ISSN 0256 9779

UNITED NATIONS
ECLAC

BULLETIN FAL
FACILITATION OF TRADE AND TRANSPORT IN LATIN AMERICA AND THE CARIBBEAN

www.eclac.org

Edition No. 279, Issue 11/2009

An analysis of traffic accidents and children: the case of Uruguay

This issue of the FAL Buletin deals with road safety and its impact on children by examining data collected on road safety in the Eastern Republic of Uruguay by the Gonzalo Rodríguez Foundation within the framework of its EDU-CAR Road Safety Plan for Children. This report was drafted by the Gonzalo Rodríguez Foundation's EDU-CAR Plan. For additional information on the project, please contact them directly at fundacion@gonzalorodriguez.org

I. Introduction

Traffic accidents are a serious public health problem and one of the leading causes of death and injuries around the world. As discussed in detail in FAL Bulletin 275: **"The need to establish coordinated measures for the reduction of road accidents in Latin America and the Caribbean",** it is estimated that traffic accidents will become the third leading cause of death worldwide by 2020 if urgent actions are not taken to reduce their incidence.

Children are in a particularly high risk group and because their physical proportions (weight, muscular maturity and reflex development) are completely different from those of adults, their specific needs must be taken into account when developing public policies to increase road safety.

This bulletin therefore calls for the implementation of national regulations that include special restraining devices for children, technically known as Child Restraint Systems (CRS) and commonly known as "car seats", which can significantly reduce the risk of injury during a traffic collision. The bulletin also points out, however, that the mere presence of a CRS is not enough to reduce the risk of injury in children. Instead, they must be used correctly and meet certain standards for how they were manufactured, approved and installed. These issues should be considered by the authorities when designing their technical regulations and by parents when purchasing (and later re-equipping) their vehicle and CRS.

Traffic accidents and their inclusion on public agendas

Despite the fact that traffic accidents result in high economic costs and large numbers of fatalities in developing countries, only in the last five years have the countries of the region begun to establish specialized agencies devoted to fully addressing the problem. Establishing an agency, however, is not a solution in and of itself. As proposed in previous ECLAC documents, all levels of Government (both legislative and judiciary), together with the public and private sectors must take coordinated and decisive action. This action must be combined with the active involvement of civil society. Technical studies to help uncover the real situation of road safety in the region, collect statistics and propose policies for action are examples of the coordinated efforts and partnerships that should be undertaken throughout the region.

In the case of Uruguay, the National Traffic Safety Agency was created with the passage of Law 18,133 in May 2007[1] under the Executive Branch to "…*regulate and oversee traffic and road safety in the entire national territory*…".[2] Similarly, Law 18,191 or the "National Traffic and Road Safety Act" was passed in November 2007.

These two laws were a milestone in the fight against traffic accidents in Uruguay, since according to official statistics from the Ministry of the Interior, over 400 people were killed and over 20,000 were injured in traffic accidents in 2007.[3] This epidemic, which most often affects individuals under 35 years of age, is linked to poverty, social exclusion and causes considerable economic losses. Estimates for the year 2000 made by the National Commission for the Prevention of Traffic Accidents, under the Ministry of Transport and Public Works (MTOP), show that yearly spending for traffic accidents reached US $927 million, equivalent to 4.5% of the country's GDP for that year.

---

[1] Although the National Commission for the Prevention and Control of Traffic Accidents was created under the MTOP in 1994, it was not able to meet its objectives owing, essentially, to lack of funding and the volunteer nature the commissioners.

[2] Legislative Branch, Eastern Republic of Uruguay (2007), Law Nº 18.113, Article 5 (Objetives).

[3] Ministry of the Interior, Eastern Republic of Uruguay (2008): *"Panorama de la Violencia, la Criminalidad y la Inseguridad en Uruguay. Datos, tendencias y perspectivas"*. (*Violence, Crime and Insecurity in Uruguay. Data, trends and prospects.*) National Violent Crime Observatory. United Nations Development Programme in Uruguay (UNDP) Montevideo.

