
Comparative Document Pre- and Post- Public Service Campaign “Use a Child Seat. Travels safely, gets there safely"

Studies directly conducted by Child Road Safety Plan EDU-CAR in collaboration with volunteer students from the School of Medicine, University of the Republic.

Gonzalo Rodriguez Memorial Foundation
Child Road Safety EDU-CAR Plan

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I. INTRODUCTION

Road accidents represent a serious public health issue worldwide, they are among the main causes of death and injuries. If urgent measures are not taken, they may represent the third cause of death by the year 2020.

Given children’s physical proportions (weight, height, muscle maturity, reflex development) completely different from adults’, children represent an especially vulnerable group in traffic, regardless of their role: pedestrians, passengers on cars, vans, school buses, bikes.

Taking this into account, regarding cars and vans, the seat belt, which has saved so many lives, does not represent the ideal safety device to protect children. The 3-point seat belt is, in fact, effective for passengers over 1.50m. Children get to this height when they reach 8 – 11 years of age. For children to travel safely on cars and vans, it is fundamental that they do so in what is technically called a Child Restraint System (CRS), known as "Child Seats". When installed correctly on the back seats and complying with recognized technical standards, officially approved and suitable for the child’s size, CRSs considerably reduce the risk of death and injury in the event of a traffic accident.

In Uruguay, however, the great majority of children aged 0 – 14 years old traveling in cars or vans do so without using a CRS. Furthermore, scientific research has shown that in Montevideo, the nation’s capital, most of them travel without any kind of passive safety device, that is to say, they travel completely unrestrained. Together with this behavior, most adults transporting children in their cars and vans, consider children are traveling safely and that they do not necessarily need a CRS to be protected. These adults, think in fact, that children only need to travel in the back seats in order to be safe.

The following pages will present findings of two observational studies on the prevalence of use of passive safety elements by private car and van drivers in the city of Montevideo. Said studies were conducted within the Child Road Safety Plan EDU-CAR carried out by Gonzalo Rodriguez Memorial Foundation, and they were performed in two measuring stages: 1) first stage in May and June 2008 and 2) a second stage, carried out in the second semester of 2010. These stages respectively coincide with pre and post stages of public service campaign “Use a Child Seat. Travels safely, gets there safely”, carried out by EDU-CAR nationwide in the first semester in 2010 in order to raise awareness on Child Road Safety.

In both studies an observational survey was conducted in order to understand general conditions in which child passengers aged 0-14 travel in private cars and vans in Montevideo. We specifically collected information on the extent to which safety elements were used by children traveling in said vehicles in the capital city.
Although samples used cannot be used to infer about the whole population in Montevideo, findings provide information to get to know the status of child road safety.

Gonzalo Rodriguez Memorial Foundation is a non-governmental, non-profit organization, with legal status since October 2000, created in memory of the Uruguayan car racer Gonzalo “Gonchi” Rodriguez (1971-1999). With the motto “More education, health, and development”, GRMF has developed different educational programmes to favor more than 15,000 Uruguayan children and teenagers. It is within this context that EDU-CAR Plan is created, with the objective of getting to know Road Safety situation in Uruguay and proposing a sustainable model of systematic change, to be later extended to the rest of Latin America and the Caribbean. EDU-CAR is founded by FIA Foundation for the Automobile and Society, and the Global Fund for Road Safety from the World Bank. It also technically supported by BioEchoes, Inc., Task Force for Global Health – Global Road Safety Forum and Centers for Disease Control and Prevention.

EDU-CAR is a three-year plan (2007-2010) focused on the promotion of actions and public policies regarding child road safety. For this promotion it considers all the elements linked to the child’s safety and well-being in their role as motor vehicle passengers. Through this plan, GRMF started a project aiming at promoting road safety of the most valuable asset of a nation, its children.

II. Before and After the “Use a Child Seat” Campaign: how do children travel in cars and vans in Montevideo?

The 2008 study stated that 73.3% of children observed traveling in cars and vans in the city of Montevideo did so without any kind of passive safety device. In other words, they were traveling completely unrestrained. Likewise, 13.5% were restrained with a 3-point seat belt while 0.3% wore a 2-point seat belt. Children in CRS represented 9.5% of the sample.

Data recollected in 2008 show significant statistical changes when compared with information from 2010. As shown in Figure 1, the percentage of children without CRS drops to 66.9% while the use of CRS reaches 14.3%.

**Figure 1**

<table>
<thead>
<tr>
<th>Tipo de sistema de seguridad utilizado por niños de 0 a 14 años de edad a bordo de autos y camionetas (Montevideo) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
</tr>
<tr>
<td>2010</td>
</tr>
</tbody>
</table>

- Sin sistema de seguridad (niño suelte)
- Cinturón de seguridad de 3 puntas
- Cinturón de seguridad de 2 puntas
- Sistema de retención infantil (SRI)
- Sin datos

Despite the fact that there are no national or provincial regulations regarding Child Road Safety, Figure 2 shows that between the Pre and Post campaign “Use a child seat”, the use of CRS grows to 4.8% in the capital city.

