Good road safety practices in the Americas: action-oriented data and stories

Pan American Health Organization
World Health Organization
Americas
PAHO

INTRODUCTION

An avoidable public health crisis

Every year, road traffic crashes kill approximately 155,000 people in the Region of the Americas and injure many thousands more. Traffic injuries are the leading cause of death among children between the ages of 5 and 14 and the second-leading cause of death among people 15 to 29 years old.

The situation is alarming and constitutes a crisis in public health and in development, since each road crash is a tragedy that can push victims' families into poverty.

The frequency of road fatalities varies by country and level of development, according to the latest data presented in the 2019 regional report on road safety[1] of the Pan American Health Organization (PAHO). Barbados and Canada have the lowest annual road death rates (5.6 and 5.8 per 100,000 population, respectively), while Saint Lucia and the Dominican Republic have the highest (35.4 and 34.6).

These challenges are compounded by the growing number of motorcycles on the Region's roads, and the corresponding rise in the percentage of motorcyclists who are victims, from 20% of all road deaths in 2013 to 23% in 2016.

[1] Pan American Health Organization. Status of Road Safety in the Region of the Americas. Washington, D.C.: PAHO; 2019

But crashes and injuries on public roads can be prevented through coordination and collaboration between various sectors, legislation to control speed and alcohol use, and promotion and enforcement of mandatory of mandatory use of seatbelts and child-restraint seats in cars, as well as the use of helmets on motorcycles.

Almost 155,000 people die every year in traffic in the Region of the Americas

It is also necessary to build safer roads and vehicles, develop traffic planning, and improve trauma care. All of this should be led by the health sector, as established by a mandate of the United Nations General Assembly. The countries of the Region are taking steps to achieve this, as can be seen in the success stories presented here, which describe national, subnational, and local initiatives aimed at saving lives.

Mexico provides an excellent example of how the health sector can take the lead and join forces among all sectors. The country saved 10,000 lives in five years[2] and showed how national policies can lead to concrete measures and initiatives, carried out at different levels by enthusiastic and committed human resources.

[2] Híjar M, PérezNúñez R, Salinas-Rodríguez A. Avances en México a la mitad del Decenio de Acción para la Seguridad Vial 2011–2020. Rev Saude Publica. 2018;52:67.

Uruguay has shown positive results in reducing road deaths by enacting and implementing national legislation that comprehensively addresses the key factors that affect road safety. It has also shown that the work does not end there and that the next challenge is at the local and subnational levels, especially the adoption of measures to protect the most vulnerable road users, such as pedestrians and motorcyclists.

Finally, the Brazilian experience shows the importance of work at the local level. The program implemented in Salvador de Bahia broke intersectoral barriers and successfully integrated different institutions in a single committee working toward the common objective of reducing road deaths and injuries, while also serving as a model for other cities in the country.

The city's Vida no Trânsito de Salvador program is an outstanding example of a joint effort to evaluate and assess data, include the health perspective in debates on traffic issues, and develop and implement child education initiatives.

Health sector leadership is essential to make progress in the prevention of injuries and deaths on public roads

We hope that this pamphlet contributes evidence and experiences that serve as an example and inspiration for all those who play a role in improving road safety in the Americas.

TARGET:

Reduce deaths by half by 2020

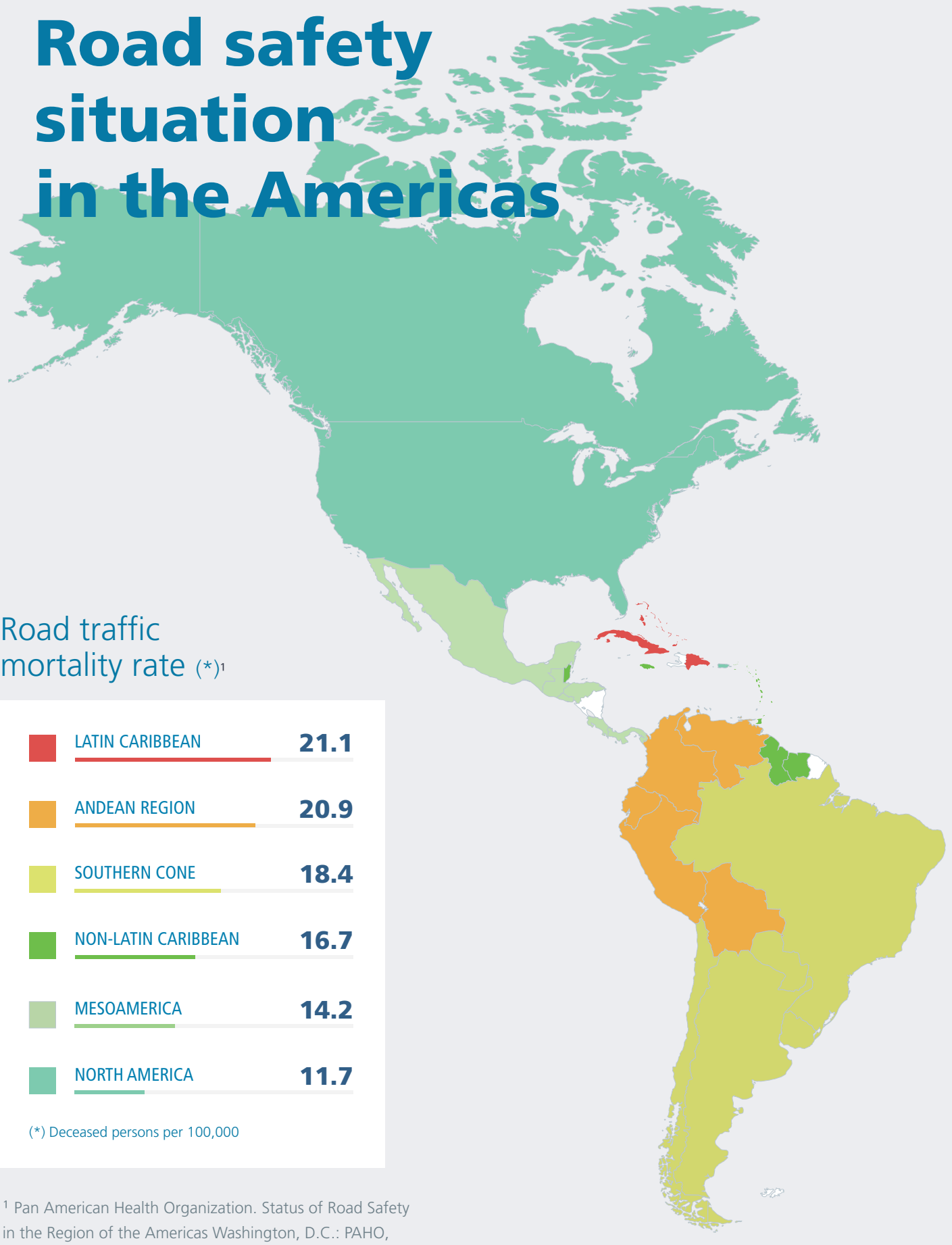
A sustainable development objective

Given their great impact on global health and the world economy, the Sustainable Development Goals (SDGs) include improving road safety. Target 3.6 of the SDGs is to reduce by half the number of global deaths and injuries from road traffic accidents by 2020, compared to 2015. Another SDG target (11.2) is "by 2030, to provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport."

To achieve the target of halving the number of road deaths and injuries by 2020, it is necessary to adopt urgent measures.

Failure to act has a very high price in loss of human lives. Making road safer for future generations will not be the legacy of drivers, but of decision-makers who set standards, implement public awareness campaigns, and enforce the rules of the road.

Road safety situation in the Americas



Road traffic mortality rate (*)[1]

LATIN CARIBBEAN	21.1
ANDEAN REGION	20.9
SOUTHERN CONE	18.4
NON-LATIN CARIBBEAN	16.7
MESOAMERICA	14.2
NORTH AMERICA	11.7

(*) Deceased persons per 100,000

[1] Pan American Health Organization. Status of Road Safety in the Region of the Americas Washington, D.C.: PAHO, 2016.