The Gonzalo Rodríguez Foundation in Uruguay and its EDU-CAR Road Safety Plan for Children

The Gonzalo Rodríguez Foundation (GRF) is a non-governmental, non-profit organization founded in Uruguay in 2000 in memory of the Uruguayan pilot Gonzalo "Gonchi" Rodríguez (1971-1999). The Foundation helps make civil society contributions to improve education, health and development, and has carried out numerous educational projects which have benefited over 15,000 children and young adults in Uruguay. Within this context, the **EDU-CAR Road Safety Plan for Children** was designed to research the existing state of traffic accidents affecting children in Uruguay, propose a sustainable model for systemic change and later expand its efforts to the rest of Latin America and the Caribbean. In order to carry out its work, the EDU-CAR Plan receives funding from the *FIA Foundation for the Automobile and Society* and the *World Bank Global Road Safety Facility*, and received technical collaboration from the following institutions: *BioEchoes, Inc*., the *Task Force for Global Health–Global Road Safety Forum* and the *United States Centers for Disease* Control *and Prevention*.

EDU-CAR is a three-year plan (2007-2010) focused on proposing public actions and policies on road safety for children, taking into account all aspects affecting the safety and well-being of children aged 0-14 years who are passengers in a motor vehicle.

With a view to "protecting today's children and educating them to become tomorrow's drivers" this plan is in keeping with the WHO recommendations found in the "World report on road traffic injury prevention" and the "*Decade of Action on Road Safety (2010-2020)*" proposed at the "First Global Ministerial Conference on Road Safety" held in November 2009 in Moscow. EDU-CAR was also recognized with a Declaration of National Interest by the President of the Republic of Uruguay in July 2009 and has been endorsed by various public institutions in Uruguay. [4].

[4] The EDU-CAR Plan has been endorsed by several governmental institutions in Uruguay: (i) Framework Agreement signed by the Ministry of Public Health, the National Board of Health, the National Health Services Administartion and FGR to support the collaboration and exchange of resources to promote child traffic safety in Uruguay (July 2009); (ii) phase 3 of the EDU-CAR Road Safety Plan for Children was declared an 'educational interest' by the Ministry of Education and Culture (April 2008); and (iii) "declaration of ministerial interest' by the following Uruguayan Ministries: Interior; Public Health; Industry, Energy and Mining; Tourism and Sport.

Methodology

The following pages present data collected within the framework of an independent research and data collection series conducted by the EDU-CAR Plan in Uruguay[5] (with heavy emphasis on the city of Montevideo) in 2008-2009 in an effort to promote policies to protect children on the roads.

The information was obtained through inspections and surveys conducted on available equipment in new and existing vehicles, vehicle safety systems (such as seat-belts and CRSs) available in the Uruguayan market and through public opinion polls and direct field measurements to assess how children aged 0-14 travel in passenger cars and trucks.

Children and road safety

As previously mentioned, children do not have the same physical proportions as adults; their body weight is more heavily distributed throughout the upper body and their muscular maturity and reflex development are still ongoing. Therefore, they need devices that are especially designed for their body size, height and weight.

When a vehicle is involved in a collision and its occupants are not restrained by a safety device (seat-belt or CRS) three simultaneous collisions occur: the first collision involves the vehicle colliding with another object (another vehicle, a tree, a barrier or other object); the second collision occurs when the passengers collide with the interior of the vehicle itself (steering wheel, windshield, windows or other passengers in their vehicle) and, finally, the third collision occurs when the passenger's internal organs collide with their other organs and bones, which can lead to severe internal injuries. The effects of the second collision are the ones that can be eliminated or diminished if the vehicle occupants correctly use the appropriate safety devices.

