



## Fundación **MAPFRE**

REPORT ON THE SAFETY OF  
MOTORCYCLISTS IN LATIN AMERICA.  
International trends and  
opportunities for action  
END-OF-YEAR REPORT - 2016

DATE

November 2016

# Contents

EXECUTIVE SUMMARY	5
GOAL ZERO - FINAL REPORT: LIVE EVENT ON THE USE OF HELMETS FOR MOTORCYCLES	9
FIGURES	9
THE STUDY	10
FINAL CONSIDERATIONS	129



## Executive summary

Transport fulfils an essential function in the way we live our lives: the way we get to work, school or the shops determines the level of risk we face every day on the roads. While the use of the highway network can be a valuable resource for society, because it enables people to earn a living or keep in contact with family and friends, exposure to the public thoroughfare can also entail the risk of death or serious injury for every user. The level of risk depends on various physical and social factors, including country of residence, the age and type of user, whether the location is rural or urban, speed, alcohol consumption and the type of vehicle. The more information we have on these factors, the easier it is to predict and prevent fatalities and injuries; in addition, safety measures can be implemented more effectively.

The rapid increase in many countries in the use of two-wheeled motor vehicles has gone hand-in-hand with a rise in the number of deaths among motorcyclists; **half of all the fatalities** on the roads around the world **are among** these more vulnerable users: **motorcyclists (23%), pedestrians (22%) and cyclists (4%)**.

The boom in the use of motorcycles means they have become a major form of transport in Latin America. For example, in Brazil the total number of registered motorcyclists rose from 5.7 million in 2002 to over 21.4 million in 2013. Between 1997 and 2009, the number of registered motorcycles in Argentina rose by 329%, to 2.9 million, while in Colombia during the same period the number of new motorcycles registered per year rose by 400%. Between 2007 and 2013 alone in Venezuela the number of motorcycles sold increased by 448%. It is estimated that there are around 30 million registered motorcycles in the whole region.

The figures from this first update of the 2013 survey are heartening: the Dominican Republic has managed to improve its general rating by seventeen points since the report was first published, based on improving the road accident rate of motorcyclists by implementing certain targeted campaigns to promote their safety. Similarly, Guatemala managed to improve its results by sixteen points based on improving the road accident rate of motorcyclists by conducting surveys on the use of crash helmets and insisting on the use of daytime running lights.

Meanwhile, Mexico achieved an improvement seven points which can be attributed to new requirements for licenses to drive two-wheeled vehicles and the implementation of specific road safety campaigns for motorcyclists, a noteworthy achievement when you consider the federal nature of the police organization in the Republic of Mexico.

However, Argentina rating worsened by four points, associated with a backward slide in the road accident figures of motorcyclists and the availability of data on this collective.

With regard to the total number of motorcyclists killed, in the 2013 survey Mexico and Colombia accounted for 79% of these fatalities, a percentage that may have dropped to 68% for this particular update of the report but is still very alarming.

When looking at the points obtained by the countries that have been added to the report this year – Bolivia, Cuba, Paraguay and Venezuela – we can see that they

range between fifty and sixty-one, which puts them midway in the general table, as shown below:

Country ranking		Improvement	Worsening	Not available	Country ranking	
2016		2016/2013			2013	
Chile	89	▲			Puerto Rico	83
Brazil	77	▲			Chile	77
Puerto Rico	73		▼		Argentina	72
Colombia	71	▲			Brazil	71
Costa Rica	69	▲			Colombia	65
Argentina	68		▼		Ecuador	64
México	64	▲			Uruguay	61
Uruguay	62		▼		México	57
El Salvador	60	▲			Costa Rica	53
Panamá	58	▲			El Salvador	53
Nicaragua	54			S/V	Nicaragua	45
Ecuador	52		▼		Panamá	45
Peru	49	▲			Guatemala	31
Guatemala	47		▼		Peru	31
Dominican Rep.	44			S/V	Dominican Rep.	27
Venezuela	61				Venezuela	S/D
Paraguay	59				Paraguay	S/D
Bolivia	50				Bolivia	S/D
Cuba	50				Cuba	S/D