970
MILLION
PEOPLE

470
MILLION
VEHICLES

154,997
DEATHS
EACH YEAR

PERCENTAGE OF DEATHS: VULNERABLE USERS

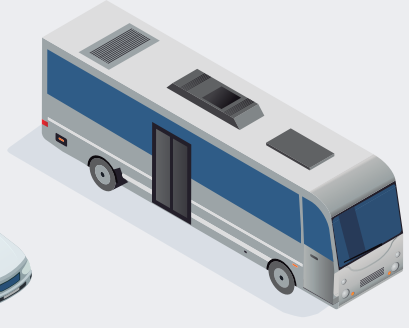
23%
MOTORCYCLISTS

22%
PEDESTRIANS

3%
CYCLISTS

PERCENTAGE OF DEATHS: OTHER USERS

34%
CAR
OCCUPANTS



18%
OTHER /
UNSPECIFIED

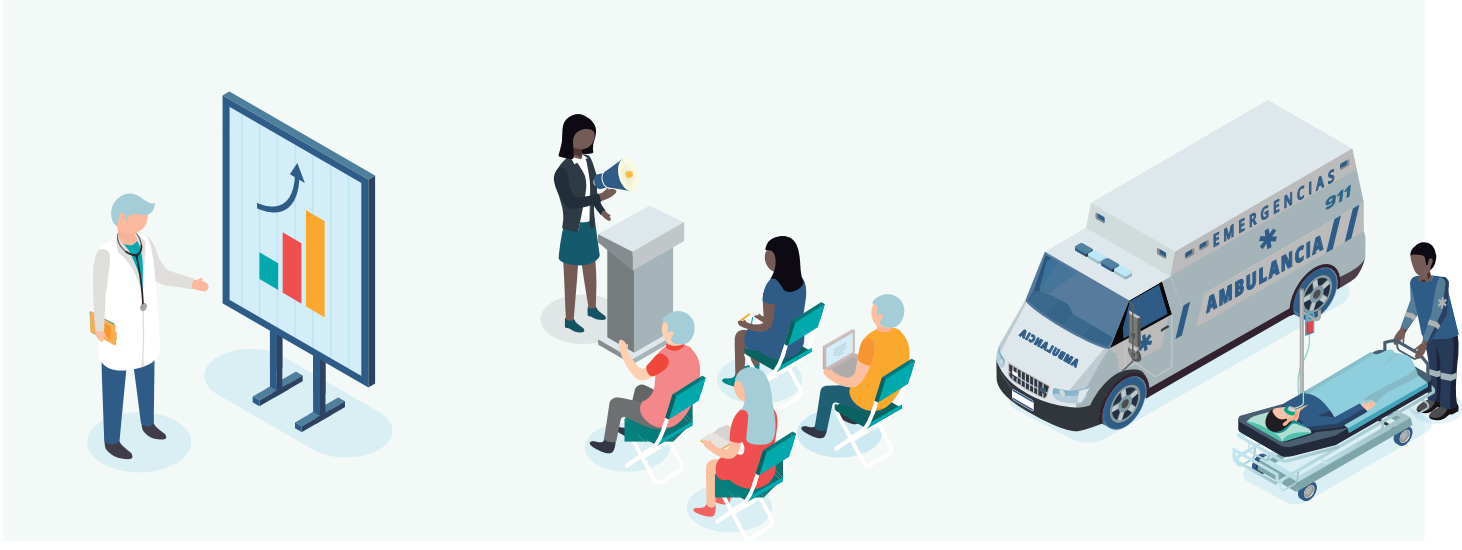
WHO ARE THE MOST VULNERABLE ROAD USERS?

Pedestrians, cyclists, and users of two-wheeled motor vehicles are considered vulnerable road users. They represent nearly half of all people who die in road traffic crashes. They are considered vulnerable because they move with minimum protection. Meanwhile, injuries cost governments 3% of GDP.

HOW ARE DEATHS DISTRIBUTED?

The country with highest road traffic death rate is Saint Lucia (35.4 deaths per 100,000 population) followed by the Dominican Republic (34.6). The countries with the lowest rates are Barbados (5.6) and Canada (5.8). Seventy percent of deaths occur in middle-income countries, which have 39% of all vehicles in the Region.

What can the health sector do?



01.
MEASURE THE MAGNITUDE OF THE PROBLEM

It is necessary to characterize the victims and the factors (behaviors, vehicles, roads, etc.) that affect the accident rate. The health sector can help establish surveillance and data registry systems, analyzing data from different sources such as road safety observatories. Having such data is essential for informed public policy-making.

02.
PREVENTION

Road crashes can be prevented by establishing and enforcing standards to reduce risk factors (speeding, psychoactive substance use, distractions, etc.) and promoting protective measures, such as seat belts, helmets, and car seats for children, as well as infrastructure that protects the most vulnerable users (pedestrians, cyclists, and motorcyclists).