**Figure 2**

<table>
<thead>
<tr>
<th>Evolución del uso de SRI en niños de 0 a 14 años a bordo de autos y camionetas (Montevideo) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
</tr>
<tr>
<td>2010</td>
</tr>
</tbody>
</table>

- Uso de SRI
- NO uso de SRI
- Sin datos
Overall increase in the use of CRS is mainly due to the increase in the use of these devices by children aged 1-4 years old. Figure 3 shows the increase in the number of children in this age group using child seats, from 19.5% in 2008 to 27.7 in 2010.

As shown in Figure 4, the number of children in child seats increases but also does the number of child seats potentially used correctly. In 2008 potentially correct use of CRS was 4.6% while in 2010 it is 8%.

It is important to highlight that the term “CRS potentially correct use” refers to the correct placement of the device in the vehicle, which means, in the back seat and rear or forward facing depending on the child’s age/weight.

Likewise, in order to define this variable it was necessary not to consider the observation of some events that may affect the proper performance of the CRSs; among these we have, that the child seat is, by simple observation, too big or too small for the child, or if the child was sitting and restrained by the corresponding harnesses and not kneeling or standing, etc. Now, the reason for the term “potentially” to be included in this variable’s name is that in a non-participant observation, of such a short time for each vehicle, it is impossible to get to know whether the CRS was properly installed or not. To do this it would be necessary to conduct a direct-interaction survey, stopping cars and vans and having them examined by experts, checking the way in which the child seats are installed and the way in which children travel in the CRS.
As it was already mentioned, one of the necessary requirements (not sufficient, though) for the correct use of CRSs is that child seats are placed in the back seats of the vehicles. Although post-campaign results detected a higher use of passive safety devices, truth is that most children observed kept traveling without them in cars and vans. Figure 5 shows that regardless of the use by children of any kind of safety device or the type used, in 2008 an in 2010 almost eight out of ten children (78.1%) are still traveling in the back seat of the vehicle.
Likewise, in 2010, the largest increase in the number of passengers in the rear seats is represented by children less than one year of age: Towards 2010, children younger than one traveling in the back seat represented the highest figure: 93.5% of children in this age group were traveling in the back seat at the moment of the observation in 2010. In the post campaign study, 87.5% of children aged 1-4 were traveling in the back seat. The age group 5-14 years old in the rear 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 (Schema 1).

Diagram 1

[Diagram showing the use of child safety seats in different rows of a car with percentages for different age groups.]
III. Conclusions

- Observational Studies conducted by GRMF’s EDU-CAR Plan, verify certain stability in data recorded before and after the public service campaign “Use a Child Seat. Travels safely, gets there safely”. Situation of children aged 0-14 years old in private cars and vans is still critical, most children observed were traveling unrestrained (66.9%).
- However, even though there have been no changes in traffic regulations neither at national or provincial level, it is important to highlight a significant statistical change: The percentage of Child Restraint Systems used increased in 4.8% percentage points, moving from 9.5% in 2008 to 14.3% in 2010.
- Children aged 1-4 have the greatest impact in this increase: data collected show that, as from the sample used, 19.5% of passengers of said age group were using a CRS in 2008 while 27.7% were doing so in 2010.
- At the same time, children younger than 1 (it is important to mention that they are difficult to see in Montevideo, either traveling in cars, vans or any other means of transport) mainly travel restrained in a CRS. By 2010, 6 out of 10 children in this age group were traveling in a CRS, a proportion very similar to the one recorded in 2008.
- Last but not least, the 2010 study shows that regarding the use of child seats children aged 5-14 years old represent a group to be specifically studied, 99.5% of passengers in this age group do not travel in CRS.
- At the same time, children aged 5-14 years old are the ones that less travel in the rear seats in 2010, 70% compared to 87.5% of children aged 1 y 4 years old and 93.5% of children under 1 year of age.
IV. Glossary

**2-point seat belt**: Seat belt with two anchor points to the vehicle’s structure. Restrains passenger’s pelvis only.

**3-point seat belt**: Seat belt with three anchor points to the vehicle’s structure. Restrains passenger’s pelvis and torso. One section over the passenger’s shoulder to the pelvis on the other side.

**Technical Standard**: Document that establishes requirements to be complied with by a device or element to maximize its proper 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.

**CRS**: Child Restraint System. Device for the attachment of children to the vehicle in a safe and efficient way, aiming at the prevention of injuries. Seat belts are not CRSs. Examples of CRSs are child seats, boosters, etc.