  

Country ranking		Improvement	Worsening	Not available	Country ranking	
2016		2016/2013			2013	
Spain	91	▲			UK	89
UK	81		▼		Spain	87
Portugal	76			S/V	Portugal	84
USA	59				USA	S/D

TABLE XX. Fundación MAPFRE, 2016. Prepared in-house

The “REPORT ON THE ROAD SAFETY OF MOTORCYCLISTS IN LATIN AMERICA. International trends and opportunities for action”, published by Fundación MAPFRE in July 2013, proposed a series of key aspects to be taken into account in the Americas in order to improve the road safety of motorcyclists. In light of the results presented in this year report, we believe it would be opportune to begin by referring back to it:

1. Motorcycles are an important means of transport and are becoming more and more widely used.
2. Unfortunately, for this very reason, they are also involved in more and more accidents in both absolute and relative terms in the region.
3. It is therefore essential to redouble efforts to reverse this trend and reduce the accident rates of this very large and vulnerable collective of highway users.
4. The scale of the problem more than justifies the design and implementation of specific strategic plans (local, regional and national) to protect motorcyclists; safety, as in other parts of the world.
5. In these plans, the first area of action should be data (overall numbers, registrations, accident rates, attitudes, behavior, etc.) followed by the generation of the information necessary to guarantee the optimum management of available resources and actions.

6. Motorcyclists safety should be based on:
  - a. Safe driving behavior
  - b. Safe vehicles
  - c. Safe roads and highways
  - d. A safe environment (i.e. laws, emergency services, etc.)
7. In the Americas there are good practices at every level in terms of motorcyclists; safety (availability of data, crash helmet legislation, training and requirements for getting a driving license, information and awareness-raising campaigns, etc.) and it is urgent that these practices should be spread to every country in the region.
8. There are also numerous good practices in other countries outside the region and the experiences of these countries should serve as a source of inspiration when it comes to defining actions in Latin America.
9. Vehicles, infrastructures and, to a large extent, the users of two-wheeled vehicles (their physical constitution, their cognitive abilities, their motivations and aspirations) do not significantly differ between different countries, so the standardization of technical and training aspects, amongst others, should be the objective of regional and national safety policies for motorcyclists safety.
10. The opportunity for cross-regional action is undeniable and should take advantage, as far as possible, of: regional awareness-raising campaigns, informative websites, the standardization of legislation, technical safety guidelines and regulations with regard to infrastructures, joint research projects, etc.
11. However, the greatest capacity for action and responsibility falls upon the national authorities and, in the final instance, individual citizens. In this respect it is essential to strengthen the social contract between public authorities and their citizens so that each party fulfils its responsibilities.
12. Every day, some 62 motorcyclists die in the region and many more are seriously injured. Action is overdue. We need to act now!

# Goal Zero - Final report: Live event on the use of helmets for motorcycles

Goal Zero is an awareness program whose prime objective is to **reduce the number of fatal accidents to zero**, mainly traffic-related but also other types associated with the home and leisure pursuits (drowning, fire, domestic accidents, etc.)



It is a program run on an international level directed at the general public comprising:

- ◇ Content associated with different risk factors.
- ◇ Internet programs related to the content.
- ◇ High impact live events: in 2016 live events were carried out in Spain designed to raise awareness about five risk factors: Riding a bicycle safely, the use of helmets by motorcyclists, distractions, restraint systems and the effects of alcohol and drug consumption on driving
  - » As support material at each of these events an educational guide was produced with information on each of these risk factors
  - » A competition associated with these events was put in place involving prize draws for motorcycle helmets, safety kits for cyclists, multi-use emergency lamps, medical kits for the car and sets of hand luggage. Additionally, there was draw for everyone taking part of a magnificent electric bicycle

You can see the full program content using the following link: [Goal Zero](#)

## Goal Zero Guide to Risk Factors





### “Helmets with history”

With the aim of raising awareness of the use of helmets when riding motorcycles and mopeds, we designed an exhibition that we called “Helmets with History”, which analyzes the evolution of the motorcycle helmet throughout history, highlighting the various landmarks and historical figures who have had an influence on them.