03.
CARE FOR VICTIMS

Timely and appropriate care for victims can prevent severe permanent injuries and even death. It is essential have a system to coordinate emergency calls and patient referrals. It is also important to provide training to first responders and emergency room staff.

A shared responsibility

Improving road safety is a responsibility shared by governments, industry, nongovernmental organizations, and international agencies, as well as health professionals, vehicle manufacturers, law enforcement agencies, educators, and community groups.

The health sector can take the lead in coordination and collaboration between various sectors and it plays a key role in preventing traffic injuries.

In turn, improving road safety benefits health systems by reducing the number of hospital admissions and the severity of injuries.In the Region, 29 countries have an advisory committee or agency responsible for multisectoral coordination of measures to promote road safety.

The health sector promotes coordination and collaboration among various sectors

In Mexico, the health sector leads the Technical Secretariat of the National Council for Accident Prevention (Secretariado Técnico del Consejo Nacional de Prevención de Accidentes— STCONAPRA), the country's national accident prevention council. The health sector would also benefit from more people adopting healthy habits such as walking or cycling without fear for their safety.

Success stories: Mexico

HOW THEY DID IT

01 Local interventions that save lives.

02 Observatories of road safety.

03 Driving and alcohol, in separate ways.

04 Education for change.

Guanajuato: a shared commitment to road safety

Ricardo Rangel, a young man living in the state of Guanajuato, Mexico, had just become a father when his life changed forever. It was the night before the Epiphany holiday and he was traveling in the passenger seat of a pick-up truck with some friends. He was not wearing a seatbelt. The vehicle took a curve at high speed, skidded off the road, and flipped over. The resulting spinal injury left Ricardo unable to walk.

Road crashes have left profound scars in Mexico. To make the country's streets and highways safer, the Mexican Road Safety Initiative (Iniciativa Mexicana de Seguridad Vial—IMESEVI) was launched in 2008, followed by other strategies, programs, and multisectoral, multidisciplinary work that has helped prevent more than 10,000 road deaths between 2011 and 2015, according to one study.[2]

> Between 2011 and 2015, an estimated 10,000 deaths were prevented on Mexico's streets and highways.

These achievements are largely attributable to STCONAPRA, directed by the Ministry of Health. STCONAPRA has led the development of public policy on road safety. The National Council for Accident Prevention (CONAPRA) is made up of 10 government ministries. Arturo García, technical secretary of STCONAPRA, points to a "downward trend" in the number of crashes, injuries, and deaths on the roads since 2012, when more than 17,000 deaths and 153,000 injuries were recorded in the country. "Compared to 2017, accidents have dropped 10.1%, injuries 29.2%, and deaths 5.3%," he said.

In Mexico, 94% of road crashes occur in urban and suburban areas, while only 6% are on highways and federal bridges; however, the latter account for 30% of deaths, due to high traffic speed, García said. The majority of fatalities (65%) are pedestrians, cyclists, and motorcyclists.

Life-saving interventions

STCONAPRA promotes and supports safety road policies, but the states and municipalities are responsible for concrete interventions. Guanajuato is one of the states that has most successfully implemented the National Road Safety Strategy 2011-2020. In line with the national model, a multisectoral state council devoted to the prevention of road traffic crashes (Consejo Estatal para la Prevención de Accidentes—COEPRA) is led by the state's health department.

ROAD TRAFFIC CRASHES IN MEXICO

94% In urban and suburban areas

6% On federal roads and bridges

[2] Híjar M, PérezNúñez R, Salinas-Rodríguez A. Avances en México a la mitad del Decenio de Acción para la Seguridad-Vial 2011–2020. Rev Saude Publica. 2018;52:67.

"For years we have been implementing strategies for safety road at all levels, in cross-sectoral efforts," explained Daniel Alberto Díaz, Secretary of Health for the state of Guanajuato, adding that work has been done in more than 3,000 communities throughout the state's 46 municipalities.

The team that does this work consists of a state-wide coordinator and one coordinator for each of the state's eight health regions, as well as program managers in health centers.

Guanajuato avoided the potential death of 823 people in five years.

Interventions focus on better road safety management, including data recording and analysis, improved safety conditions (for roads, vehicles, and road users), and better care for victims. These measures have led to 7.6% reduction in mortality, equivalent to preventing the deaths of an estimated 823 people between 2011 and 2015 in the state.[2]

[2] Híjar M, PérezNúñez R, Salinas-Rodríguez A. Avances en México a la mitad del Decenio de Acción para la Seguridad Vial 2011–2020. Rev Saude Publica. 2018;52:67.

