerance limits and people’s tendency to make mistakes. The Swedish strategy for a sustainable road system aims at modifying the environment and at the same time protecting the user from certain risk levels.

One of Vision Zero key elements is the radical notion of placing the main burden for safety on system design and not on the users. The key concept for the program is to consider road accidents as an epidemic with well-known causes that are preventable; it is therefore necessary to eradicate these causes. Vision Zero accepts that accidents will happen, so the best course of action is to try to minimize the effects: Intersections are redesigned, guard rails are erected, and rigid roadside objects like trees and rocks are removed.

Apart from the Swedish government, the car industry also played a very important role in the making of safer cars with its participation in the design of safety elements, such as the three-point seat belt.

Sweden’s main car manufacturers such as Volvo and Saab have a great experience in the safety field. A Volvo engineer patented, in 1958, the three-point seat belt, adopted by the company the following year.

The Swedish program Vision Zero suggests a comprehensive approach, considering the different infrastructures and the vehicle-user interaction.

:: France

In July 2002 the French President, Jacques Chirac, made the reduction of road accidents a national priority. The French road safety policy rests on two pillars: on the one hand law observance, and on the other, the strengthening of risk prevention strategies.

Actions listed below are connected to law observance:
1. Increase the number of police officers
2. More stringent controls
3. Development of automatic penalties for speeding
4. Observance of traffic lights and safe distances between vehicles

Results from implementing these priorities are:
1. Reduction in average speed
2. Reduction in the number of victims
3. Creation of a road safety culture in France

3 Link: http://europa.eu/legislation_summaries/employment_and_social_policy/growth_and_jobs/l24007_es.htm
4 Programme link: http://ec.europa.eu/health-eu/my_environment/road_safety/index_es.htm
Feasibility of replicating European models in our continent

Although there is no doubt of the importance of understanding models applied in high-income countries, it is fundamental to study their feasibility in the LAC region. Although it is important to consider implemented European models, it is fundamental to keep into account Latin American countries’ idiosyncrasy that do not allow an immediate replication of said models, these should be adapted to each country’s reality. On the other hand it is also important that people carrying out the plan understand behaviors and customs of each region that should be progressively transformed.

Road Safety Situation in Latin America and the Caribbean

There is such a variation in road safety models in the LAC Region that it is difficult to talk of only one model for the whole region. Each country has its own model whose history and application varies from one country to the other, even between neighboring nations.

:: Uruguay in the LAC context

The Republic of Uruguay is a South American country on the eastern coast of the continent, neighboring Argentina and Brazil; with 176,215 Km² it is the second smallest country in South America after Surinam. Uruguay is a member of the UN, the Southern Common Market (Mercosur), the Organization of American States (OAS), the Union of South American Nations (UNASUR), and the G77, among others.

According to the United Nations Development Programme (UNDP), Uruguay is the third Latin American country (after Argentina and Chile) with the highest Human Development Index (IDH).

Uruguay has a population of 3,241,003 inhabitants, which represents the tenth largest population in South America. Almost half of the population (1,325,968 inhabitants) lives in the nation’s capital, Montevideo. Montevideo’s metropolitan area (the capital city and the neighboring provinces of Canelones and San José) has a population of two million people. Uruguay is a democratic state, with three different powers (Executive, Legislative and Judiciary), and a presidential political system. National, provincial and municipal elections are held every five years.

Uruguayan territory is divided into 19 provinces, each of which has its local government that mirrors central government’s organization, having two main bodies, the Executive (Mayors) and Legislative (Alderman’s Committee).

According to the United Nations Uruguay is the country with the highest literacy levels in Latin America, and according to The Economist’s “Democracy Index” the most democratic country. Uruguay is, together with Costa Rica, the only Latin American country considered a full democracy.

:: Spain

A Special Road Safety Plan has been implemented in Spain since 2004; a set of legal and administrative measures has been implemented focusing on education, training and penalties. Spain is one of the few countries in the European Union in which road safety is dependent on the Ministry of the Interior. License can be confiscated as a penalty for a number of traffic offenses. Regarding educational measures there are courses on road education, teaching of road safety at all educational levels, recycling courses for penalized drivers, among others. Regarding criminal measures there are prison sentences, fines and/or license confiscation in the case of positive alcohol test.

The fatality rate in Spanish roads halved in the last six years. This represents an unprecedented success by the Government that has implemented Strategic Plans together with the civil society that has promoted a new culture on road safety. A Traffic Act has been recently passed, making mandatory the use of CRS and holding parents legally responsible. The use of CRS is already mandatory on school buses.*

Acknowledgements: STOP ACCIDENTES GALICIA, www.stopaccidentes.org

*National Statistics Institute (INE), 2004
In 2008 the Act for the creation of the Road Safety National Agency (ANSV) was passed. ANSV is a decentralized agency from the Ministry of the Interior. The agency’s main objective is to “reduce the road accident rate in the national territory through the promotion, coordination, control and monitoring of national and international road safety policies.” The aim is to halve road accident mortality rate in a five-year period. The ANSV is the authority in charge of implementing national road safety policies.

The creation of the ANSV, together with its regulatory framework and financial support, defined a national state policy on road safety. Its pillars were the areas of prevention, control, enforcement, and raising of awareness on road safety in Argentina.

Outstanding LAC experiences

:: Argentina

In 2008 the Act for the creation of the Road Safety National Agency (ANSV) was passed. ANSV is a decentralized agency from the Ministry of the Interior. The agency’s main objective is to “reduce the road accident rate in the national territory through the promotion, coordination, control and monitoring of national and international road safety policies.” The aim is to halve road accident mortality rate in a five-year period. The ANSV is the authority in charge of implementing national road safety policies.

The creation of the ANSV, together with its regulatory framework and financial support, defined a national state policy on road safety. Its pillars were the areas of prevention, control, enforcement, and raising of awareness on road safety in Argentina. Together with the ANSV, the National Registry on Road Safety Statistics was created; its main objective is to collect information on traffic offences and accidents nationwide. The Road Safety Observatory was also created whose main function was to assess reports containing causes, effects and measures for the prevention of road accidents, as well as the economic costs produced.

:: Chile

In Chile there is the Road Safety National Commission (CONASET), inter-ministerial agency created in 1993. Its creation results from the economic and social burden that road accidents represent for the country and for the need to address it in a comprehensive way.

The agency’s two main objectives are:

1. To develop an ethical conduct in all road users: pedestrians, drivers and vehicle occupants.
2. Succeed in controlling traffic risk factors.

There are five main pillars for CONASET to achieve objectives described above:

1. Education for the creation of safe habits and safety conditions.
2. Communication campaigns showing road safety as an element improving quality of life.
3. Technical agencies developing and operating instruments.
4. A stakeholders’ network throughout society promoting the concept of road safety as part of a better quality of life.
5. A regulation system respected for its efficiency and effectiveness.

“Road accidents represent the fourth cause of death in Chile; for those under 25, however, they represent the main cause of death. According to data provided by the Road Safety National Committee (CONASET) there were 56,330 road accidents in 2009, 1,508 fatalities, 61 of whom were children under 8 years.

According to the Chilean Traffic Act children under 8 years of age cannot travel in the front seats of cars and vans (except of single cabs) and the use of child seats attached to the car seat is mandatory for children aged 0-14 years. Children aged 4-7 years old should travel on boosters that allow for the correct use of three-point seat belts, mandatory for cars manufactured after 2002.

The Automobile Club of Chile finds it alarming that only 17% of drivers use a Child Restraint System and 90% of them have not installed it properly.”


Acknowledgement: Automobile Club of Chile, www.automovilclub.cl

Costa Rica

One of the most important experiences regarding the introduction of Road Safety measures is the one carried out in Costa Rica. Road traffic accidents and their consequences are considered a public health issue. In 1996 the Road Safety National Board (COSEVI) redefined its actions and implemented a Road Safety Plan working in areas such as: traffic laws, police enforcement, education and awareness campaigns, and improvement on infrastructures as well as research on road safety.

The road accident fatality rate was 13.85 in 2010. This figure shows a reduction in the number of fatalities and injuries (71 and 398 people respectively) if compared with the previous year. Factors affecting this reduction have to do with policies defined in the Road Safety National Plan, such as:

- Revision and updating of road safety legislation. Road safety legislation in Costa Rica experienced a great change through the amendment to its Traffic Legislation implemented in 2008, when risk factors in driving were implemented.
- Development of actions focused on road safety education with the Program of Safe Educational Centers and the Road Safety Brigade, by promoting safe habits through actions such as the mandatory use of child restraint systems in vehicles. That is complemented by legislation that defines serious penalties for offenders. Another important aspect to highlight is the mandatory use of helmets by minors and the use of reflective material on clothes and on vehicles’ structure, as well as the broadening of the scope of the mandatory use of seat belts, already suggested in 2004.
- Inclusion of civil society, private companies, and public agencies in the carrying out of comprehensive actions focused on the prevention of injuries resulting from road accidents. One aspect to be mentioned is the inclusion of a chapter in traffic legislation on Road Safety Education, from Preschool to Secondary Education, carried out by national education officials.

Mortality rate in traffic accidents. Period 2000 to 2010

*Dependent on the Ministry of Public Works and Transport*
"Por Amor" Campaign
FIA: the MOPT’s (Ministry of Public Works and Transport) most important supporter.

In 2003 there was an agreement between FIA Commissioner Carlos Macaya, and Karla González, MOPT Vice-Minister at the time. Said agreement included the donation of an important amount of resources to the award winning campaign "Por amor use el cinturón". This campaign amended the existing legislation making seat belt use mandatory for drivers, and reduced the number of fatalities on the roads.

Besides, in 2007, FIA also allocated funds to the International Road Assessment Programme (iRAP). MOPT’s policies, with FIA as a supporter, allowed for a significant reduction of road fatalities, from 363 in 2003 to 321 in 2004, and 278 in 2005. But in 2006 the number of road fatalities increased again to 329. The MOPT responded with a Road Safety strategy including amendments to the Traffic Act, and investment on safer roads.

Source: www.fiafoundation.org/publications/Documents/por%20amor_es.pdf

"Road accidents are one of the main causes of death in Costa Rica, many teenagers and young adults get killed on the roads. There are several causes for these fatalities but they can be grouped mainly in the following categories:

- Lack of road safety education of road users nationwide
- Lack of appropriate infrastructure for the protection of ALL road users in Costa Rica
- Road Safety legislation that is too lenient, ambiguous, or non-existent regarding fines, penalties and sanctions.
- Lack of government commitment regarding the creation of a comprehensive polity for the prevention and processing of road accidents

Some factors that increase the number of road accidents:

- High percentage of heavy traffic
- Heavy traffic highways through town and cities
- Geometric characteristics
- Poor vertical and horizontal visibility
- No shoulders on roads
- No possibility of over passing slow cars or cyclists
- Drunk, tired, young no-experienced drivers
- Driving distractions

On the other hand, regarding economic costs, road traffic accidents represent 1% of the national GDP, according to the Ministry of Transport and Public Works (MTOP); recovery of each person injured costs on average 20 million Colons (end of 2001). Statistics presented are those in COSEVI’s files regarding the number of accidents involving cyclists. However, these figures are not completely accurate since these accidents are sometimes filed as accidents involving pedestrians. In many other cases they are not reported since the official never gets to the scene of the accident.

The reduction in the number of accidents is due mainly to the implementation of changes to the Traffic Act 8696 at the end of 2009. Changes to the act define a system of points (not currently in force), raise fines and heavily penalize hazardous driving and drink driving.

It also regulates the transport of children in private vehicles and school buses, making the use of seat belts and devices such as child restraint systems and booster seats mandatory. In the case of school transport children should travel with an adult apart from the vehicle’s driver (Legislative Decree N°8696)."

<table>
<thead>
<tr>
<th>Year 2008</th>
<th>Year 2009</th>
<th>Difference 2009-08</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td>4,549,864</td>
<td>4,621,585</td>
</tr>
<tr>
<td><strong>Road network</strong></td>
<td>36,241</td>
<td>39,043</td>
</tr>
<tr>
<td>% National network</td>
<td>21%</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Moving fleet</strong></td>
<td>838,547</td>
<td>874,111</td>
</tr>
<tr>
<td><strong>Registered fleet</strong></td>
<td>1,361,595</td>
<td>1,386,177</td>
</tr>
<tr>
<td><strong>Registered Licenses</strong></td>
<td>1,723,665</td>
<td>1,793,152</td>
</tr>
<tr>
<td><strong>Drivers</strong></td>
<td>1,148,584</td>
<td>1,192,528</td>
</tr>
<tr>
<td><strong>Violations</strong></td>
<td>502,109</td>
<td>438,557</td>
</tr>
<tr>
<td><strong>Accidents</strong></td>
<td>74,015</td>
<td>68,367</td>
</tr>
<tr>
<td><strong>Accidents with injuries</strong></td>
<td>597</td>
<td>490</td>
</tr>
<tr>
<td><strong>Total deaths</strong></td>
<td>750</td>
<td>665</td>
</tr>
<tr>
<td><strong>Deaths on the scene</strong></td>
<td>355</td>
<td>315</td>
</tr>
<tr>
<td><strong>Injured people</strong></td>
<td>8,215</td>
<td>7,509</td>
</tr>
</tbody>
</table>

Acknowledgements: ACONVIVIR. www.aconvivir.org
Although included in the legislation passed in 1994, the National Commission for the Prevention and Control of Road Accidents, dependent on the Ministry of Transport and Public Works (MTOP), was not able to achieve its objectives. Uruguay has historically lacked a road safety regulatory agency. The main reasons for the commission not to create said agency were the budget allocated and the fact that its members were working ad honorem.

On 18 May, 2007, Act Nº 18,113 created the National Road Safety Agency (UNASEV). Six months later Act Nº 18,191 (Traffic and Road Safety in the National Territory) was passed.

**Highlights of Act Nº 18,191**

1. A body of traffic regulations of public interest for the whole country is approved.
2. There are express provisions regarding traffic, road safety and people’s psychophysical safety.
3. The permitted concentration of alcohol in blood shall be gradually reduced from 0.8 grams to 0.3 grams per liter of blood in a three-year period.
4. Mandatory seat belt use in front and back seats. Mandatory use of seat belts is highlighted in the case of school buses where all seats should have this device. Vehicles should have civil liability insurance against third parties.
5. All enforcing agencies (Municipal officers and officers from the Ministry of Transport included) are authorized to carry out spirometry tests.
6. Mandatory use of helmets for motorcyclists.
7. Mandatory use of reflective signals on bicycles, animal-drawn vehicles and their drivers.
8. Regarding alcohol concentration in blood there is tolerance Zero for drivers transporting passengers, levels should be zero.
9. Vehicle confiscation is authorized.
10. Mandatory use of low beam headlights.
11. In case the vehicle driver’s levels of alcohol concentration in blood are higher than those legally accepted, license may be confiscated.
12. Mandatory technical inspection.

Provincial Road Safety Agencies (UDASEV) are created together with a Central regulating road safety agency. These agencies aim at coordinating road safety concepts and criteria nationwide.

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*Quote from document edited by the Dirección Nacional de Impresiones y Publicaciones Oficiales, 3 edition, 2008*

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“The new conditions in the vehicle fleet and a road structure not prepared for such a technological advance made road accident rates increase, something in part predictable. On top of this one of the most important variables to take into account when assessing the causes for road accidents is the low risk perception by some drivers.

Leaving statistics aside, the current situation in Uruguay is really critical, not only because of the number of fatalities but also because of the serious injuries sustained by victims both physically and emotionally. Data disseminated exclusively describe highway accidents, but the situation in urban roads and streets is not different, we are in serious trouble. In eight out of ten road accidents there is a two-wheeler involved.