The exhibition comprises six replicas of helmets from different eras and a large model featuring the cross section of a helmet that reveals the different parts and the function each of them performs.



Using the information from the exhibition as a starting point, two instructors engaged visitors in conversation to explain the necessity of always wearing a helmet when riding a motorcycle or moped and advising them of the consequences of not doing so.

It took place in 11 locations throughout Spain during August and September and attracted over 40,000 visitors.



## Figures

According to the Pan-American Health Organization in its 2015 Report on Road Safety in the Americas, *“for every mile traveled by a vehicle, motorcyclists are almost thirty times more likely to die in a collision compared to the passengers of a car.*

Motorcycle accidents are responsible for around 23% of all road accident fatalities around the world; approximately 287,500 people lose their lives in this way every year.

Despite the fact that there is a solid empirical base that tells us which interventions work, it seems that not enough attention has been given to road safety and we are paying a very high price in terms of the loss of human life, the long-term consequences of injuries and pressure on the health services.

The injuries resulting from the accidents in which motorcyclists are involved are numerous: abrasions, bruising and fractures, amongst others; the most badly affected areas of the body are the limbs, tissues and head, this being the organ most widely involved in fatalities from this kind of accident. The main cause of death in motorcycle accidents is traumatic brain injury, which is why it is so vital to use a crash helmet.

Evidence:

- ◇ The risk of incurring an injury or even dying from a traffic accident is much higher for motorcyclists than for the drivers of four-wheeled vehicles.
- ◇ Head and neck injuries are the main causes of death, not to mention serious injuries and disabilities among motorcyclists and cyclists. In some countries, it is estimated that head injuries are responsible for up to 88% of these fatalities.
- ◇ Crash helmets are intended to reduce the risk of serious traumatic head injuries by alleviating the impact to the head of a blow or collision.
- ◇ It is estimated that crash helmets have an efficiency of 37% in preventing fatal injuries in motorcyclists and 72% in reducing the severity of traumatic head injuries.

## The study

The **objective** of this first update of the 2013 study is to determine what progress has been made in terms of the opportunities for action identified at that time in relation to the road safety of motorcyclists in Latin America and the Caribbean. This publication hopes to ensure that the countries which have not yet tackled this issue will use the data collated herein as a starting point or reference for subsequent and more far-reaching analyses on potential safety measures and, in the final instance, to design specific road safety policies and plans.

This compilation of information should not be seen as a specific proposal for a plan of action because the specific actions finally undertaken must be defined once the local situation in each case has been examined in detail, given that there may be significant differences between countries, states, regions, etc.

This study is aimed at those responsible for decision-making and, in general, for upholding road safety among motorcyclists, a large (and growing) group of vulnerable users of our highways.

The study is divided into three separate but evidently related sections:

1. The first section contains a considerable amount of information and provides a comparative analysis of different road safety and accident indicators in fifteen countries in Latin America and the Caribbean, along with additional information on Spain, Portugal and Great Britain as a control group. The basis of this compilation of information is a review of the indicators provided in the survey that resulted in the original report in 2013. The following Latin American countries were included in that report: Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Panama, Peru, Puerto Rico, Dominican Republic and Uruguay. In this report we have added the United States to the control group as well as data from Bolivia, Cuba, Paraguay and Venezuela to the regional countries group.
2. The second section contains a series of regional and international actions in the field of road safety for motorcyclists.
3. The study finishes with a series of conclusions and recommendations for future actions. These recommendations, as mentioned earlier, will need to be adjusted subsequently in accordance with the local situation in each case.