Road safety observatories

The Injuries Observatory of León, a city in Guanajuato state, is located in the local office of the state's health department. An enormous map of the municipality dominates the main room of the observatory, full of colored thumbtacks marking the places where people have been injured or died on the roadways. This is where data are compiled and analyzed, and the factors that contribute to crashes are identified.

The observatory in León was created in 2010 as part of the Mexican Road Safety Initiative and through the Road Safety in 10 Countries (RS10) project[3] piloted by STCONAPRA with support from the Pan American Health Organization (PAHO) and financing from Bloomberg Philanthropies. The data that the observatories provide are complemented with measurements of the principal risk factors related to crashes, obtained through observation and surveys at key locations.

[2] Road Safety in 10 Countries Project: https://www.who.int/violence_injury_prevention/road_traffic/countrywork/rs10_2012.pdf?ua=1

These factors include speeding, driving under the influence of alcohol, and driver/cyclist distraction, as well as failure to use motorcycle helmets and child-restraint systems.

Guanajuato currently has injuries observatories in 43 of its 46 municipalities, contributing information to the State Observatory.

"In 2013, we were working on training the highway police," said Guadalupe Verduzco, manager of the León Observatory. "We eventually realized that the main problem was the lack of seatbelt use." Using impact simulators, they were able to raise public awareness about the importance of buckling up. "We got people to use them more. The problem now is speeding and driving under the influence of alcohol," he explained.

Driving and alcohol: in separate lanes

To reduce the number of crashes associated with driving under the influence of alcohol, Guanajuato strengthened its sobriety checks. Nationwide, these checks are carried out in 175 priority municipalities; in Guanajuato, the municipal traffic authorities or Federal Highway Police conduct alcohol testing in 25 municipalities, with support from municipal police officers and, in some cases, the armed forces.

"Besides training us to use the devices to measure blood alcohol, they have taught us how to deal with the victims and give first aid," said Commander Eduardo Márquez Flores, chief of the Federal Police's Road Safety unit in the state of Guanajuato, adding that "all of this has been essential for us to come together as one big team."

The Ministry of Health has provided training and medical experts to carry out sobriety checks.

The Ministry of Health has played a key role in improving the sobriety checks, providing training, as well as medical experts to carry out the tests.

Since January 2019, drivers with excess alcohol levels are arrested for 12 to 36 hours in León.

Education for change

Raising awareness and educating about safety road is a permanent task for all the institutions that participate in COEPRA.
Campaigns are carried out in media communications and activities are organized in streets, schools, and workplaces.

IN GUANAJUATO

80,000
PEOPLE
are trained in road safety each year

One of the most effective exercises was developed by the municipal traffic authority of San Miguel de Allende, a major tourist center in the state: A tent is set up in a central plaza in the middle of the day, with a municipal policeman acting as DJ. Everyone who comes in is invited to dance and have a (virtual) drink from little bottles being given out. Imaginary marijuana cigarettes are also offered. Next, other police officers put special glasses on people, altering their vision to create the effects of the drug or drink. Participants are then invited to leave the tent and take a set of tests on a circuit.

What at first seems like a game can have an emotional impact when the participant has a

terrible (virtual) experience as a consequence of driving under the influence of alcohol or drugs. "I came with my husband and three daughters, I did the tour, and by the time I finished, I had lost track of them. I lost them as soon as I started. I was very dizzy, but what is most impressive and impacting was the end, when I looked in a mirror and I saw myself in a coffin," said Blanca Monzón, a resident of San Miguel de Allende. The point of this experience is for participants to promise themselves not to drive after drinking alcohol.

Better care for the injured

Care for victims of road traffic crashes is another area where Guanajuato offers one of the best models in the country. Care is coordinated by the state's emergency response system (Sistema de Urgencias del Estado de Guanajuato—SUEG), created in 1993 and strengthened since 2011.

It has a staff of 358 people, including emergency responders, physicians, psychologists, administrators, helicopter pilots, and mechanics.
"This system enables us to move quickly, for timely treatment and recovery, so that patients can return to their lives, be productive, most importantly, be well and with their families," said Eduardo Romero Hicks, director of SUEG.

Three years ago, Guanajuato standardized the system by establishing 911 as the sole call-in number.