The three-point seat-belt (that is, one that restrains an individual by means of a lap belt and a diagonal shoulder belt) is an effective safety device for passengers measuring 1.5 meters in height. Children do not reach this height until somewhere between 8 and 12 years of age, which is why they must use a CRS and ride in the back seat to ride safely. According to a series of studies conducted in the United States, correct usage of a CRS

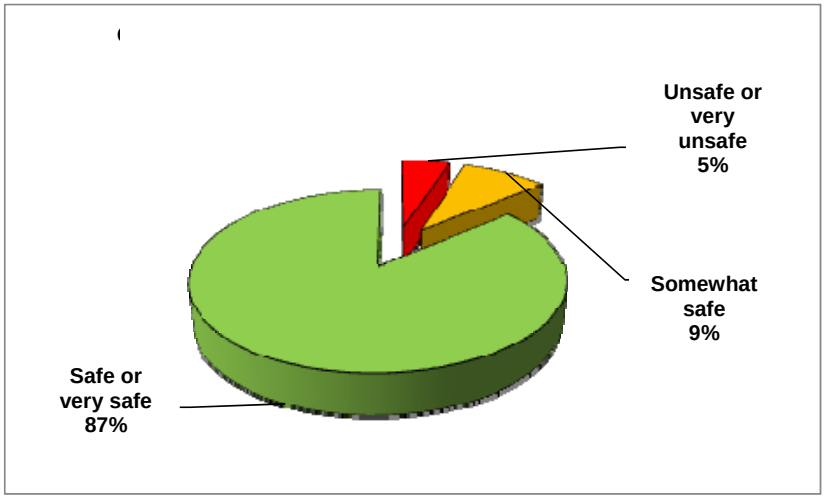
[5] The Gonzalo Rodríguez Foundation has conducted several statistical surveys and studies: "Observational study on the prevalence of vehicle safety device usage in Montevideo, Salto and Paysandu" Uruguay, 2008; "Survey of brand new vehicles." (2008); "Survey of seat-belts available for installation in vehicles" (2008); "Survey and study of child restarint systems in 0-14 year olds in Montevideo" (2009); "Survey of traffic behaviours, opinions and attitudes" (2009); "Survey of safety devices in used cars" (2009).

drastically reduces the risk of injury or death for children involved in traffic accidents. These studies have shown that use of an appropriately installed CRS can reduce the risk of death in children by 70%, and can reduce the risk of hospitalization for children aged 0-4 by almost the same percentage if an accident occurs.

Parental behaviour and perceptions regarding children in cars: the idea that "*my children are safe in the car*"

Research conducted under the EDU-CAR Plan has shown that parent drivers in the city of Montevideo believe they have sufficient information about how their children can be safe when riding in a vehicle. According to a public opinion poll carried out by FGR, 87% of drivers nationwide believe that the children aged 0-14 who ride in their personal cars or trucks do so safely, as shown in Figure 1. However, the data collected from that same study indicates that 87% of surveyed drivers had no CRS in their car or truck.

Figure 1: Opinions regarding safety of children ages 0-14 when riding in cars and trucks (Entire country)



Source: Gonzalo Rodríguez Foundation: "Survey of traffic behaviors, opinions and attitudes", Uruguay, 2009.

Vehicle equipment

Another FGR study showed that one in four surveyed cars or trucks did not have three-point lap and shoulder seat-belts in the rear side seats, and only 14.3% of these vehicles had this type of seat-belt in the rear middle seat. The data collected throughout the country indicate that only 10% of adult drivers believe that the safe way for children to ride in a vehicle is using a CRS. Only 2% of those surveyed stated that, in addition to be secured in a CRS, children should always ride in the back seat.

This clearly demonstrates the mistaken believe on the part of parent drivers that riding in the back seat is sufficient to keep children safe. Despite the fact that adults say they are conscious of their children's safety, in reality, their concept of safety is inconsistent with international traffic safety recommendations, which state that children must ride in a CRS installed in the back seat.

How children ride in cars and trucks

This mistaken concept on the part of many parents that their "children are safe in the car" fits with the data collected in another study conducted in Montevideo in 2008. That study showed that 77.8% of children aged 0-14 rode in the back seat of the cars and trucks studied. The drivers' perception that children should ride in the back seat in order to ride safely matches their behaviour since the majority of them did in fact have their children ride in the back seat.

With regard to the type of passenger restraint system used by children when they do ride in cars and trucks, a survey conducted in Montevideo demonstrated that 73.3% of children aged 0-14 years rode without any kind of restraining device, that is, they rode completely unrestrained inside the vehicle (see Figure 2).

Figure 2: Type of safety device used by children ages 0-14 observed in cars or trucks (Montevideo)