The passing of Act Nº 18,191, has not in fact, changed the situation. Laws and Acts on their own do not modify attitudes. Municipalities not implementing enforcement measures are cause serious damage to society; they are clearly in omission and in some cases directly responsible for the accidents.

Safety measures such as headlights on during daylight in urban areas, mandatory use of seat belts, reduction in alcohol concentration in blood, helmets, etc., have not produced the results expected. “Would it be worse without these measures?” Probably.

There is no record of data on the average accident rate before the Act making it impossible to make an accurate diagnosis. Safety measures that are not assessed or controlled do not make any sense: not enforcing the acts nationwide makes them meaningless.

We should be systematic. We are aware this is a cultural issue. It is not only about skills; it is also about knowledge and attitudes, and these changes take time. It is going to take even longer if there is not enforcement of the law. Enforcement should be considered an element of protection of those who always comply with regulations. It is part of the solution to save lives.”


*Quote from document edited by the Dirección Nacional de Impresiones y Publicaciones Oficiales, 3 edition, 2008*
Children, the least protected?

Children do not show the same physical proportions as adults. Body weight in children is distributed in a bigger proportion in the upper part of the body. Taking into account their muscle maturity and reflex development at an early age, it is clear that children ARE NOT miniature adults.

Vehicle seat belts properly restrain 1.50 mt. occupants. Children reach this height at the age of 8 and 11th years old; before reaching this height they should be safely restrained in a Child Restraint System (CRS), popularly known as “child seats”. According to ongoing regulations in Uruguay, once children reach 1.50 mt., they should travel wearing a 3-point seat belt in the back seat of the vehicle. When used appropriately, CRS significantly reduce risks of severe injuries and even death in road accidents.

Although the World Health Organization (WHO) promotes several recommendations regarding the use of Child Restraint Systems (CRS), these recommendations are not equally followed in the different countries.

:: Child heads are proportionally larger compared to adults.

:: Children’s rights

The UN Convention on Children’s Rights states that children have the right to a safe environment and protection from all forms of violence. However, hundreds of children are killed or seriously injured every day – by adults- on the world’s roads.

Road accidents are currently the leading cause of death for young people, with 260,000 children (up to the age of 18) killed on the world’s roads every year. Governments should do much more to protect children’s rights regarding safety on the roads.

Source: Make Roads Safe – Campaign for Global Road Safety

:: Existing data on CRS use

The table below shows a summary of data reported by countries previously mentioned to the WHO, included on the Global Road Safety Status Report: Time for Action, 2009.

The picture below shows the status report developed by national authorities and submitted to the WHO on the existence of legislation on the use of CRS.

Acknowledgements: Por la Vía por la Vida - Liga Contra la Violencia Vial, www.porlaqvial.org
According to the map references and taking into account the current legislative situation in Uruguay, we should say that a mistake has been made (Figures 1 and 2) since there is no specific legislation in Uruguay on the mandatory use of CRS, or children transportation.

The picture below shows the status report developed by national authorities and submitted to the WHO on the existence of legislation on the use of CRS.
Designing, developing and starting-up a Child Road Safety Plan
Apart from progress, speed and comfort, road transportation has generated one of the biggest problems in current society: road traffic accidents.

Despite the alarming number of victims, 15,264 deaths and 516,556 injured in the last 30 years (1980-2009)\(^1\), representing 15% of the country’s population, national authorities have not paid enough attention to the issue. Lack of awareness and information has directly affected decisions to be taken by the Uruguayan political system. Apart from the necessary knowledge on traffic laws and signals it is fundamental for the users to be educated on Road Safety.

### Designing a Child Road Safety Plan

#### The idea

Convinced that habits and values acquired in childhood stay with us forever, the Fundación Gonzalo Rodríguez designed a draft for the Child Road Safety Plan - EDU-CAR, presented as a Pilot Plan to be implemented in Uruguay and to disseminate lessons learned throughout the LAC Region.

#### From the draft to the project

The challenge of setting up such an ambitious project made it clear we needed a team larger than the one from the FGR. We looked for national advice among those actors involved in road safety issues and at international level we turned to the FIA Foundation, one of the main agencies involved in road safety. Thanks to those contacts and to taking part in the Regional Road Safety Forum held in Chile in 2006, the FGR was able to contact several actors with whom it shared the interest in road safety promotion and improvement. It was within this context that in February 2007, after 5 days of hard work at Task Force for Child Survival and Development headquarters (later called Task Force for the Global Health), the foundations for EDU-CAR were laid. Task Force members were joined by Dr. Ann Delliger from Centers for Disease Control and Prevention (CDC)\(^2\), Dr. Martha Bidez, and Eng. Donald S. Burke III from Bidez & Associates Inc.\(^3\) (later called BioEchoes Inc.).

EDU-CAR Plan is part of a long-term project focused on Child Road Safety in Uruguay, Latin America and the Caribbean. It aims at defining those challenges faced by children in their different roles on the roads (as pedestrians, passengers on two-wheeled vehicles, private vehicles and as school transport passengers) through objective and independent scientific research.

Together with the organizations listed above the foundations for EDU-CAR Plan were laid, defining objectives, activities, expected results, work schedule and technical team needed. It was difficult to make the decision of focusing on the child passenger in private vehicles and school buses, but this decision was based on recommendations by WHO regarding the use of CRS and the lack of legislation on this issue in the country. The National Road Safety Act Nº 18,191, making the use of seat belts on school buses mandatory, was passed in 2007. Making the use of Child Restraint Systems mandatory was considered a possible consequence of the implementation of said regulation.

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\(^{1}\) Dr. Mark Rosenberg is a member of the High Global Road Safety chaired by Lord George Robertson, who was in charge of the report “Make Roads Safe” in 2006 for the G8 Summit. Dr. Mark Rosenberg shared the National Academy of Science and Road Safety Workshop for developing countries. “Global Road Safety Forum” is a program of “Task force for Child survival and Development” which, during the past four years, has been working to help raise awareness and bring people together to address the global road safety crisis in the region and worldwide. Having realized important reports on Road safety, participate in a session of the United Nations General Assembly and in a meeting with all the sectors involved in road safety in 2004, the GRSF was called to continue with its active role working collectively with regional and global organizations.

\(^{2}\) The CDC is the premier public health agency to promote health and quality of life by preventing and controlling disease, injury, and disability. It is a public health global leader whose aim is to prevent and control chronic and infectious diseases, occupational accidents, disability and environmental threats. The CDC is globally well known for its investigations and for its action centered approach. The findings derived from these investigations are applied to improve people’s quality of life. Ann Delliger has worked in the center since 1993 studying measures to prevent road injuries and fatalities in the US and worldwide. She works as epidemiologist and leads a team in automobile injuries designing programs to save-safety standards.

\(^{3}\) Founded in 1990, consultant on biomechanics engineering located in Birmingham, Alabama, USA, specialized in prevention and control of injuries caused in car crashes. Dr. Martha Bidez has worked on the legislation for infant passengers’ safety throughout the US. She has been trained and certified by the NHTSA as Child Safety Technician and has taken part in various car crash law suits in the US during the past 17 years as a causality expert, specially focused on vehicle design in relation to child.
Applying for funding: a challenge for Road Safety Plans in Latin America

The cultural change proposed by EDU-CAR requires professional work. Scientific data should reliably and accurately justify the reason for the plan. This can only be achieved with the appropriate resources and expert advice.

Obtaining the necessary financial support to carry out a Project of these characteristics implied the filling of application forms with clear objectives, specific and sensible schedules, and quantifiable results constant in time.

To the technical and financial support provided by globally well-known organizations such as the FIA Foundation and the World Bank Road Safety Facility, it should be added the optimization of resources and the creation of effective actions, that is to say “products” appealing to companies interested in contributing and improving their position as “socially responsible”.

:: Making up the team

Human Resources selection is one of the key aspects to the successful development of a Plan with these characteristics. Nobody ignores the importance of staff selection in an organization; technical and professional expertise of its different work groups will provide support to the actions taken. Because of this and taking into account the Plan’s objectives and fields of action, we defined a team15 with the following characteristics:

Organization chart and flow of relationships

Continuous improvement process associated to resource training

Selecting the ideal technical team is not enough when dealing with issues of such a high social impact and complexity, it is also necessary to work on concepts such as “continuous improvement” and training.

Requirements for the continuous improvement (management support, feedback and revision of each stage in the process, responsibility of each step taken, concrete ways of measuring results achieved in each process) were put together between FGR technical staff and foreign technical experts.

15 This format of relationship in which particularly refers to the Executive Director and Project Advisor, remained until May 2009 and from then on, has maintained engineering and statistics advice.
Continuous improvement was achieved through the following concepts vital to EDU-CAR:
1. Keep it simple.
2. Garbage in garbage out. GIGO
3. Trust, but verify.
4. If you can’t measure it, you can’t manage it.

Development
EDU-CAR Plan aimed to reduce the number of child road accidents in Uruguay; mainly focusing on children aged 0 – 15 years. There were four areas of work defined in the Plan; their objectives were:
- **Statistics (data):** To analyze data linkages between different agencies to be able to determine main causes of death and injury in children aged 0 – 14 years.
- **Engineering:** To assess new and used vehicles, seat belts, and CRS on the market to improve quality and accessibility.
- **Regulatory Framework (public policies):** To assess on-going legislation in order to promote changes that cater for effective child protection, generating political commitment based on scientific information and good practices in other nations.
- **Communications:** To make the issue of road safety public, making people aware of its causes, consequences, attitudes to change as members of society in charge of children.

Background
It was necessary to conduct scientific, objective, independent research on children mobility in private vehicles and school buses to serve as both a wake-up call and a model of sustainable, systematic change in road safety, to be replicated throughout the LAC region.

The following logical process was defined based on other countries’ best practices:

<table>
<thead>
<tr>
<th>PHASE I</th>
<th>PHASE II</th>
<th>PHASE III</th>
<th>PHASE IV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERIOD</strong></td>
<td>12 Months</td>
<td>6 Months</td>
<td>12 Months</td>
</tr>
<tr>
<td><strong>ACTIONS</strong></td>
<td>Develop and implement a pilot plan, identifying the target audiences, focusing from a multisectoral perspective to improve the safety of child passengers and pedestrians through:</td>
<td>† Building the right skills to support intervention strategies, including:</td>
<td>† Evaluate the program and remove on a regional level.</td>
</tr>
<tr>
<td>Establish a system of accurate and current data on children passengers and pedestrians:</td>
<td>1. Identify and implement intervention strategies.</td>
<td>1. Training (police, engineers, mechanics).</td>
<td>2. Promote collaboration among different stakeholders.</td>
</tr>
<tr>
<td>1. To quantify the problem.</td>
<td>2. Generate public awareness campaigns.</td>
<td>3. Increase the availability of security features for children passengers and pedestrians.</td>
<td>3. Increase the availability of security features for children passengers and pedestrians.</td>
</tr>
<tr>
<td>2. Identify the specific areas for a favorable intervention.</td>
<td>3. Increase the availability of security features for children passengers and pedestrians.</td>
<td>4. Get the national legislation and regional cooperation in this regard and make it work/worth.</td>
<td>4. Get the national legislation and regional cooperation in this regard and make it work/worth.</td>
</tr>
<tr>
<td>3. To provide an objective basis for the evaluation of the efficiency of policies to implement.</td>
<td></td>
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</tbody>
</table>

**RESULTS**
A system of reliable data on accidents in children and its components. A coordinated strategy by a multisectoral action for the one and only purpose of reducing deaths and injuries to children from 0 to 14 years. Generate a sustainable cultural change through education, information, training, legislation and control. Being a model of good practice in the region facing a national health problem in coordination between public, private and social sectors.

:: The importance of accurate diagnosis
It is of the uppermest importance to make an initial diagnosis of the situation of road safety in the country, answering certain key questions fundamental to the success of the Child Road Safety Plan. Aspects closely related to the reality of the country should be clearly understood so that objectives set are specifically linked to the context of application.
**SOME HIGHLIGHTS ACTORS FOR THE COLLECTION AND PROCESSING OF DATA**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banco de Seguros del Estado (BSE)</td>
<td>Metropolitan Transit Social Observatory</td>
</tr>
<tr>
<td>Traffic Studies Center of Uruguay (CETU)</td>
<td>Emergency Department of the Clinicas Hospital</td>
</tr>
<tr>
<td>National Firemen Department</td>
<td>Department of Epidemiology</td>
</tr>
<tr>
<td>National Highway Police Department</td>
<td>National program of Child Health</td>
</tr>
<tr>
<td>National Technical Police Department</td>
<td></td>
</tr>
<tr>
<td>University of Humanities and Educational Sciences - University of the Republic (UdelaR)</td>
<td>Institute of Pediatrics</td>
</tr>
<tr>
<td>University of Medicine - University of the Republic (UdelaR)</td>
<td></td>
</tr>
<tr>
<td>Ministry of Public Health</td>
<td></td>
</tr>
<tr>
<td>Pereira Rossel Hospital</td>
<td></td>
</tr>
<tr>
<td>National Statistics Institute (INE)</td>
<td></td>
</tr>
<tr>
<td>Forensic Technical Institute</td>
<td>Department of Forensic Medicine</td>
</tr>
<tr>
<td>Montevideo City Hall</td>
<td>Traffic and Transportation Division</td>
</tr>
<tr>
<td>Montevideo City Hall</td>
<td>Plan of Urban Mobility</td>
</tr>
<tr>
<td>Ministry of the Interior</td>
<td>Office of Institutional Policy and Strategic planning (DIPIPE)</td>
</tr>
<tr>
<td></td>
<td>11th Police Branch</td>
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<tr>
<td></td>
<td>Emergency 911 Service</td>
</tr>
<tr>
<td></td>
<td>Tactics Centralized Information Office (OCIT)</td>
</tr>
<tr>
<td></td>
<td>Montevideo Police Headquarters</td>
</tr>
<tr>
<td>Mobile Medical Emergency System (SEMM)</td>
<td></td>
</tr>
<tr>
<td>Emergency and Transfer System (SUAT)</td>
<td></td>
</tr>
<tr>
<td>Uruguayan Society of Standardization, Data Exchange and Integration of Information and Health Services (SUEIDISS)</td>
<td></td>
</tr>
<tr>
<td>Unit of National Road Safety (UNASEV)</td>
<td>Chamber of Medicine and Psychology Traffic</td>
</tr>
<tr>
<td>Uruguayan Society of Pediatrics</td>
<td></td>
</tr>
<tr>
<td>Unit of mobile Coronary (UCM)</td>
<td></td>
</tr>
</tbody>
</table>
DATA SUMMARY

Road accidents in Uruguay, Report 2009 - UNASEV

| Total number of injured in traffic accidents in 2009 | 27,151 |
| Daily average of injured people in traffic accidents in 2009 | 74 |
| Death people by traffic accidents in 2009 | 535 |
| Daily average of deaths in traffic accidents in 2009 | 1.47 |
| Mortality rate in 2009 (dead / 100 traffic accidents with injuries) | 2.34 |
| Death people by traffic accidents in 30 years (1980 - 2009) | 15,264 |
| Injured people by traffic accidents in 30 years (1980 - 2009) | 516,556 |
| Reduction of injuries in 2009 compared to the expected value according to the trend | -7% |
| Estimated savings by reducing injuries in 2009 | 70 millions of dollars |


According to data published by UNASEV, in 2009 there were 22,856 road accidents in Uruguay, resulting in 27,151 people injured. This figure equals a daily average of 74 people injured or killed. Regarding the relation between people injured and road accidents, data show that 119 people resulted injured for every 100 road accidents. It is also important to mention that, in 2009, an average, a Uruguayan got killed in a road accident every 16 hours.