It is worth noting that in this work the terms motorcyclists and motorcycles refer to all users of two-wheeled motor vehicles as well as certain three-wheeled vehicles. Consequently, from this point onwards, the term motorcycle will refer to mopeds with small engines (usually less than 50 cc), scooters and lightweight motorcycles (usually below 250 cc) and heavier scooters and motorcycles (over 250 cc). Sometimes the terms two-wheeled motor vehicles and two- or three-wheeled motor vehicles; are also used. It is true that in an in-depth analysis it may not be appropriate to consider a small 50 cc moped alongside a large-cylinder motorbike of 1200 cc, but in the scope of this general report we did not feel it was necessary to divide the contents in terms of the different categories of vehicles.

## Final considerations

The WHO Global Status Report on Road Safety in 2015 noted that 1.25 million people die on the roads every year around the world and that this figure has remained unchanged since 2007. Given the exponential growth in motorized traffic, the fact that these figures have remained the same, when forecasts should point to increased mortality, indicates that we are on the right track. However, the efforts made to reduce the number of fatalities from road accidents are clearly insufficient if we want to reach the international road safety targets established in the Agenda for Sustainable Development.

Some countries that have adopted a more wide-ranging approach, focusing on numerous road safety aspects, have managed to achieve more effective and long-lasting improvements. To instigate these changes it is essential that there is political determination, although it is also necessary to adopt measures in relation to a series of specific issues which are particularly relevant to this study, namely: *Not enough attention has been paid to the needs of pedestrians, cyclists and motorcyclists who, as a whole, account for 49% of traffic accident fatalities worldwide. Improving the safety of the world roads will be impossible without taking into account the needs of these users of the public highway in every single approach adopted to tackle road safety.*

As a result of all the information presented in the 2013 report and the data added through this study, we have outlined below some of the most urgent actions that need to be taken with regard to the safety of motorcyclists in Latin America and Caribbean:

1. The creation of a Think Tank on Motorcyclists Safety in the region in order to promote the safety of this collective in Latin America. This group would report to the Latin-American Road Safety Observatory (OISEVI) and could be sponsored by regional motorcycle manufacturers or other private or public bodies.
2. Conducting more studies and investigations - such as those run by the Development Bank of Latin America (CAF) - taking into account previous international experiences, on the accident rates of motorcyclists in Latin America and the Caribbean. The promotion of specific studies on a national level. In both cases, these studies should pay particular attention to such basic parameters as: the age of victims and other sociodemographic characteristics; the type and size of motorcycles; the use of crash helmets and other protective gear; the location of the accidents (city/highway); the time of day, week and month of accidents; types of accidents; causes of accidents; the reason for the journey (work, leisure), etc.
3. The design and implementation of a comprehensive regional plan for motorcyclists; safety. The promotion of specific comprehensive plans at a national level.
4. Standardization of legislation in the countries of the region in the specific areas that affect the safety of users of two-wheeled vehicles: the mandatory use of crash helmets and their minimum technical requirements; standard training programs; progressive access to a driving license or permit; the use

of daytime running lights; the requirement that all new motorcycles have automatic headlight ignition; regular vehicle servicing requirements, etc.

5. The start-up of a website featuring information on motorcyclists safety, with special sections on the choice of crash helmets and protective safety gear.
6. The preparation of a guide to safe infrastructures for motorcyclists whose recommendations should be an essential part of any new infrastructural projects in the region. The inclusion of motorcyclists needs in the protocols for highway inspections and audits.
7. The maintenance and promotion of regional safety campaigns for motorcyclists – such as the one undertaken by the OISEVI – aimed not only at motorcyclists but also other users of the public highway.

Despite the fact that there is a solid empirical base that tells us which interventions work, it seems that not enough attention has been given to road safety and we are paying a very high price in terms of the loss of human life, the long-term consequences of injuries and pressure on the health services. The attention that the international community has given to this particular road safety issue, by establishing within the Sustainable Development Goals a new target to reduce by half the number of fatalities and injuries caused by road traffic accidents between now and 2020, offers a golden opportunity to implement the necessary interventions which every country should take advantage of.



Fundación  
**MAPFRE**

---

[www.fundacionmapfre.org](http://www.fundacionmapfre.org)