In addition to transferring patients between hospitals and providing emergency response at major events, SUEG uses a referral system to coordinate the emergency response of other organizations (Red Cross, civil defense system, fire departments, and SUEG itself). Three years ago, Guanajuato standardized the system by establishing 911 as the sole call-in number. "This means that calls are answered by dedicated dispatchers who contact the emergency services. This has reduced the response time and duplication of efforts, which helps ensure service that is faster, more professional, and more dynamic," explained SUEG's operational coordinator, Luis Manuel Martínez.

Ricardo, the young father who lost the ability to walk after a road crash in which he was not wearing a seat belt, recalls that his mother, a nurse, told him: "You might or might not walk, but you are going to keep working hard." And he did work hard: now he is training in archery, with the dream of participating in the Tokyo 2020 Olympics. The STCONAPRA team puts similar spirit and effort into helping prevent situations in which other young people like Ricardo are unable to reach their maximum potential due to a preventable cause.

FINES TO SAVE LIVES

Municipalities and states are responsible for traffic laws. STCONAPRA promotes standardization of the legal framework, with comprehensive legislation based on the main risk factors: drink-driving, speeding, and not using motorcycle helmets, seatbelts, or child restraint systems. An example of this is the "Fines for Life" (Multas para la Vida) program in the city of León, and its new traffic regulations (in effect since January 2019), which increase fines and impose arrest for the most dangerous behaviors: driving drunk and using mobile devices, speeding, not using a motorcycle helmet, and transporting children in a vehicle without a child restraint system.

What can we do?

Road safety legislation helps improve the behavior of road users and helps reduce road crashes and the resulting injuries and deaths. The laws with the greatest impact are those aimed at reducing risk factors, such as speeding and driving under the influence of alcohol, and those aimed at promoting the protective factors, such as helmet use on motorcycles and the use of seat belts and child restraint systems in cars.

Risk factors

SPEED: HIGHER SPEED, GREATER RISK OF DEATH

As the average speed increases, the probability of a collision also increases, as does the severity of its consequences. A pedestrian has less than a 20% chance of dying if hit by a car moving at less than 50 kilometers per hour, but almost 60% if hit at 80 kilometers per hour.

ALCOHOL: DRIVING UNDER THE INFLUENCE OF ALCOHOL INCREASES THE LIKELIHOOD OF A CRASH

Driving under the influence of alcohol increases the chance of a crash and the likelihood that it will cause death or severe injury. Young drivers and new drivers are much more likely to be involved in traffic collisions under the influence of alcohol than older, more experienced drivers.

Protective factors

SEAT BELTS

Drivers and front-seat passengers: seat belts reduce the risk of death by 45-50%, and the risk of minor and severe injuries by 20-45%.
Back seat passengers: seat belts reduce the risk of death and severe injuries by 25%, and the risk of minor injuries by up to 75%.

CHILD RESTRAINT SYSTEMS

Child restraint systems reduce the likelihood of fatal crashes by approximately 90% for infants and 54-80% for young children.

HELMET USE

Helmet use reduces the risk of death by almost 40% and severe injuries by 70%.

5 laws that save lives

1

Lower speed limits.

Laws on maximum speed limits.

2

Ban on driving under the influence of alcohol.

Laws on driving under the influence of alcohol and blood-alcohol limits.

3

Compulsory seat belt use…

Laws on seat belt use.