If road accidents are sorted by geographical distribution, most accidents occur in the south of the country, being Montevideo, Canelones and San José the most affected provinces. Data from these three provinces represent 50% of all fatalities and injuries throughout the country.

These data show the importance of road accidents in our country; if figures are compared to those from other countries, Uruguay has a high mortality rate.

At regional level Uruguay is well positioned, behind Mexico, Paraguay, Brazil and Argentina. When compared to leading countries in road safety however (Sweden, United Kingdom, Japan, Germany or even Spain), it becomes evident that there is much to do to reach low fatality rates.

Is there a unified Data Collection System?

The question to this simple answer is no. There are approximately 26 agencies – national and provincial - with competence in traffic issues not legally defined. This produces atomization, incoherence, contradictions and overlapping of tasks and responsibilities that hinder progress in the struggle against this epidemic.

Within this context, it was considered important to join efforts among the different agencies involved in data collection. It became fundamental to reach agreements and define common criteria to have reliable information. In this context, different workshops were conducted together with those agencies directly involved in the gathering of information.

Are there any data on children mortality in road accidents?

The collection of data on road accidents involving children was a difficulty that could not be overcome. Victims were not classified by age or sex; besides, there was no information on their role on the road (occupant, pedestrian, etc) or whether they were using any kind of safety device at the moment of the accident.

Not until 2008 was there a serious study on road accidents involving children. Dr. Mercedes Bernardá et al. from the Department of Pediatrics at the University of the Republic (UDELAR), with the support of EDU-CAR Plan, conducted a one-month observational study of accidents reported involving children aged 0 – 14 years in the provinces of Montevideo, Salto, and Paysandú, regardless of their importance. Although only 3.3% of children reported being involved in a road accident, the study produced some relevant results. More than half of the accidents occurred in Montevideo (56%), 41% of children were traveling on a motorcycle (mainly in Salto and Paysandú), and only 36% of them were wearing a helmet. From those children traveling by car, 62% were doing so completely unrestrained.

As it is mentioned in the study, it is important to highlight that although there were no fatalities during the month the study was conducted, other studies show that road traffic injuries represent the first cause of death for children and adolescents. On the other hand most fatalities are due to injuries to vehicle occupants.

The study shows that child road safety requires multiple interventions, some of which are beyond the health system; for example specifications on the safest way for children to travel in vehicles and national and municipal regulations.

Worrying data on the way in which Uruguayan children travel:

- Almost half the children involved in road accidents during the month observed were on motorcycles and most of them without wearing a helmet. Children should not travel on motorcycles, but if they do, they should always wear the appropriate helmets for their age and size. This situation is especially problematic in the provinces, where people are used to riding motorcycles from an early age; it is also a problem in Montevideo.
- Most children involved in road accidents were not using any child restraint systems or wearing a seat belt.

Bernardá M et al. Accidentes en la infancia, prevalencia, características y mortalidad determinada por los accidentes en una población de Uruguay. Faculty of Medicine, UDELAR, 2008.

In the Americas there is a road accident fatality rate of 16 per 100 000 population. These data are provided by the World Health Organization in its last Global Road Safety Status Report, according to the definition that states that road traffic fatality is “any person killed immediately or dying within 30 days as a result of a road traffic injury accident”, however, there are no data bases on road accidents 100% reliable.

Characteristics shared by all countries in the LAC region are, the lack of road safety education, which produces a lack of knowledge on driving regulations and a lack of awareness of risks involved, an overcrowded public transport system, speeding, lack of knowledge on the correct use of passive and active safety devices, roads in bad condition, and the lack of enforcement by authorities. Some countries have started to allocate funds to national agencies aiming at reversing this situation; there have been some positive results but there is still much to do.

Enforcement does, in many cases, raise drivers’ awareness of certain issues (drink driving, speeding, use of cell phones, helmets and seat belts); use of child restraint system is not, however, included in these measures. Since there is no specific legislation, there is no control of its correct installation.

It is necessary that all measures aiming at reducing the number of fatalities follow a long term criterion so as to obtain concrete results.

On the other hand there are now some actions being taken not only on drivers but also on pedestrian. It is clear the in Road Safety we need support from multiple sectors, and that for this to happen, each of us should be committed to the cause”.

Acknowledgements: Federación Interamericana de Touring y Automóviles Club, www.fitac.org

FIA is an international leading organization on Sports and Mobility. It promotes best practices on Road Safety representing more than 132 automobile clubs worldwide. In Latin America, FIA IV Region is made up of Touring and Automobile Clubs in Argentina, Brazil, Chile, Uruguay, Bolivia, Paraguay, Peru, Ecuador, Colombia, Venezuela, El Salvador, Costa Rica, Nicaragua and the Dominican Republic, where it promotes different local and regional actions on Mobility through other international agencies.
Plan contribution to the creation of a unified data system

The lack of data detected made it necessary to reformulate the objectives initially set. A reliable baseline was required to make recommendations in order to eliminate the cause of child road accidents. Statistically speaking this meant widening the scope of work, promoting studies to define the mobility conditions of private vehicles and school buses for children aged 0 - 14 years in Uruguay. Based on the situation detected it became evident that the most important aspect to be improved by the Plan Statistic Area was the data collection system; without a reliable and unified data collection system it would be impossible to have reliable figures on road accidents in Uruguay.

Series of workshops on the data collection system

The need for standardization of criteria and technologies to assess information as well as coordination among the different actors involved in data collection made it necessary to organize two workshop series at the lobby of the Chamber or Representatives attended by the following organizations:

· Ministry of Public Health (MSP)
· Scientific Services Bureau
· Traffic Police
· Board of Institutional Policy and Strategic Planning (DIPIPE)
· Observatory of Crime and Violence – Ministry of the Interior
· National Statistics Institute
· National Insurance Bank (BSE)
· University of the Republic (UdelaR)
· Observatory of Crime and Violence – Ministry of the Interior
· Ambulance services (UCM / SUAT)

The first workshop series took place in 2008 and it was called Towards an Information System on Road Traffic Accidents. The objective of this workshop was to understand the way in which data are collected and managed, stored (electronic data bases, manual paper files, etc.), whether information is shared and if so with which aims.

First workshop main conclusions:

· A great amount of data is assessed by each organization but in different forms.
· Sex (not always explicitly mentioned), age, identification, role of injured/ dead, diagnosis by medical doctor.
· There are electronic data bases and staff for the filing and processing of information. · En ciertos organismos la falta de infraestructura es acuciante. No hay un sistema de datos informatizado
· In some organizations there is an urgent need for infrastructure. There is no digital data system. Information is open and accessible to the person/agency requesting it, thus showing transparency in the process.
· There are not unified criteria or protocol for data collection, monitoring, or retrieval.
· A unified criterion is demanded by all stakeholders involved.

Towards a unified system for data collection on Road Traffic Accidents in Uruguay, carried out in May – June 2009.

This second workshop aimed at working together on a standardized form, with shared and unified criteria to be considered when assessing information on road traffic accidents.
Regarding criteria for data collection, the most relevant variables to be considered when collecting information were agreed.

- Passive safety devices: Seat belt, airbag, CRS, helmet.
- Vehicle’s plate.
- Personal Id. to determine whether the driver has a driving license.
- Visual obstacles at crossing such as trees, garbage containers, etc.
- To record occupants’ seating positions in the vehicle.
- To assess use of helmets and rear mirrors in motorcycles.

**Specific training**

One of the most important points discussed during the workshops were the lack of specific training on the best way of collecting data and on road accidents produced by new means of transport on the roads. These are the cases for frontal crashes between two wheelers and the lack of knowledge on CRS.

**Redesigning objectives**

In the context identified, ten months after starting EDU-CAR Plan it became necessary to have its general objective and main components redefined. It was essential to start from the beginning, solving some “problems” at first not considered that would change the whole situation.

It was considered that in order to get to “zero accidents” it was necessary to start by having children traveling safely in vehicles. We had no doubt that generations to come would do everything necessary to develop methods to achieve this objective.

Based on the situation detected in Uruguay the logical process was redefined:
The Road Safety Plan for Children EDU-CAR focused on the different safety components for children aged 0-14 years traveling in private vehicles as well as in school buses. Although these categories were not originally included in the aspects to be dealt with by the Plan, it was decided during the redesigning stage to include them taking into account the critical situation and the fact that the Act made the use of seat belts mandatory for all vehicle occupants.

### Redefining EDU-CAR Plan

**Vision:** “To promote awareness on Road Safety and get to understand safe practices we can adopt in our different roles as road users.”

**Mission:** “To create and put into practice a model that highlights the importance of Road Safety and the acquisition and improvement of safe practices to adopt in our different roles as road users, mainly protecting children who represent the most vulnerable group.”

**Redefined schedule by stages and activities:**

**Objective:** “To protect children today, educating them to be the drivers of the future.”

**Specific objectives:**

1. To provide solutions to data gathering and to the statistics system of road traffic accidents (children aged 0-14 years).
2. To promote government commitment to the protection of child passengers through laws that takes this issue into account.
3. To promote a cultural change that values and respects safe practices in traffic.
4. To develop and implement a public campaign together with informational, educational and training interventions.

<table>
<thead>
<tr>
<th>PHASE I</th>
<th>PHASE II</th>
<th>PHASE III</th>
<th>PHASE IV</th>
</tr>
</thead>
</table>
| 12 Months: 12/2009 to 11/2008  
The study of the statistic system, the situation of automobiles and passive safety features that show of the current situation. | 6 Months: 12/2009 to 5/2009  
Analyze data, present the problem and raise awareness. | 12 Months: 6/2009 to 5/2010  
Recommend improvements to data level, engineering and use of passive safety. | 6 Months: 6/2010 to 11/2010  
Evaluation and regional coverage. |

Legislative Campaign: Promoting national regulatory policies to the current legislation

**ACTIONS**

- Analysis of the current system for collecting and processing data.
- Scientific evaluation of the baseline of the country in terms of: data, engineering, law and knowledge of the subject.
- Create a network of partners-collaborators.

**RESULTS**

- A clear and objective vision of the country situation about the components involved in the accidents of children.
- Coordination of a multisectoral action for the plan of protecting child passengers aged 0 to 14 years.
- Generate a sustainable cultural change through information, education, training and awareness.
- Being a model of good practice in the region facing a national health problem in coordination between public, private and social sectors.

**Redefined schedule by stages and activities:**

**Objective:** “To protect children today, educating them to be the drivers of the future.”

**Specific objectives:**

1. To provide solutions to data gathering and to the statistics system of road traffic accidents (children aged 0-14 years).
2. To promote government commitment to the protection of child passengers through laws that takes this issue into account.
3. To promote a cultural change that values and respects safe practices in traffic.
4. To develop and implement a public campaign together with informational, educational and training interventions.

**Technical and statistical findings in Uruguay, baseline for the change needed**

There are three important reasons to assess the situation before starting a Plan on the use of CRS:

1. Identify a lack of use of Child Restraint Systems and present its scale.
2. Collect evidence on why CRS are fundamental and why supporting the plan. For a Plan to be successful it is necessary to have support from lawmakers and the general public. Precise data will help showing what can be achieved by implementing the Plan and will provide arguments to convince law-makers and the general public of the need for its implementation.
3. Basic indicators can be used for the Plan’s supervision and assessment. These can include quantitative information such as CRS use rate and also qualitative information such as the general public’s opinion on the use of seat belts or feedback on compliance with the law.
Critical Situation of Child Passengers:

1. The "Observational Study on the Use of Safety Elements in Vehicles in Montevideo, Salto, and Paysandú" (from now on FGR (2008a) was conducted between 20 - 22 May and 25 - 27 June, 2008 using a non-participant observation, aiming at the study of the prevalence of use of safety elements by child occupants aged 0 – 14 years old in cars/vans and motorcycles in Montevideo, Salto, and Paysandú.

2. In the Study of New Vehicle Models [FGR (2008b)] conducted in October – November, 2008, new cars/vans for sale were observed and studied. Seventy three (73) different models were studied; these represented the 93% of new car sales market in 2007, aiming at assessing the quality of the child safety components present.

3. In the Study of Market Available Seat Belts to Retrofit Vehicles [FGR (2008c)] conducted in August, 2008, market available seat belts for retrofitting were assessed and studied. Eighteen (18) of the most popular car-parts stores in Montevideo were included in order to assess seat belts’ availability, quality, and price.

4. In the Telephone Survey [FGR (2008d)] carried out between October 2008 and February 2009, the distributor and/or local representative for each vehicle brand was contacted. After this stage we contacted the distributor and/or representative at regional level and finally the Head Office with the purpose of getting to know the availability of 3-point seat belts kits for back seats in vehicles that do not offer them, and also availability of top tether kit for CRS (retrofitting). Brands selected represent 93% of 2007 new vehicles. In case these kits were available, number of part and price were requested.

5. Ten different models of CRS were bought and inspected between February – March, 2008, studying 16 child safety variables.

6. In the Study and Assessment of Restraint Systems for Children Aged 0 – 14 years old in Montevideo [FGR (2009a)] conducted between 14 and 22 March, 2009 (with a previous Pilot Phase carried out between 7 February and 1 March, 2009), an observational technique with maximum interaction was used, aiming at the quantitative and qualitative study of Child Restraint Systems (CRS) installed in private cars/vans and the assessment of the ways in which children travel in these systems.

7. The Survey on Knowledge, Attitudes, and Behaviors towards Traffic [FGR (2009b)] carried out exclusively by Factum (Consultancy Company) for the FGR, was a telephone home nationwide survey in March 2009 (including rural towns). The aim of said study was to identify those behaviors, opinions, and attitudes held by Uruguayans in reference to traffic and the way in which they believe children aged 0 – 14 should travel safely in cars/vans and motorcycles.

8. In the Study of Safety Equipment in Vehicles in Use carried out between 24 - 30 March, 2009, private cars/vans in garages in Montevideo for bodywork/paintwork were observed and studied, aiming at assessing the quality and types of seat belts and CRS attachment systems present in the vehicle fleet.

These data would provide the parties involved with a clear image of the current situation regarding the use of CRS, legislation, manufacturing standards and capacity for change capacity. They would also provide basic figures against which to compare effectiveness of future actions.

Determining which mechanisms, existing at the time, can increase the use of CRS, may help the parties involved identify legislation or campaign deficiencies.

:: Technical findings: Are vehicles equipped to transport children safely?

Status of new vehicles

In the Study of New Car Models, on sale new cars and vans were assessed. Seventy-three models of different makes representing 93% of new cars in the 2007 market were assessed, aiming at getting to know their equipment regarding child safety.

An important lack of ISOFIX and LATCH systems was detected in new cars (at least 67%). Likewise, there was a significant absence of Top Tethers (at least 80%).

Standardized anchorages - designed to reduce installation mistakes:

ISOFIX: Uses a rigid latch system to connect a child seat to a specially designed component in the vehicle’s seat or bodywork. The UNECE R44 regulation requires some component to prevent CRS rotation and the use of a top tether is one recommended option. This system is typically used in USA. The anti-rotation device is also very common in Europe.

LATCH (Lower Anchors and Tethers for Children): Uses flexible lower hook attachments to connect a child seat to a specially designed component in the vehicle’s seat. A top tether is also used to reduce motion of the top of a child seat relative to the vehicle. This system is typically used in USA.

A large percentage of vehicles (60%) do not have three-point seat belts in all seating positions. Eighty six percent of vehicles do not have ALR retractors in back seat belts.

The "Study of Safety Equipment in Vehicles in Use" showed that 10% of back seats studied do not have seat belts, 17% have 2-point seat belts in outboard positions, and 72.5% have 3-point seat belts in outboard positions.


Types of seat belt retractor

**ALR:** Automatic Locking Retractor. This retractor automatically locks once the occupant has buckled his or her belt. The belt must be unbuckled and webbing allowed to pass back into the retractor in order to unlock the retractor.

**ELR:** Emergency Locking Retractor. This type of retractor only locks during a rapid deceleration of the vehicle or if the belt webbing is rapidly loaded by a person’s body. A CRS can only be used with this type of retractor in association with a top tether and/or a – locking clip.

**Switchable Retractor:** This retractor can be switched from an ELR mode to an ALR mode. This is usually accomplished by pulling all of the webbing out of the retractor and then allowing it to reel back into the retractor to the desired length. A switchable retractor is distinguishable from an ELR; after the webbing is pulled completely out of the retractor, a — clicking sound is heard as the belt webbing is allowed to be pulled back into the retractor.

**Types of seat belts installed in back seats in vehicles assessed Montevideo**

![Chart showing types of seat belts](chart.png)

- No seat belt: 10%
- 2-point seat belt: 17%
- 3-point seat belt: 73%

Compliance with recognized technical standards by seat belts offered on the market, Montevideo

<table>
<thead>
<tr>
<th>Do not show compliance</th>
<th>Show compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>85%</td>
<td>15%</td>
</tr>
</tbody>
</table>


:: The importance of a technical standard

Document that establishes requirements to be complied with by a device or element to maximize its appropriate use under certain circumstances. Regarding seat belts, a technical standard establishes when a seat belt offers a high probability of safely restraining the occupant. A standard contains protocols and tests to be carried out and a minimum expected result in order to be accepted.

Forty six per cent (46%) of back seat belts in outboard positions have NO indications of compliance with any kind of technical standard.

Compliance with recognized technical standards by seat belts in back seats of circulating vehicles assessed, Montevideo

46% Do not show compliance
54% Show compliance


Which seat belts are available on the local market?
The Assessment of seat belts available on the local market showed that the great majority of seat belts available (85%) DO NOT have any indication of compliance with any kind of technical standard; the remaining 15% that do indicate compliance with technical standards are discontinued and are not to be imported again since they cannot compete with those having no indications.

Referencias:
3pSB = Three-point seat-belt
2pSB = Two-point seat-belt
No = Without seat-belt


Forty six per cent (46%) of back seat belts in outboard positions have NO indications of compliance with any kind of technical standard.

Examples of Official Approval labels
When scientific evidence becomes essential

After the Assessment carried out in August 2008 showing that 85% of seat belts available on the market did not comply with any recognized technical standard, and considering seat belts as an essential element for the correct installation of CRS in vehicles (of mandatory use by all occupants according to Act 18,191), the Engineering Department from the EDU-CAR Plan decided to test “GP” seat belts widely commercialized on the local market.

These seat belts do not show any information on compliance with any technical standard whatsoever and do not inform customers of the risks implied when buying this kind of products. This implies that public awareness campaigns together with legislation that makes their use mandatory encourage the public to buy this kind seat belts; the buyer then expects the products to perform effectively in case of collision or sudden stop.

The FGR tested some of these seat belts outside the laboratory and sent some samples to be tested at TNO Laboratory in Holland (http://www.tno.nl). Testing results showed that these seat belts did not meet more than 33% of minimum requirements; clearly indicating they are far from being safe.

The passing of Act Nº 18,191, July 2010, includes demanding seat belt compliance with technical standard as it was suggested by the EDU-CAR Plan Engineering Department. Unfortunately, enforcement and control of new vehicles and seat belts offered on the market is inefficient and scarce.

In the Telephone Survey conducted between October 2008 and February 2009, the distributor and/or local representative for each vehicle brand was contacted. After this stage we contacted the distributor and/or representative at regional level and finally the Head Office with the purpose of getting to know the availability of 3-point seat belts kits for back seats in vehicles that do not have them, and also availability of top tether kit for CRS (retrofitting). Brands selected represented 93% of 2007 new vehicle market. In case these kits were available, number of part and price were requested.

Categories were assigned to brands depending on equipment availability according to year, the following table was produced:

<table>
<thead>
<tr>
<th>THREE-POINT SEAT-BELTS IN THE BACK ROW OF SEATS OR UPGRADE KIT AVAILABLE</th>
<th>TOP TETHER FOR CRS OR UPGRADE KIT AVAILABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>E Excellent Honda, Mercedes Benz, Peugeot, Toyota</td>
<td></td>
</tr>
<tr>
<td>G Good Citroën, Hyundai, MitsubishiToyota</td>
<td></td>
</tr>
<tr>
<td>R Regular Chevrolet, Fiat, Ford, Nissan, Suzuki</td>
<td>Mitsubishi, Nissan</td>
</tr>
<tr>
<td>P Poor Effa, Volkswagen</td>
<td>Chevrolet, Citroën, Effa, Fiat, Ford, Honda, Hyundai, Mercedes Benz, Peugeot, Renault, Suzuki, Volkswagen</td>
</tr>
</tbody>
</table>

E Excellent: There is a technology or Upgrade kit available to vehicles from 1988 until now.
G Good: There is a technology or Upgrade kit available to vehicles from 1994 until now.
R Regular: There is a technology or Upgrade kit available to vehicles from 2000 until now.
P Poor: There is not a technology or Upgrade kit available to vehicles.

Source: Investigation done by EDU-CAR in Uruguay.

Manufacturers’ commitment: Technical manuals for seat belt retrofitting

Due to findings regarding availability of three-point seat belts for back seats, the EDU-CAR Plan together with Julio Cesar Lestido S.A. (official Volkswagen representative in Uruguay) carried out a pilot experience regarding three-point seat belt retrofitting in vehicles that only had two-point seat belts in their rear seats.

This experiences was based on the writing of a theoretical/practical Installation Manual on three-point seat belt installation in VW Gol back seats with 1995-2008 two-door bodyworks.

The manual was jointly written by the company’s and EDU-CAR Plan’s technicians.

Installation process is divided in the following stages:
1. Finding and buying the equipment
2. Removal of vehicle’s interior fittings
3. Conditioning of vehicle parts coatings
4. Assembly of seat belt according to specific indications
5. Assembly of vehicle’s interior fittings
**Types of Child Restraint System (CRS):**

**Group 0 y 0+**

Why should the child travel this way?
1. At this age body weight in children is distributed in a bigger proportion in the upper part of the body.
2. The child’s head is a quarter of his height and the child cannot keep it on the torso’s axis. The child should travel in a rear-facing position that, in case of a collision, will allow for the CRS back to support the child’s head preventing head excursion and the subsequent neck injuries.
3. Up to 4 months of age it is advisable to add (if available) to prevent lateral movement.

**Group 1**

Why should the child travel this way?
1. At this age body weight in children is distributed in a bigger proportion in the upper part of the body.
2. Muscle maturity allows for the child to travel front facing. The shoulders’ shape prevents them from appropriately wearing a three-point seat belt. This type of CRS provides side protection against collisions. The chest clip prevents the harness from opening.

**Group 2**

Why should the child travel in this way?
1. The child is now too big for the safety seat, but their body weight is still distributed in a bigger proportion in the upper part of the body.
2. It is necessary to have a complement for the children to sit on; this device is called Booster Seat, which may have a seat back.
3. Without a booster seat, the three-point seat belt contacts the child’s neck what may cause catastrophic injuries in the case of an impact. Besides, the pelvic portion of the seat belt rests on the abdomen (soft part) instead of on the pelvis bone. This happens because children try to bend their knees, moving forwards so that the belt comes to rest on the abdomen; in the event of a crash this may even cause spinal injury.

**Group 3**

Why should the child travel in this way?
1. Although the child may have the required height to wear a three-point seat belt, the lap portion of the belt may not rest on the pelvis bone.
2. If the child sits on the booster at its maximum height adjustment and the seat belt passes below the shoulder, in that case the booster’s back may be removed always checking the belt’s position regarding the child’s neck. If the seat belt rests on the child’s shoulder, the child is then in a safe position.
3. The children do not need these types of devices once they have reach 1.50m tall.

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**Expert opinion: Dr. Martha Bidez.**

“At the beginning of the EDU-CAR initiative, we hypothesized that the majority of all children in Uruguay who rode in cars were either completely unrestrained or secured in restraints that were inappropriate or used incorrectly. Establishing a scientific baseline understanding of the knowledge, attitudes and beliefs of the Uruguayan citizens concerning proper restraint for children was critical to the ultimate success of the initiative. Equally important, a baseline, technical assessment of vehicle and child seat designs in the Uruguayan marketplace conducted, which provided objective evidence of the need for upgraded product safety standards. Other countries throughout Latin America and the Caribbean (LAC) are likely in the same situation as Uruguay relative to child passenger protection. Assuring safe restraint practices for LAC children requires attention to engineering, education and enforcement. The lack of quality control in both vehicle and child restraint designs in the LAC region is a fundamental barrier to child passenger safety that must be immediately addressed. All motor vehicles made, sold or used in the region should meet the safety standards set for high-income countries, including those regarding the provision of seat-belts and child restraint devices. Partnerships across all sectors should be developed to address the urgent need to properly retrofit existing vehicles with high quality, back seat lap-shoulder belts and top tether anchorages. Communities should be mobilized to improve access to high quality child restraints for all children. Media and policy makers should be fully engaged to ensure the effective translation of science-based information into safe policies and practices that protect child road users in the LAC region and avoid tragic, unintended consequences. All children deserve the same level of safety, irrespective of where they live. Only rapid and effective action in communities throughout Latin America and the Caribbean can save the lives of the region’s children.”

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**Which CRS types are available on the market?**

In the February-March assessment in 2008, 10 different CRS models were purchased, studying 16 different variables related to child safety.

**Results:**
- Ninety percent (90%) of CRS are not equipped with attachment systems such as LATCH or ISOFIX OR CRS Top Tether.
- Most of them (80%) indicate compliance with some recognized technical standard.
- Forty percent (40%) has no serial number, which is fundamental in case failure is detected.
- Sixty percent (60%) cannot be used only with two-point seat belts.
Studies on School Transport

Starting point

Road Safety Act Nº 18,191 passed in December 2007 in its section 31, subparagraph D, makes seat belt wearing mandatory for all occupants in school transport vehicles.

Although the passing of this act represents a milestone in relation to road accidents prevention, it is necessary to implement said regulation by specifying which seat belt types are to be used, which technical standards they should comply with, and the ways in which they should be installed.

Due to the imminent enforcement of the act and the lack of information on the topic, the most important association of school buses in Montevideo (TEU) asked the FGR for its expert advice so they could comply with all the new regulation’s requirements.

School transport in Uruguay: significant data

- Privately run service of public interest.
- There are 680 school vans nationwide, 400 of which are in Montevideo.
- Sixty-five to seventy percent of children traveling in these vans attend public schools.
- Only in Montevideo, there are more than 15,000 children being transported each day.

Status of vehicles in use

The initial study of vehicles showed that seats were home-made, with a low mechanical resistance, in questionable materials, with defective welding, exposed metallic structure (Figure 1), without seat belts, all aspects that represent a serious risk for the child passenger. Another aspect considered is that vehicles used were originally very old vans.

Figure 1: Source: Fundación Gonzalo Rodríguez. Photographs taken on School Transport vehicles in Montevideo. Of the total fleet, fifteen vehicles were assessed. May-June 2008.
Working with different stakeholders in the search for solutions

Parties involved in this Project, TEU, UNASEV and FGR worked together in the making of a project to improve safety performance of school transport; this project was called “Safe School Transport.”

In order to contribute with some scientific advice, the FGR carried out a Workshop on Safe School Transport (April 2008) with the participation of several local and international actors involved in the topic.

The workshop “Safety on School Transport,” was carried out at the Inter-American Development Bank (IADB) and it was conducted by Martha Bidez, Doctor in Biomechanics and President of BioEchoes Inc. (USA) and Dr. Mark Rosenberg President of The Task Force for the Global Health (USA).

Medical evidence showing the need for children to wear height-adjustable three-point seat belts and the possible injuries caused by two-point seat belts and non-adjustable belts was presented. Among attendees to this event there were representatives from TEU, UNASEV, MSP, Municipality of Montevideo (IM), Inter-American Development Bank (IADB), among others.

Two or three-point seat belts for school transport?

The structures of a child's body mature with age. Thus, children require restraint systems that are specially designed for their developmental anatomy and their body's biomechanical tolerance of impact.

**Two-point seat belt:** A child’s head is extremely vulnerable to serious injury in a crash. The closure of the openings in an infant’s skull is not complete until the age of 6 to 7 years. Until age 10, a child’s pelvis is typically too immature to safely maintain the position of an adult lap belt during a crash. An immature pelvis, coupled with the presence of thick subcutaneous tissue found within the 10 and under age group, promotes “submarining” or the sliding of the pelvis underneath a lap belt during a crash with associated catastrophic injuries.

**Three-point Seat Belt:** When children are prematurely placed in a 3-point belt, paralyzing injuries to their cervical spine can occur because their seated height is too short for this type of belts. The minimum threshold for three-point belts is a stature of 1.58 mt. This threshold is not reached by either boys or girls until age 11.20

**Three-point, height-adjustable seat belt in a special seat:** Children seal belts should be used together especially designed seats suitable for their size. This type of seats ensures that the seat belts strap rests on the pelvis and provides the occupant with a headrest. They should also comply with internationally recognized technical standards. Three-point seat belts should necessarily be height adjustable since this device enroutes the upper end of the belt on the child’s shoulder avoiding the neck and possible neck injuries.

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20 May vary depending on percentiles age/height for each country/region.
Another important issue is that in order to carry out the project “Safe School Transport”, it was necessary to renew the existing vehicle fleet. The great majority of circulating vehicles is very old and makes the safe installation of recommended seats very difficult. Actions taken by TEU and FGR got to the most important authority in the country: President at the moment, Dr. Tabaré Vázquez (2005 – 2010) who showed a sensitive and concerned attitude and facilitated necessary governmental contacts to carry out this initiative.

**Characteristics of the project:**
1. Exemption from IMESI and corresponding regulations.
2. 8-year lease with differential installments during the calendar year and special interest rates (6.5% annually in American dollars.)
3. School plate tax maximum of US 16,000 (USD 800) annually. Insurance policies with special costs.

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**When Facts unleash fast changes in legislation**

Although the conditions were generated and the basis for a change was set, it took 36 months to achieve the regulation of section 31 of Act Nº 18,191 after the first School Road Safety workshop was organized.

In April 29, 2010 there was an event that drastically changed the rhythm and visibility of improvements regarding Act Nº 18,191. That day there was a car accident where a vehicle transporting school children and a private car crashed resulting in the death of an 11-year-old girl.

This event opened a media debate on the regulation and supervision of the Act since up to that moment, section 31 and its subparagraph D were left in suspense regarding the mandatory use of seat belts by school transport occupants until being regulated by the Executive Power.

Another fact to be highlighted is that this terrible event generated an important movement by parents and educational institutions to improve their level of knowledge on this field and therefore to have a better understanding of the situation of school transport. FGR’s three-year work was supported and recognized. The great public visibility generated by the situation determined the final passing of a regulation.

Finally, in July 2010 and only two months after the accident, section 31, subparagraph D of Act Nº 18,191 of December 2007, was regulated at a national and provincial level, coming into force in February 2011. Since this date, school transport vehicles that do not comply with technical standards will not be able to offer the services.

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**International presentation of “School Transport”**

In 2008 and 2009 EDU-CAR Plan was invited to the “Protection of Children in Cars” Conference chaired by Prof.Dr. Eng. Klaus Langwieder. It was organized by TUV SUD in Munich, Germany.

In both cases, the Plan’s Engineering Department presented the case of School Transport in Uruguay; research results were presented in the first year, and in the second year the project “Safe School Transport” was presented. Officials in charge of child passive safety areas from important international companies (e.g., FIA) were among attendees.

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**The National Army joins the initiative for a safer school transport**

After a year of hard work and thanks to the effort made by institutions such as the National Army, CUTCSA, Autolíder, and the Fundación Gonzalo Rodríguez, a bus was donated in 2010. Since February 2011, the bus transports Army staff’s children who attend the Institution’s kindergarten in a safe way.

This bus has specially designed seats for children and complies with recognized technical standards. It also has three-point height-adjustable seat belts; the back is also a head rest and the seats have a system to absorb energy to reduce passengers’ injuries in case of impact. The seats installation was made following a strict safety protocol.

It is important to highlight that there are complements for these seats that can be anchored to the belts. This allows disabled children to travel more safely since these complements have a head rest, chest rest and a device that holds legs better.

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**Notes:**

- Uruguayan tax to the first commercial transfer. In the case of school vehicles this tax represents 100% of the vehicle’s cost.
- Contractual agreement between the lessor and the lessee for a specified asset. The lessee acquires the right to total ownership for a spelled out period of time and conditions in return for payments.
- Montevideo, 2010
- *Dependent on the National Defense Ministry.*
- *Uruguayan Company of Collective Transport.*
- *Mercedes Benz Representatives in Uruguay.*
Statistics Findings I

- Statements vs. Facts: Behaviors and perceptions of adults; and the way in which children are transported in their vehicles.

The idea of “Safe Child in Vehicle”

Parent drivers in Montevideo believe they know how to safely transport children in their vehicles.

92.7% of drivers with CRS, surveyed in the Study and Assessment of Child Restraint Systems in Montevideo stated they knew how to safely transport children in their cars/vans.

Awareness of child safety in the vehicle by car/van drivers using CRS, Montevideo

Data from the Survey on Knowledge, Attitudes, and Behaviors towards Traffic, however, showed that 87% of drivers do not have CRS to transport children in their cars/vans.

CRS in car/vans transporting children 0-14 years old, whole country

Source: Fundación Gonzalo Rodríguez (2009b) - Study exclusively carried out by Factum for the Road Safety Plan for Children – EDU-CAR. “Survey on Knowledge, Attitudes, and Behaviors towards Traffic”

Data: 92.7% known, 2.8% partially known, 3.6% unknown, 0.8% no data.
How do child passengers travel in cars and vans?

This common misconception of “safe child in the vehicle” held by many parent drivers coincides with data collected in the Observational Study on the Use of Safety Elements in Vehicles in Montevideo, where 77.8% of sampled children aged 0 - 14 years were in the back seat of the studied cars/vans. This perception of children traveling safer in the back seat is confirmed then by the fact that these parents do travel with children in the back seat.


Regarding the kind of safety system used by children when traveling in studied cars/vans, Observational Study on the Use of Safety Elements in Vehicles in Montevideo, Salto, and Paysandú showed that for the sample studied in Montevideo, 73.3% of children aged 0 – 14 years were traveling completely unrestrained.

These results show a contradiction between the statements and perceptions of drivers and their behavior. Adults wrongly believe that children that travel in their vehicles do it safely; however, the majority of them do not know that in order to travel safely the child must travel in a CRS in the back seat of the vehicle.

The risk of unrestrained children

There are three possible types of “collisions” when occupants travel unrestrained. The first one implies the vehicle and another object, for example: another vehicle, a static object (tree, sign, and ditch), human being or animal.

The second collision occurs between the unrestrained occupant and the vehicle interior, for example, the driver hits his chest against the steering wheel or his head against the windshield.

Finally, the third collision occurs when internal organs hit the thoracic or bone structures. The second collision is generally responsible for injuries and can be significantly reduced by using seat belts and CRS.


These results show a contradiction between the statements and perceptions of drivers and their behavior. Adults wrongly believe that children that travel in their vehicles do it safely; however, the majority of them do not know that in order to travel safely the child must travel in a CRS in the back seat of the vehicle.
CRS use in Montevideo
Within the framework of Study and Assessment of Child Restraint Systems (CRS) in Montevideo (Pilot Phase), a total of 13,658 vehicles were assessed (cars and vans) in Montevideo. Of those 13,658 vehicles, 2,131 (15.6%) were traveling with children aged 0 – 14 years. Of those 2,131 vehicles traveling with children, 249 had at least one CRS. This is to say that only 11.7% of vehicles studied traveling with children had at least one CRS installed. This is to say that only 11.7% of vehicles studied traveling with children had at least one CRS installed.

Although the Survey on Knowledge, Attitudes, and Behaviors towards Traffic showed that 87% of private car/van drivers, believe that children travel safely in their vehicles, in the Observational Study on the Use of Child Safety Elements in Private Cars in Montevideo, Salto and Paysandú and in FGR Study and Assessment of Child Restraint Systems (CRS) in Children Aged 0-14 years in Montevideo - Pilot Phase, it was confirmed that in practice only 1 out of 10 children in Montevideo travels restrained in a CRS. This implies that a priori, 9 out of 10 children do not travel safely.

Now then, why ‘a priori’? Because more than 9 children out of 10 do not travel safely. The great majority of children observed in the Study and Assessment of Child Restraint Systems (CRS) in Children Aged 0-14 years old that were traveling in a CRS were not traveling safely, either because they were not in technical-standard-complying seats, they were in seats not suitable for their height and weight, the seat was not properly attached to the vehicle, or because children were not correctly restrained by the seat.

Effectiveness of child restraints
Like adults seat belts, child restraints in cars are intended to keep a child firmly secured in their seat so that in the event of sudden braking or collision the child is not thrown against the car interior or ejected from the vehicle.

The restraint must absorb kinetic energy (created by the motion of the child during the crash) without itself injuring the child and must be easy to use. A review of the effectiveness of child restraint compared the risk of injury to children in different seating positions in cars. Children who sit in the back without child restraints have around 25% lower risk of being injured than children who sit in the front without restraints. For children using restraints in both seating positions the risk in the back is 15% lower than in the front.

The effect of child restraints varies depending on the type of restraint used. A child up to 4 years of age has a 50% lower risk of injury in a forward-facing child restraint and 80% lower in a rear-facing seat. This compares with injury reduction of only 32% when an adult seat belt is worn.

For children aged 5-9 years, child restraints reduce injury by 52%, whereas for seat-belts alone the reduction is only 19%. For older children aged 10-14 years seat belts reduce injury by 46%.

Within this context of inappropriate CRS use, it was established that 65.9% of children traveling in a CRS were doing so in a CRS not properly attached to the vehicle seat by the seat belt.

**CRS attachment to the vehicle (through vehicle’s seat belt), Montevideo**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loose seat belt on CRS</td>
<td>65.9%</td>
</tr>
<tr>
<td>Tight seat belt on CRS</td>
<td>23.2%</td>
</tr>
<tr>
<td>No data</td>
<td>10.9%</td>
</tr>
</tbody>
</table>


Likewise, in reference to the way in which children were restrained in the CRS, in 66.8% of cases, children were traveling in seats with loose harnesses, that is to say, not properly adjusted to the child’s body.

**Child restrained in CRS (through CRS harness), Montevideo**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loose harness straps</td>
<td>66.8%</td>
</tr>
<tr>
<td>Tight harness straps</td>
<td>20.9%</td>
</tr>
<tr>
<td>No data</td>
<td>12.3%</td>
</tr>
</tbody>
</table>


**Safe installation**

To correctly install the CRS, an election must be made considering that not necessarily all CRS are compatible with all vehicles.

**What does this mean?**

1. It is important to read about the vehicle you have to get familiar with its characteristics regarding seat belts or any other anchorage system.

A CRS installed with a seat belt should use a Switchable or Automatic Locking Retractor.

In case the installation is done with a seat belt with an ELR retractor, harness retainer clip and/or upper anchorage straps (Top Tether) these must be used to correctly install the CRS.

Harness retainer clip: its main function is to prevent the three-point belt from getting loose.

2. Make sure the child characteristics are considered (weight and age) before choosing the CRS.

3. When buying the CRS: a) verify that the CRS complies with a technical standard that ensures its performance, b) take the vehicle and the child; it is important that the child is comfortable in the CRS, c) considering the vehicles’ analysis results, it is crucial to make sure that the CRS has a locking clip and/or upper anchorage in case other anchorage systems are not found in the vehicle.

**Some useful tips:**

1. When installing the CRS, read the User’s Manual and Instructions carefully. The first time requires time and concentration.

2. Once installed, with the non-dominant hand, the CRS base must be moved vertically from the back and horizontally making sure the movement is not more than 2.5 centimeters.

**Inappropriate use justifications…**

- I cut the harnesses because my son said they were itchy…
- I know the seat is too big but is going to be useful when he grows up…
- My son always travels in the seat but I don’t restrain him because he does not like it…
- I know he should travel rear-facing but –I prefer to take him forward- facing so I can see him


Besides, we should add to this figure the number of CRSs inspected not complying with any internationally recognized technical standard: 53.7% of CRS inspected had no information of compliance with any internationally recognized technical standard, while in 21.3% of cases, it was impossible to check compliance. This implies that only 25% of CRSs had information on compliance with technical standards.
During inspection it was confirmed that 80% of models surveyed had information on compliance with internationally recognized technical standards, and the other 20% of new CRS models had NO information on compliance with internationally recognized technical standards: UNECE14, FMVSS213, and others such as AS/NZ.


Compliance with recognized technical standards of new seat belts offered on the market, Montevideo

CRS showing compliance with any of the following technical standards are considered safe. To identify them look for the following technical standards labels:

**Regulation Nº 44 UN/ECE (European Standard):**
Regulation Nº 44 UN / ECE (acronym for United Nations/Economic Commission for Europe Nº 44) known as the “European Standard” can be identified by a blue, orange or red sticker.

**FMVSS213 (American Standard):**
Federal Motor Vehicle Safety Standards No 213; generally identified by the "S" (Approved Standard). This standard may have a yellow sticker.

**Australian Standard / New Zealander Standard AS/NZS 1754:**
Abbreviation for Australian and New Zealander Standards 1754; often identified by the 5-tick Australian mark. The Australian or New Zealander is considered the most stringent standard in the world.

**British Standard:**
Considered to be one of the safest in the world.

**Japanese Standard:**
Considered to be one of the most demanding standards in the world.

Taking into account that there is no regulation regarding the mandatory use of CRS complying with technical standards yet, the FGR generated a work agreement with the Uruguayan Society of Pediatrics (SUP) and the main CRS importers at a national level with the aim of bringing into the Uruguayan market CRS complying with technical standards.

The agreement between the FGR, the Uruguayan Society of Pediatrics and CRS Importers implies the adaptation by the importers of a work protocol developed by the FGR in agreement with SUP. It indicates that CRS coming into the local market indicating to comply with a technical standard are supervised a second time by FGR technicians; if the supervision is satisfactory, the CRS can show a label indicating to be "Recommended by the Uruguayan Society of Pediatrics".

As part of this agreement of work, regular inspections are carried out in sale points to verify the correct use of the label.

Nowadays, the FGR has recorded more than 42 models of seven different brands identified as CRS that are “Recommended by the Uruguayan Society of Pediatrics”.

This agreement of work achieves two important objectives: 1) to promote the importation and use of officially approved CRS complying with technical standards and 2) to facilitate the adults' access to officially approved CRS through a label easily recognized.

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**Expert opinion: Dr. Ann M. Dellinger.**

“It was a great pleasure to work with Fundación Gonzalo Rodríguez in their efforts to improve the safety of the children of Uruguay. La Fundación has a dedicated and passionate staff who approached the road safety issue for children in a scientific and credible process.

First, to answer the questions. What was the road safety situation for children in Uruguay? How many children were injured or killed on the roads? Were these deaths and injuries preventable? The answer was yes, they are preventable!

It was possible to save these children with strategies that have worked in other countries, using child safety seats and seat belts in cars. Now, something that was unusual in Uruguay is more common—children riding in cars safely buckled up in their child safety seats. We have the efforts of La Fundación to thank for this great progress.

It is so important to make road travel as safe as possible for all the children of Uruguay, fortunately for all of us, the Fundación Gonzalo Rodríguez works to do this every day.”
Conclusions on technical and statistical findings

From the collected information in our research, it is possible to conclude that at a cognitive level, adults think they know how to transport children safely and at the same time, they think children do. However, at a practical level, this does not happen: adults do not show the level of knowledge they state having, and children do not travel as safely as they believe.

Regardless of adults' opinions on appropriate or inappropriate use of CRS, how were the CRS actually installed in the vehicles assessed? And how were children restrained in those CRS? Well, the majority were incorrectly restrained and therefore unsafe: 92.4% of children in CRS presented at least one inappropriate use of the device.

Due to children's body shape, small shoulders and round torso, if the harness straps (for example) are not tight enough they can easily free the child leaving him unrestrained in case of impact or deceleration.

It is important to consider that technical standards guarantee the good performance of CRS in case of impact. It was found that 80% of new models on the market comply with some recognized technical standards; however, only 25% of CRS in use comply with recognized technical standards. This situation shows the lack of information regarding the importance of using CRS complying with recognized technical standards.

For those cases in which users must update their vehicles with three-point seat belts complying with technical standards, the situation is urgent: the local market does not provide seat belts with these characteristics and most of the times solutions are not immediate.

Since the CRS is attached to the vehicle through a seat belt (the use of Isofix and Latch systems is not widespread) and considering the high level of CRS inappropriate use, it is necessary to have elements that improve the child's safety regarding CRS installation. The CRS top tether performs as an anti-rotation element and significantly improves performance in case of impact.

Considering the high number of two-point seat belts in back seats, it is necessary to have a third point of anchorage known as upper anchorage (Top tether) for the CRS right installation, which is absent in new and old vehicles and in new CRS. This shows that there are no safety elements for children to travel safely.

After assessing new vehicles in relation to needed elements for a safe child transport such as three-point seat belts and upper anchorage (Top Tether) for CRS, it is concluded that most of new vehicles are not equipped to transport children safely.

These studies indicate that there is a lack of technical regulations to generate the availability of safety elements on the local market.

As well, it shows the consumers' lack of information regarding the benefits that safety elements provide to children transport. If the right level of information existed, the population would demand the availability of such elements as a way of protecting their children.

IT IS CRUCIAL:

· To train people for the correct installation of safety elements.
· To train people for the correct supervision of safety elements use.
· To control vehicles update (seat belts, etc.) so it is safely done and complying with technical standards.
· The importers' commitment and representatives with road safety independently of the existence of a regulation that "makes" them offering safe products that comply with recognized safety standard in the local market.
In a country with 3,241,003 inhabitants where 60% of the population is younger than 40 years old, and deaths produced by traffic accidents among young people are a national epidemic that is the first cause of death, can we say we care about road safety?

According to data provided by the Ministry of the Interior through DIPIPE\(^28\) (2007) there were in Uruguay 427 road accidents compared to 193 homicides, in other words: for each Uruguayan killed in a crime, there are 2.21 that are killed in a road accident…

Taking into account data above, the answer does not seem to be very encouraging. The future, however, looks promising: Although the concept for “Road Safety” in our country can be considered rather “new”, the creation of a specific agency as the UNASEV is very important. This agency works on road safety with a long-term, systematic approach, as part of a State policy, and not only as an isolated effort.

According to recommendations issued in the World Report on Traffic Injury Prevention (WHO, PAHO, and the World Bank) regarding the role of non-governmental organizations in Road Safety, these should publicize the issue of traffic injuries, providing information to the political system, uncovering inefficient policies and promoting solutions.

Based on these recommendations, the FGR in the three-year period of its EDU-CAR Plan (2007-2010), stimulated political will through the areas of action listed below:

- Declaration of Interest by Presidency of the Republic and several Ministries
- Promotion of changes at existing laws
- Free-of-charge advice to different state agencies working on the implementation of changes
- Working proposal to presidential candidates for 2010-2015
- Work agreements with different Public-Health-related organizations

Changes needed, EDU-CAR proposals

1. National legislation should explicitly include the way in which children should travel in vehicles.

   National Traffic and Road Safety Act Nº 18,191 should be implemented so as to consider children and their characteristics.

   Seat belts in vehicles appropriately restrain occupants taller than 1.50 meters tall. Children reach that height when they are between 8 and 11 years old (approximately). Before reaching this height, to be safe in vehicles, they should travel using Child Restraint systems (CRS), best known as “Child Seats.”

2. National legislation should adopt recognized technical standards as a way of regulating and controlling the manufacturing, importation and marketing of car parts for the automobile sector\(^29\).

   Act Nº 18,191 should be implemented so as to consider requirements from technical standards for passive safety elements.

   Lack of control regarding technical standards regarding seat belts and CRS is an obstacle for children and adults safety that has to be immediately overcome.

   Due to the fact that Act. Nº 18,191 makes the use of seat belts mandatory for each seating position, there is the risk that consumers comply with it by incorrectly installing generic seat belts in the back seats which do not comply with any recognized standards.

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\(^{28}\) DIPIPE: Dirección de Política Institucional y Planificación Estratégica, dependent on the Ministry of the Interior.

\(^{29}\) Since March 2010, together with the Federation Internationale de l’Automobile (FIA) IV Region (Latin America), FIA Foundation for the Automobile and Society, International Consumer Research & Testing (ICRT) and Inter American Development Bank (IDB), the FGR joined the Latin NCAP programme. It has the objective of providing Latin American and the Caribbean consumers independent and reliable assessment about new vehicles’ safety elements. For further information visit www.latinncap.com
Support
On 27 July, 2009, the work by FGR to improve Road Safety obtained government recognition when it was declared of National Interest by the Presidency of the Republic.
This recognition comes together with declarations of interest and support by
- Ministry of Public Health
- Ministry of the Interior
- Ministry of Education and Culture
- Ministry of Tourism and Sports
- Ministry of Industry, Energy, and Mining

Promoting changes in legislation and assessing implementers

:: Children transport conditions:
Law Nº 18,191 does not make any reference to child road safety, their characteristics and needs.
Official agencies do not agree with this statement; however, none of the sections make any specific reference to children. Subparagraph D of Article 31, vaguely refers to age, weight and height specifications:
"The use of seat belts is mandatory on urban and interurban roads:
A. By the driver and occupants in the front seats and by occupants in the back seats when traveling by car and van.
B. By the driver and occupants in front seats of freight transport vehicles.
C. By the driver and possible companion in the cabin of passenger transport vehicles.
D. By all occupants in school transport vehicles.
School bus owners that need to adapt their vehicles will have a maximum of six months to do as from the coming into force of this Act.
Within this context, EDU-CAR Plan, through its Engineering Department worked with the Traffic Engineering Department and the Legal Department of UNASEV aiming at providing technical elements for the implementation of Article 31 of Act Nº 18,191.

:: Recommendations:
1. For special vehicles or vehicles carrying out specific activities, such as child and teenager transport, the regulation must be based on passengers’ specific skills. Regarding child and teenager seats (group transport), the inclusion of technical regulation FMVSS222 (United States) is recommended, being mandatory the three-point seat belts that comply with technical regulations specified in Section 2.
2. For vehicles in general: Types and quality of restraint systems to be used, compliance of anchorages with recognized technical standards. Some recommendations were made regarding the technical standards to be adopted:
   a) Regarding seat belts anchorages – Standard UNECE14 (UN), also Standards: FMVSS210 (United States), ADR (Australia and New Zealand), JIS (Japan).
   b) Regarding seat belts in vehicles - Standard UNECE16 (UN), and also Standards: FMVSS209 (United States), ADR (Australia and New Zealand), JIS (Japan). Three-point seat belts are required in front and back seats in cars while in school transport there must be three-point seat belts in all seating positions.
   c) Regarding Child Restraint Systems (Child Seats) - Standard UNECE44 (UN), and also Standards: FMVSS209 (United States), ADR (Australia and New Zealand), JIS (Japan). The use of these systems must be mandatory according to the table, Standard UNECE44 UN.

Another recommendation for this regulation to be effectively adopted is related to the fact that each technical standard to be adopted as well as modification needed in vehicles must be carried out within a time frame of three stages since these are a process themselves:
1. First stage: importation of elements not complying with the standards must be prohibited.
2. Second stage: sale of elements not complying with the standards must be prohibited nationwide.
3. Third stage: the use of elements not complying with the standards must be prohibited.
   These three dates should be agreed with importers/ manufacturers of different elements or devices upon which the standards will be applied.
Conditions for data register:

Law Nº 18,113 created by the National Road Safety Agency (UNASEV), in Article 6 sections G and H, refers to its competence for the supervision of the “Single National Register of Drivers, Vehicles, Offences and Offenders” (created by Act Nº 16, 585 on 22 September 1994) and the “Mandatory Record of Deaths and Injuries as consequence of traffic accidents” (created by Decree Nº173/002 14 May 2002).

The implementation of these sections is crucial to create a reliable database on road accidents and their components, EDU-CAR Plan considered that workshops on the assessment of road statistic system would be useful for the Agency and could be a working tool of high technical content.

Conditions for the renewal of the school transport fleet:

Enactment of Act Nº 18,550- IMESI exemption.

In August 2009, the Executive Power (as requested by the Ministry of Economy and Finance) handed the National Parliament the Draft Bill proposing tax exemption to the import of new vehicles for school transport and their corresponding equipment (tax known as IMESI, equivalent to 100% of the vehicle’s cost). In September the National Parliament passed the Draft Bill proposed and in December, the Executive Power implemented Act Nº 18,550.

The passing of the law and its corresponding regulations is a milestone among the actions proposed for the Project Safe School Transport which allowed school bus drivers to renew their fleet.

Working proposal for presidential candidates

During August and September 2009, the FGR held meetings with all political parties in Uruguay. As a committed non-governmental organization belonging to the civil society, the FGR passed this information to different political parties with the objective of improving public policies regarding Child Road Safety in Uruguay.

Regarding child road safety specifically, the document suggests:

1. To make mandatory the use of CRS among children aged 0-14 traveling on four-wheeled (or more) motor vehicles.
2. School transport regulation
3. Regulation regarding child and teenagers transport in motorized two wheelers.
4. Addition of a specific subject on Road Safety in primary and secondary education.

Working Agreements

FGR - Ministry of Public Health (MSP) Agreement:
The FGR met the Public Health Minister, Dr. Maria Julia Muñoz on 30 July 2009, so as to sign an agreement between both institutions. The support provided by the MSP National Health Program for Children was crucial and allowed the celebration of this agreement. Its main objective is to exchange knowledge and coordinate efforts with public and private sectors by educating, preventing and raising awareness among the population about the way children should travel.

FGR - Uruguayan Society of Pediatrics (SUP) Agreement:
Between April-September 2009 the Agreement between the FGR and the Uruguayan Society of Pediatrics was developed. The Uruguayan Society of Pediatrics groups pediatricians at a national level (approximately 1200); the aim of the agreement is to stop a reversible epidemic that is one of the main death causes, injuries and disabilities in our country.

This work, carried out with SUP had the main objective of spreading among pediatricians information about different CRS for each child growing stage and its correct use. Some actions were developed together such as:

- The generation of support material for pediatricians with the aim of having a guide in their offices. The creation of the label “Recommended by the Uruguayan Society of Pediatrics” with the objective of being a guide for parents when buying a CRS for an easy identification of those that comply with technical standards. Presentations for pediatricians within scientific meetings through the country.
- The design of a workshop for “Updating courses” annually delivered by the Uruguayan Society of Pediatrics.

Agreement CRS Importers - Points of Sale:
The agreement established between the FGR, the SUP and CRS Importers is based on a coordinated effort with the Points of Sale, consultation places and the final decision when buying a CRS.

Among the actions developed, the following ones are to be highlighted:

- Control that authorized CRS should have the logo “Recognized by the Uruguayan Society of Pediatrics”
- Availability of material to inform parents
- Presentation of a series of talks in Points of Sale.

Agreement FGR – Ministry of Public Health - Insurance Companies:
The presentation of the agreement with the Former Ministry of Public Health (MSP) within the Child Program and the FGR and MAPFRE, Porto Seguro Seguros, Chartis and RSA (Insurance companies) was held 16 December 2009.

The agreement aims at consolidating the work carried out by the FGR and the Child Program in the last months. Through this agreement, it is decided to strengthen the dissemination of the message about the main measures to be taken when transporting children. The agreement and effort of the insurance companies
mentioned before includes the possibility to offer their clients the option to add to their policies an officially recognized CRS and within a maximum period of 48 hours, they would be replaced in case of theft. Insurance companies’ employees were trained and their clients were sent information on the issue.

**Agreement FGR - School of Medicine - University of the Republic (UdelaR)**

In April 2010, the FGR received the information that the Framework Agreement to be celebrated together with the University of the Republic (School of Medicine) was approved by the School of Medicine Board of Directors.

It was agreed: 1) to disseminate the message among students: The “Presentation/Launch” of the subject for students will be carried out as a workshop and will be part of a training plan. 2) Assessment: as part of the working methodology, evaluations pre- and post- module will be implemented to assess knowledge on the subject. 3) Data collection: it is proposed to a) include information on the way children are transported in the Pediatrics Medical History and b) to coordinate efforts to carry out statistics research on road safety.
The Empowering of the Society as an agent of change
5::

The Empowering of the Society as an agent of change

Context

In Uruguay the freedom of press is protected by the Constitution. According to the 2009 report from “Journalists without Borders”, Uruguay is the country with the highest press freedom index in South America. There are 5 newspapers and 2 weekly publications that reach most of the readership.

According to 2005 estimations, there are 93 AM radio stations, 11 of which reach most of the audience of the country:
- Radio AM Libre
- Radio Carve
- Radio Centenario
- Radio El Espectador
- Radio Imparcial
- Radio Montecarlo
- Radio Nacional
- Radio Oriental
- Radio Rural
- Radio Sarandi
- Radio Uruguay

There are also 191 FM radio stations and 7 short wave stations.

In the country there are 4 main air TV channels:
- Canal 4 - Monte Carlo TV
- Canal 5 - Televisión Nacional Uruguay (canal estatal)
- Canal 10 - Saeta TV Canal 10
- Canal 12 - Teledoce

Encouraging society participation

In programs whose aim is to promote social changes, the use of the media is crucial to reach the audience with the intensity needed to achieve the effects desired. Taking this into account EDU-CAR Plan has always considered appearance on the media one of its top priorities. By doing this, apart from making the Plan visible, social participation and the social empowering in relation to a topic that requires being concerned and involved was promoted.

Communications objectives through the Plan

Uruguay is a country that has not promoted “good practices” on Road Safety except for isolated efforts from institutions trying to work on the topic. There have been campaigns focused on young people but due to the fact that the message was not very clear or due to their implementation, there is no evidence of good results. It is difficult to make young inexperienced drivers aware of the dangers they are facing and their responsibilities as drivers. Young people, especially those finishing the adolescence have an idea of immortality and this prevent them from realizing about the importance of wearing seat belts or drink driving, among others.

This is why the Plan had to redefine its communication strategy as the EDU-Car Plan objectives became more complex and needed to be updated. It was necessary to keep a dynamic plan of communication adequate to EDU-CAR’s needs. One of the working premises kept through the Plan’s development was the generation of a schedule for interventions mainly focused on raising awareness and adopting good practices regarding school transport by all those directly involved in the topic; parents, pediatricians, supervisors, school transporter drivers, national authorities.

The importance of a suitable communicational strategy

When designing a communicational campaign the idea of generating visibility and public recognition is always present, however, there are moments in which it is necessary to keep a low profile.

One of these moments was during the period when data collection was being carried out by the Statistic and Engineering Department. The idea was not to impact on the sample.

Although the FGR took part of several meetings and events on road safety at a national and international level from mid 2008 to June 2009 there was a limited contact with the media.

The decision has to do with the logical process defined for the Plan’s logical process: to measure, to make interventions, to measure again.
This implies taking measures at the beginning of the Plan to understand the situation and after analyzing it, to make proposals and interventions aiming at modifying the situation detected and finally repeating the initial measurements to establish if the proposal and interventions effectively modified the original situation.

Although there is a “controlled” presence in the media, key journalists, communicators, opinion leaders and those willing to promote Child Road Safety with responsibility and commitment should be identified providing them with information and news to keep the topic on the agenda.

This is one way of keeping the issue in the society without making the Foundation visible.

Once statistical assessments finished, it was time to disseminate the detected status of the situation. Therefore, a Press Conference was carried out in June 2009. It had a great repercussion in the society and especially among authorities.

During the conference, data collected by the Department of Statistics and Engineering from the Plan were presented. The situation of child passengers was contrasted with the on-going regulations on child road safety. Objectives and Plan perspectives to modify the current situation were presented.

Launch and launch again…

· Child Road Safety Plan EDU-CAR from FGR was launched in December 2007. Dr. Ann Dellinger from the Center for Disease Control and Prevention (CDC), Dr. Mark Rosenberg and Lisa Hayes, representatives of the Global Road Safety Forum attended. Despite the presence of these professionals from USA, the attendance of national authorities, the media and public in general was not the expected one. It is important to highlight that during this period the color used to promote the Plan was green, the color of hope and the color used by environmentalists.

· The following year, after intense months of work, within the Road Safety Week in Uruguay organized by UNASEV, EDU-CAR Plan was launched with two presentations: 1) Non-governmental organizations’ role in road safety and 2) the use of safety devices in vehicles.

· EDU-CAR Plan’s official launch was on 11 June, 2009 when research on the area of Statistics and Engineering conducted for a year and a half was presented. After an exhaustive evaluation, the Plan changed its color to cyan, a color connected to FGR’s color which is blue. This distinguishes the Plan from environmentalist initiatives.

:: Tools to disseminate and enhance the message

One of the most relevant EDU-CAR Plan objectives it to make national legislation explicitly consider the child and their characteristics when transported in private and school vehicles. Until this objective is not achieved, there are many interventions and campaigns with which to educate and raise people’s awareness.

· From the first steps: training health staff to advise parents.
· From the first day at school: making school transport safe.
· From the private and public sectors: generating working agreements for the elements and conditions offered on the national market to produce the desired cultural change.
· At a national and provincial level: training supervisors to advise parents and people responsible for children transport getting committed to their protection.

In order to make a cultural change in society it is crucial to work together, making each participant feel the objectives set their own.

With this motto, different tools were used to disseminate the message which was enhanced by the work of many individual public and private actors, some well-known, some anonymous.

All tools selected share the following objectives:

· To generate information actions aimed at those responsible for child transport and the general public to make them understand and implement good practices on child road safety (despite the fact that there are
no regulations making them mandatory).

· To promote the participation of different institutions to raise road safety awareness among drivers responsible for the transport of children.

· To raise awareness through multimedia communication, to disseminate a message of prevention.

· To get on the political agenda the need to act strategically in order to reduce the number of road traffic accidents.

Multimedia campaign
During the EDU-CAR Plan different communication actions including in a multimedia campaign were developed to enhance and promote the messages in the target.

Television
Together with national media companies, a television spot was created with the aim of raising awareness and call to action to all persons responsible for the transportation of children in vehicles. (See “Use a Child Seat” Campaign).

Spot available at www.gonzalorodriguez.org Road Safety, Multimedia section.

Radio
Radio spots were more incisive than the TV spot. This decision was taken with Media Planners that, having a smaller budget, tried to assure the the recall of the message through this medium.

Advertising on Press and Public Way
With the support of media and advertising companies that gave free spaces was possible to disseminate the message of the campaign throughout the country.

Materials are available at www.gonzalorodriguez.org Road Safety, Multimedia section.

The Plan and the Media
After 18 months of hard work to understand the actual situation of our country regarding child road safety, it was really important for the FGR to disseminate results obtained in a serious and responsible way. During the weeks following the Press Conference we received several invitations from different TV and Radio programs. There were as well, several interviews with different media outlets both traditional and digital.

Said dissemination aimed at obtaining media coverage in order to reach two main target audiences: parents and lawmakers. Awareness would be raised for society to start working on the issue.

After receiving an excellent response from the majority of the most important media outlets in the country, and thanks to them, it was possible to engage the public opinion: some parents, businessmen and legislators made queries on the topic and lawmakers set interviews to continue working on the subject.

It is important to highlight that most of the media outlets present at the conference asked for more information. They were engaged with the cause and particularly wanted to know about the project’s progress and recommendations from the FGR.

FGR works to keep a fluent information exchange with the media keeping them interested in Child Road Safety news.
Media committed with the dissemination of the message and recommendations of EDU-CAR Plan

EL PAÍS
TRAGEDIA CUESTIONA CONTROL DE SEGURIDAD EN VEHÍCULOS

EL OBSERVADOR
IMM exigirá uso obligatorio de cinturón en vehículos escolares
Director: "La empresa de transporte tiene que cumplir con la reglamentación legal y, de lo contrario, podría tener incumplimientos." Mexico City, 5/11/2017.

CIUDADES
Accidente: Niña de 11 años falleció al volcar el minibús que la llevaba al colegio. Conductor de ambos vehículos declararon ante jueces. Cantón de turismo, habilitada, transportaba 20 escolares.

CHOFERES DETENIDOS POR CHOQUE FATAL
Training Workshops reached more than 900 dissemination agents

More than 30 workshops for different key actors were organized. These actors were fundamental for a consistent and appropriate dissemination of the message. Technical and scientific information promoted the strengthening of alliances and fostered commitment to working together in the changing of habits.

Main participants:
- Pediatricians
- Neonatologists
- Medicine students
- Health support staff
- Law makers
- State Agencies Officials
- Staff from Traffic Departments throughout the country
- Traffic Police (urban areas and national highways)
- Insurance brokers
- Salespersons at CRS sale points

:: Summer activities

Bearing in mind that summer is a season of heavy road traffic (religious holidays, national and international tourism, and school holidays); different interventions were carried out aiming at different age groups.

:: “Use a Child Seat” – “Wear a Seat Belt”

In summer 2009-2010 and 2010-2011 eighteen backlights were set in Pando and Solís tolls (the two most important in the country) with the message “Use a Child Seat” and “Wear a Seat Belt”.

Flyers promoting “Good Practices” in child transport were handed out. Flyers described the different types of CRS available and their correct use.

Dissemination activities together with Municipality of Montevideo

Sometimes the message only gets to the audience through experience. Activities were carried out together with the Municipality of Montevideo, using a crash simulator where people were able to experience an impact at only 11 Km/h, carrying in their arms an object representing a child of 10kg. Once the simulator ride ended, participants were invited to watch a spot on “Misconceptions on Child Transportation”.

Misconceptions on Child Transport

Thanks to the support of public and private companies and agencies, a video describing the four most popular road safety misconceptions among Uruguayans, was produced and disseminated.

Misconception 1. The unrestrained child: “Traveling in the back seat is enough for children to travel safely.”

False: an impact at 30km/hour equals a fall from a building’s first floor. If the impact occurs at 60 km/hour, it would be like falling from a fifth floor. In Uruguay 73% of children traveling in cars or vans do it without any restraint systems protecting them.

Misconception 2. Children traveling held in adult’s arms: “Children travel safer if held in an adult’s arms.”

False: a 10-kg baby traveling held in an adult’s arms in a 30 km/hour impact produces a force equivalent to 167 kg on the person holding him. At 60 km/hour, the force is equivalent to 335kg; therefore, the person will not be able to hold him.

Misconception 3. Children wearing adult seat belts: “Adult seat belts are useful for protecting children.”

False: a child’s weight is mainly distributed in the upper part of their body. In case of impact, if the child is wearing an adult’s two-point seat belt, he can suffer serious injuries. If the belt is a three-point seat belt without height regulation, the child can suffer important injuries to the neck and pelvis.

Misconception 4. Child inappropriately restrained in CRS.

False: There is no point in having a CRS if the child is inappropriately restrained. Neither will he will he travel safely if the seat is incorrectly installed.
Use a Child Seat. Travel safety. Get there safely: multimedia awareness campaign

The Communication Plan included among its actions, the design, development and launch of a multimedia campaign with three equally important objectives:

· To raise awareness: inform about the problem
· To motivate: defeat apathy
· To activate: change habits

The campaign was carried out as shown below:

Current situation: Current Child Road Safety situation is critical:

· It is an issue not included on society’s agenda
· Traffic Act does not include children (there is no regulation or enforcement)
· There are lots of misconceptions on how to protect children: traveling in the back seat, “on an adult lap”, wearing a 2-point or a 3-point seat belt
· Only 1% of children travel safely, 73% travel completely unrestrained
· 90% of adults do not know which the safest way for a child to travel is
· 80% 0 km models are not equipped to transport children safely. This percentage is lower within used cars
· 85% of seat belts and 68% of CRS on the market do not comply with any international standards

Aim: The plan strives to create a society with:

· Better Data: correctly measuring the problem, proposing solutions and analyzing results
· Better Products: Improving safety elements’ quality and accessibility
· Better Regulatory Framework: promoting changes that effectively protect children
· Better Dissemination: making the problem public, raising awareness and educating citizens and generating a cultural change
· Always aiming at protecting our children

What we are aiming at:

At protecting today’s children, educating them to be the drivers of the future,* promoting a cultural change in our society that respects safe behavior regarding children in traffic.

How was the target audience and the implementation strategy defined?

Focus Groups were created aiming at generating information to help in the decision making of the future Fundación Gonzalo Rodríguez advertising campaign.

Specific objectives of this process were:

· To analyze current understanding of the situation assessed, identifying different aspects considered by stakeholders involved: concerns regarding the topic and measures proposed in order to decrease risk of accidents involving children traveling in the vehicle.
· To assess communication line developed, trying to identify a set of aspects, such as, message’s strengths and weaknesses, credibility and clarity, degree of contribution to current knowledge, impact in terms of concrete actions and actions to be taken in the future, etc.
· To understand main support sources, identifying reasons for opinions expressed, taking into account possible lines of action before negative assessment.

Taking into account results obtained it was decided that…

Primary target audience would be adults in charge of transporting children aged 0-11 years old. Secondary target audience is regulators/law makers, enforcers (municipalities, highway police, and traffic police), educators, children, vehicle and safety elements’ importers, journalists, and pediatricians.

Strategy:

Campaign objective was to generate and explain and educate on the need for Child Restraint Systems through the media (which one, how, where) through interventions and material (web, brochures, talks, among others).

It was possible to simplify the message, focusing on two levels of action and execution simultaneous and complementary: Raising of awareness (through mass media) and education (through interventions and activities).

The campaign was officially presented on 11 March, 2010 and on 15 March it went public at national level through television, radio, written press, and the Internet.

The campaign’s television spot was awarded the first prize “Campana de Oro”29 (Golden Bell) in the category “Public Service Campaign”.

Electronic media: website & Facebook

As the Public Service Campaign was presented, the FGR updated its web site (www.gonzalorodriguez.org) with new functionalities aligned with EDU-CAR Plan work.
1) A search engine that indicates the suitable CRS for a child by entering the child’s age and weight.
2) The list of available CRS recommended by the Uruguayan Society of Pediatrics and the FGR.
3) The complete list of shops where CRS can be found.
4) Specific information on school transport regulations among other news.

The web site gets approximately 90 queries a day and it is constantly updated with new sections. This need for knowledge shows a significant change in the attention paid by adults responsible for children transport to safe products and their correct use. The FGR is committed to provide the society with technical information based on regulations proposed by the UN.

Support by authorities and media to campaign’s launch and dissemination

National and provincial authorities attended the campaign’s launch, among them there were the Ministry of Public Health, National Transport Director, Ministry of Tourism Advisor, National Fire Brigade Director, Traffic and Transport Director from the Municipality of Montevideo, Senators and Deputies, Representatives from the National Board of Primary Education, FIA Representatives, Vice President of the Automobile Club of Uruguay, and the World Bank Representative. Public and private organizations also attended, among them, Uruguayan Society of Pediatrics, School of Medicine, Highway Police, Traffic Police, National Fire Brigade, U.S. Embassy, School Transport Syndicate, Automobile Club of Uruguay, among others. More than 40 media outlets have provided support to the dissemination of the campaign, making it possible to reach a great number of people.

29Golden Bell Awards are organized by the Uruguayan Advertising Chamber
¿TÚ HIJO VIAJA SEGURO?
CUIDALO

SI CHOCÁS Y TU HIJO VIAJA SUELTO VA A HACERSE MUCHO DAÑO

USÁ SILLA.
VIAJA SEGURO, LLEGA SEGURO.

De 0 a 11 años tu hijo debe viajar en silla. Aprende a protegerlo en www.edu-car.org

VUELTA A CLASE SEGURA
DESE DEL 1º DE FEBRERO DE 2011

Todos los vehículos de transporte escolar, deberán contar con cinturones de seguridad para todos los ocupantes.

Exigi seguridad para tu hijo.

VIAJA SEGURO, LLEGA SEGURO.
Por mayor información, visite www.gonzalorodríguez.org

"Use a Child Seat" Campaign.
"Back to school safely" Campaign.
:: Results of active participation

Considering that the information provided is true, scientifically ascertainable and disseminated in a clear and simple language, we can say that we are on the right way to achieve active participation. However, it is important to highlight that when working with the Focus Groups on the message to be spread and based on technical studies results and statistics developed by EDU-CAR, it was clear that there had to be a single message, clear and easy to understand: “Use a Child Seat. Travel Safely. Get there safely.” This fact has important consequences to understand why there has not been an increase in the use of CRS by children older than 4.

Note that this age group must use the seats known as “Booster Seats” but considering Uruguayan’s reality, it is clear that it is necessary to first root the idea of CRS use and its justification, and later start with a campaign exclusively for the use of Boosters.

The careful selection of moments and means to deliver this message are fundamental when it comes to rising awareness and educating, main factors of our media campaign. Although the campaign “Use a Child Seat” did not take place in the best socio-political context of the country since it began together with the Town Hall election’s campaign, it had an important support from the media, radio, on public venues and roads and internet which kept it alive with a constant presence. As a consequence of the global economic crisis, the budget was reduced and the television was the only means in which the desired impact could not be reached. The spotlight appeared on Television only for two weeks and this reduced in part the message’s impact.

In order to counteract this reduction, it was essential to select key audiences to go in depth as a way of generating a dissemination network sharing the same level of information and commitment with the cause.

Installing Child Restraint Systems:

Once adults become aware of the importance of safe transport of children, one of the most important challenges to face is the correct installation of the CRS. While Certified under technical standard CRS have instructions and manuals for installation and use, is essential that when installing you can be assured that the procedure has been done right.

In order to provide a tool for the proper use of CRS, two team members of EDU-CAR were certified in the United States by Safe Kids organization, through the program National Child Passenger Safety Certification Training Program.

Now the Foundation has a free resource for parents, through which provides advice and training on best practices for installing and verifying the CRS.
Measurement as an assessment factor

New studies based on “baseline” developed by the FGR

After 30 months of work in different areas, the Plan had now to focus on the most difficult and probably the most expected phase: measure of impact. Impact was assessed in three work areas.

Knowledge/attitude
- Knowledge on child safety elements in vehicles: the measurement was carried out against the Survey on Knowledge, Attitudes, and Behaviors towards Traffic, 2009.
- Perception of how safely children travel vs. CRS installed in vehicles; measurement was carried out against the Survey on Knowledge, Attitudes, and Behaviors towards Traffic, 2009.

Behavior
- Type of restraint system used by children aged 0-14; measurement was carried out against the Observational Study on Prevalence of Safety Elements in Vehicles in Montevideo, Salto and Paysandú, 2008.

Market
- Changes in the availability of seat belts complying with technical standards; analysis carried out considering the modifications at a legislative level.
- Availability of CRS complying with technical standards: the analysis was made based on work agreements between the FGR and CRS local market importers.
- CRS Importation in Uruguay: Comparative Study 2007 - 2010.

Statistical findings level II

The report made by EDU-CAR Plan in November 2010, aimed at presenting those modifications generated in knowledge/attitudes, behavior and market after specific actions and interventions were carried out.

The four studies carried out were developed in two stages: 1) a measurement between 2008 and 2009 which tried to understand the road safety situation in the country, specially child road safety and 2) a second measurement carried out in the second semester of 2010 where the effects of the campaign “Use a seat. Travel safely. Get there safely”, carried out by EDU-CAR during the first semester of 2010 with the objective of raising awareness in relation to child road safety, were analyzed.

Objectives and methodological aspects of these four studies are detailed below:

Pre-campaign phase “Use a Child Seat. Travel safely. Get there safely”:
2. Survey about Knowledge, Attitudes, and Behaviors towards Traffic.

Post-campaign phase “Use a Child. Travel safely. Get there safely”:
2. Survey on Knowledge, Attitudes, and Behaviors towards Traffic.

:: The idea of “Safe Child on Board”

Opinion on the way children aged 0-14 years old traveled in cars/vans assessed, whole country

Most drivers traveling with children aged 0-14 years old in their private cars/vans believe they travel “safely” or “rather safely” in their vehicles. This was shown by two nation-wide opinion surveys conducted by EDU-CAR Plan (Figure 1). While 87% of car and van drivers consider that children aged 0-14 years traveling in their vehicles do so safely or rather safely, only 13% (figure that has not changed since 2009) stated having installed a CRS (Figure 1).

CRS in cars and vans transporting children aged 0-14 ears old, whole country

FGR data (2010b) show that when people interviewed are asked about the safest way for children aged 0-14 years to travel in cars and vans, only 8% spontaneously point out that the safest way for children to travel safely is restrained in a CRS (Figure 2).
The most frequent answer is that for children to travel safely they should do so in the back seats; this was believed by 58% of those interviewed in 2010 (there was a six-percentage-point increase in relation to 2009) (See Figure 3). The misconception that traveling in the back seats is enough for children to travel safely already stated in 2009 (FGR 2009b) tends to spread.

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**Opinion on the safest way for children aged 0-14 y.o. to travel in cars/vans, whole country, 2010**

<table>
<thead>
<tr>
<th>Seating Position</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back seats</td>
<td>58%</td>
</tr>
<tr>
<td>Wearing a seat belt</td>
<td>28%</td>
</tr>
<tr>
<td>In a CRS</td>
<td>8%</td>
</tr>
<tr>
<td>In a CRS in a back seat</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
</tbody>
</table>

**Opinion on the safest way for children aged 0-14 y.o. to travel in cars/vans, whole country, 2009**

<table>
<thead>
<tr>
<th>Seating Position</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back seats</td>
<td>52%</td>
</tr>
<tr>
<td>Wearing a seat belt</td>
<td>35%</td>
</tr>
<tr>
<td>In a CRS</td>
<td>8%</td>
</tr>
<tr>
<td>In a CRS in a back seat</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
</tr>
</tbody>
</table>

**Difference between what is stated and what is done: how child passengers travel in cars and vans in the city of Montevideo**

This misconception of "safe child on board" in the back seats, stated by many adult drivers, coincides with data collected in the two observational studies carried out in Montevideo in 2008 and 2010. According to these studies, 78.1% of children aged 0-14 surveyed in the 2010 sample were traveling in the back seats of cars and vans, this figure showing great stability when compared with data from 2008 (77.8%) (Figure 5).

**Seating position of children aged 0-14 years old in cars and vans, Montevideo.**

<table>
<thead>
<tr>
<th>Year</th>
<th>Front seat row</th>
<th>Back seat row</th>
<th>No data</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>21.8</td>
<td>77.8</td>
<td>0.4</td>
</tr>
<tr>
<td>2010</td>
<td>21.3</td>
<td>78.1</td>
<td>0.6</td>
</tr>
</tbody>
</table>

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"Use a Child Seat" Campaign.

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INFORMATE: www.edu-car.org
Likewise, in 2010, the largest increase in the number of passengers in the back seats is represented by children under one year of age: 93.5% of children in this age group were traveling in the back seat at the moment of the survey, which represents an increase of 13 percentage points in relation to 2008. Eighty-seven point five percent (87.5%) of children aged 1-4 years old were traveling in the back seats, an increase of 3 percentage point in relation to 2008. The age group 5-14 years old in the back seats, however, decreased its value: 70% of children studied in 2010 were traveling in the back seats, a 3-percentage-point decrease when compared to 2008 (Diagram 1).

The growing trend in adults believing their children travel safely by doing so in the back seats agrees with their behavior. Most of these adults transport children in this fashion. There is an agreement between what adults surveyed state and their concrete actions. Although almost 9 out of 10 adult drivers consider children travel safely in their vehicles, said statement does not coincide with international recommendations on child road safety that propose children traveling in the back seats but always restrained by a CRS in order to be effectively protected.

When it comes to analyze passive safety elements for children there is a big gap between what is said and thought by adults and the effective protection of their children. It was verified in FGR (2010a) that 14.3% of children studied on cars and vans in Montevideo were traveling in a CRS, while 66.9% were traveling without any kind of passive safety system, that is to say completely unrestrained (Figure 7).

Although data collected by FGR (2010b) ratify the critical situation of child passengers in Montevideo already defined in EDU-CAR Plan research in 2008-2009, there have been some significant changes between measurements of pre- and post- “Use a Child Seat” campaign. The percentage of children traveling unrestrained decreased 6.4%, while there is 4.8% increase in the use of CRS. This progress is made without any national or provincial regulation on child road safety making the use of CRS mandatory and shows an increase in people's awareness of the topic.

The overall increase in the use of CRS in the capital, is due mainly to the increase in the use of these devices by children aged 1-4 years old; the use of child seats by this age group changes from 19.5% in 2008 to 27.7% in 2010. On the other hand, 63% of children under 1 year of age studied in the 2010 sample were traveling in CRSs, figure very similar to the one in 2008 (61.2%). Almost all children aged 5-14 years observed (98.9% in 2008 and 99.5% in 2010) were traveling without any CRS (Figure 8).
Situation of seat belts available on the local market
On 5 July 2010, the Executive Power passed a Presidential Decree regulating Section 31 of the National Traffic and Road Safety Act. Nº 18,191.

Regarding seat belts, it establishes:

IV) since there are not national technical standards, international standards adopted by the United Nations Organization for its members, developed by the United Nations Economic Commission for Europe in its two last updates, will be adopted until the country has its own technical standards for this type of safety elements.

In the chapter related to Requirements for mandatory equipment for seat belts in vehicles. The decree establishes that:

...Section 3. Vehicles mentioned in Section 31 of Act Nº 18,191 must have three-point seat belts in all seating positions.

...Section 9. All seat belts must comply with Technical Standard UNECE 16 (United Nations Economic Commission for Europe) in Appendix III.

...Section 11. Seat belts attachments must comply with Technical Standard UNECE 14 (United Nations Economic Commission for Europe) in Appendix IV.

Likewise, the chapter on vehicle importation states that:

...Section 13. All vehicles, especially cars, vans, freight transport vehicles and school transport vehicles imported 180 days after the passing of this Decree, must be originally equipped with as many three-point seat belts as passengers in the vehicle including the driver.

These seat belts and their attachments must meet technical standards adopted.

...Section 14. If vehicles are retrofitted with seat belts, they must comply with the recognized international standards mentioned in this Decree.

Finally, the chapter related to penalties establishes that:

...Section 15. Failure to comply with these regulations will be penalized by the corresponding Agencies in their corresponding fields.

From the Decree it can be said that thanks to efforts made by EDU-CAR Plan in relation to the assessment, dissemination and raising of awareness within the population and authorities involved, the passing of a regulation that is a model at a national level has been achieved. It demands compliance with technical standards for new vehicles’ seat belts and those offered on the market as auto parts to be installed.

The above data shows that if scientific information is steadily disseminated through the appropriate actors (pediatricians) and with the support of those who import safety devices, a change can be produced on adults’ behavior. For the change to be complete there has to be appropriate legislation and control.

According to information provided by points of sale where Child Restraint systems are sold, every 10 adults asking for safety elements, 8 ask for those with the sign “Recommended by the Uruguayan Society of Pediatrics.” It has to be highlighted as well that in Uruguay, the CRS market is focused on two big importers that import 76% of CRS commercialized on the local market.

Availability of CRS complying with technical standards
The lack of national legislation regarding the mandatory use of CRS, together with the lack of regulations regarding the importation of passive safety elements complying with recognized technical standard generated the need in the EDU-CAR Plan to work in coordination with CRS importers and the Uruguayan Society of Pediatrics. This aimed at providing parents and adults responsible for transporting children with the advantages of using these safety devices and making sure they comply with technical regulations.

The increase of CRS imports on the national market can be seen in the following graph. In just three years and without being its use mandatory they have quadrupled its volume.
Conclusions

Studies by EDU-CAR before and after the public service Campaign “Use a Child Seat. Travel Safely, Get There Safely”, show a high-risk situation for child passengers in cars and vans. While adults consolidate their perception that children travel safely in their vehicles, facts go against this misconception. Post-campaign studies suggest a consolidation of a misconception of “safe child on board”, most deeply-rooted misconceptions are: 1) “that children traveling with me in my car or van are safe,” and 2) “it is enough for children to travel in the back seat to be safe”. These perceptions do not coincide with international child road safety recommendations, the way in which most children travel is definitely unsafe, 66.9% of children in cars and vans in Montevideo travel completely unrestrained.

But while the situation is definitely critical, pre- and post-campaign results show statistically significant changes: the percentage of children traveling completely unrestrained in Montevideo decreased 6.4 percentage points (from 73.3% to 66.9%) while CRS use increased 4.8 points (from 9.5% to 14.3%).

Summing up, progress achieved after “Use a Child Seat” Campaign, although small, reflect the effort made by EDU-CAR Plan and its collaborators since the end of the year 2007. This progress has been achieved without any legislative changes at national or provincial level promoting it. Serious and rigorous work can lead to significant changes, even by a civil society NGO with limited human and financial resources.

Although 63% of children studied under one year of age were traveling in a CRS in cars and vans, children aged 1-4 years old are mainly responsible for the increase in the use of child seats from 19.5% in 2008 to 27.7% in 2010. In the case of children aged 5-14 years old, 99.5% of them do not travel in CRS, and 30% were traveling in the front seats.

Regarding availability on the market of seat belts complying with technical standards, the passing of the decree implementing said elements and the lack of coordination among enforcing agencies, have not allowed for significant changes. In the case of CRS, there has been a considerable change in the availability on the market even when there is no regulation making their use mandatory.

It is essential that governments in the region promote Acts and mechanisms for the protection of vulnerable road users as well as vehicle drivers. A first step would be observance to the five risk factors observed: speed limits and drink driving, use of safety devices such as helmets, seat belts, and child restraint systems. Every measure implemented in the region should be clear, well publicized and enforced. It is here when Civil Society Organizations become fundamental; especially to raise awareness and to make potential injuries visible, as well to promote the political will to adopt suitable measures.


Serious and rigorous work can lead to significant changes, even by a civil society NGO with limited human and financial resources.

This is clear evidence that NGOs working hard can promote changes needed to protect child passengers. It is fundamental to promote the necessary changes to protect child passengers so that the critical situation of child road safety settles in the Uruguayan social mind as a problem to solve. This issue should first get on the political agenda, and from there should be promoted and regulated by the public authorities in charge, demanding and enforcing their compliance.

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“Use a Child Seat” Campaign

"Use a Child Seat” Campaign.
Final Conclusions

Within the context of Latin America and the Caribbean, Uruguay also lacks reliable statistical data regarding road safety. A general characteristic is the lack of scientific mechanisms to collect and process data which enables the development and execution of Road Safety Plans carried out independently and based on reliable and scientific information to have a greater positive impact on actions developed.

To identify the problem with technical and scientific support, to make it public and to educate people on how to face it has been a great challenge and responsibility. The Foundation has worked on the measures to be taken as active members of the society to prevent injury and death of children, who represent the future of our society.

Although the importance and the unexpected support provided by the multisectoral partners’ network that EDU-CAR has built, it has become evident that official timing does not always match the speed required by the situation. The State bureaucracy can weaken those who are not fully committed. Besides, the political will and the possibility of sharing ideas are required to reverse the critical situation in which Uruguay is.

The FGR feels it its responsibility to provide Uruguayan society with its work. This is the reason why the Foundation believes that by providing the authorities with technical information, scientific studies, knowledge and commitment we are building a safer future for the country. As it happened with other initiatives such as 100% smoke and tobacco free environments and Ceibal Plan (One Laptop Per Child) we can be global innovators.

After 36 months of work, EDU-CAR Plan development has provided many lessons regarding the role each actor in society should play:

- National authorities at a general and specific level (Road Safety) must take the responsibility of protecting their citizens’ right for life.
- Civil society organizations must assume the appropriate role regarding child road safety in an independent way so as to reverse road accidents’ situation promoting effective public policies.
- Health authorities should assume a major role since road accidents represent mainly a public health problem that should not remain within transport, road, or infrastructure departments.
- Companies related to the topic (manufacturers, vehicles, auto parts, and CRS distributors, insurance companies, driving academies, etc.), should be responsible for the design and marketing of safety devices that ensure comprehensive protection in case of road accidents.
The FGR was born with the aim of transforming tears into smiles. After the Uruguayan driver Gonzalo “Gonchi” Rodríguez passed away, the Foundation was created as a non-profit non-governmental organization whose work focuses on children. The Foundation has worked for ten years and carried out programs under the slogan: More education, health and development. The FGR is now responsible for keeping Gonchi’s legacy and his values alive; values that make those who dream of a better present and future proud of being Uruguayan.

We do have dreams but we are realistic and convinced that road safety in Latin America is not a business and that this epidemic, which is the product of indifference, can be handled if we Disseminate, Educate, Legislate and Control.

Some of the lessons learned to be shared with those organizations and institutions willing to work on child road safety:

1. Study the regional and international reality to identify applicable practices; look for information provided by global agencies and national governments and pay attention to civil society victims’ organizations; the contrast of ideas may result surprisingly interesting.

2. Conduct a primary analysis (before outlining a work draft about the country’s situation) on: legislation, data, political will, public and private organizations related to the subject, possible funding organizations, similar projects (in the country, region or at a global level).

3. The making up of the team strongly influences the possibility of success or failure of the Plan; the team must be technically reliable, flexible, committed to the cause and should display tolerance for frustration.

4. Prepare an effective and efficient work plan with clear objectives, defined actions, reasonable times and most important, quantifiable results.

5. Study, find out, read, question and do not give up. Knowledge is precious and sometimes considered a source of power. If the information you are looking for does not exist or is not accessible, find your own data sources based on technical and statistical criteria. You will be on the right way to improve road safety.

6. Get the issue on the public agenda with a clear and simple language to make your audience understand it, do not underestimate the audience.

7. Also get the issue on the political agenda but do not do it on your own. Look for and generate support among the actors involved: union is strength and it helps to keep the message clear.

8. Perform as a “facilitator” between the different actors; there are many interlocutors and interests. Try to work towards union but not at any price: values and principles must be taken into consideration at all times; these should be aligned with a single objective: SAVING LIVES.

9. Make the most out of the Internet and the social networks. They are a very important dissemination tool and they are FOR FREE!

10. Be open to permanent learning. Continuous improvement as a way of establishing new and challenging objectives is fundamental to overcome the “It cannot be done” paradigm.

11. Be willing to ask for help once and again.
Physics laws are natural laws and are the same for all of us and there is no chance of modifying them, however, we can change laws made by men. Therefore,

· There must be legislation that explicitly ensures the right of children to travel safely, that takes care of them considering they are not miniature adults and because of their characteristics they require a special restraint system to travel safely.
· There must be an official legislation that adopts the recognized technical standards as a way of regulating and controlling the manufacturing, importing and marketing of vehicles and passive safety elements making sure that Latin Americans have the same rights other people have in other countries. Does the life of a Latin American cost less than the one of a European or American citizen?
· There must be special taxes for vehicles and passive safety elements as a way of democratize Latin American access to safety.
· There must be enforcement and penalties; even when the regulation considers all the possible aspects, enforcement and penalties are needed to achieve observance. Countries that managed to reverse this terrible situation did so with legislation, enforcement and penalties. Bad practices do not change because of conviction; they change thanks to dissemination, education and legislation which should include effective controls and exemplary penalties.
· The idea of Road Safety must turn into action and become a “State Policy”, it has to have an important place in the governments’ programs and lawmakers need to consider it a priority on their agenda. The continent supports the idea that this epidemic is preventable and that it takes the lives of mothers, children, siblings, rich and poor people on the streets and roads; that it destroys projects, hopes, families and the future of hundreds of Latin Americans that, as it happened in Uruguay, dreamt of a better future.

Next steps
EDU-CAR Plan was originally a Pilot Plan to be implemented in Uruguay sharing experiences and knowledge throughout Latin America and the Caribbean.

This manual is the first step in a process of dissemination of knowledge and working experience.
The manual PDF format is available both in Spanish and in English; download it at www.gonzalorodriguez.org

Fundación Gonzalo Rodríguez plans to make presentations on the Plan through each Automobile Club in each country in the region.
Based on the commitment by the FGR towards the promotion of Child Road Safety best practices at national level and throughout Latin America and the Caribbean, the efforts are now going to be focused on one of the mobility types that has experienced the greatest growth in the region: 2-wheelers.
Despite the fact that there are several prevention campaigns and good practices recommendations regarding the use of 2-wheelers, they are mainly oriented to adults. This is the reason why the FGR will try to establish, through scientific, objective and independent research, the challenges faced by children when riding by this type of vehicles with the aim of providing elements for a necessary and appropriate debate.

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