4

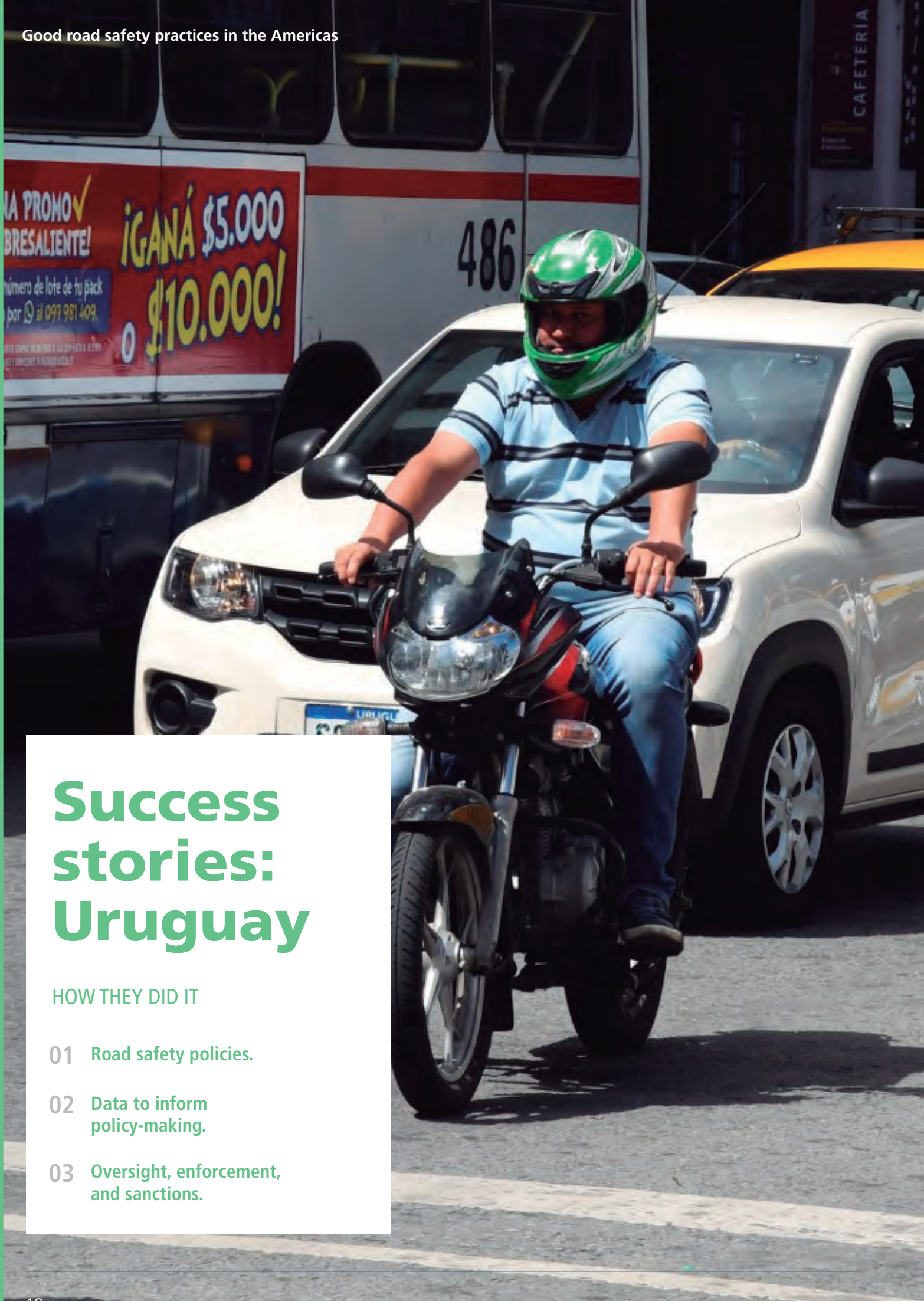
Compulsory use of child restraint systems.

Laws on child restraint systems.

5

Compulsory use of motorcycle helmets.

Law on motorcycle helmet use and standards.



Success stories: Uruguay

HOW THEY DID IT

01 Road safety policies.

02 Data to inform policy-making.

03 Oversight, enforcement, and sanctions.

Road safety policies reduce deaths on Uruguay's streets and highways

Between 2007 and 2017, despite a large increase in Uruguay's vehicle fleet, the country managed to reduce road traffic deaths from 20 to 13.5 per 100,000 population. How did they do it? The key was the creation of a national road safety agency, UNASEV (Unidad Nacional de Seguridad Vial), in 2007, according to Gerardo Barrios, Uruguayan physician and first president of the agency. In addition to centralizing actions and setting standards, UNASEV successfully "packaged this issue, which has taken the lives of many Uruguayans, in a single national policy. Road safety was largely ignored until 2007, when UNASEV was created." The World Health Organization (WHO) recommends having an agency responsible for multisectoral coordination of road safety to improve this problem, and Uruguay points the way to the results that can be achieved.

UNASEV is part of the Office of the President of the Republic, which is a strength, Barrios said, since "things are very fragmented" among the country's 19 departmental governments. In the past 11 years, more than 15 laws related to road safety have been passed, among them the Law on Traffic and Road Safety, which establishes standards for traffic, signaling, safety instruments, vehicle inspection, driver's licenses, violations, and sanctions.

This law, along with complementary regulations, made it possible to tackle some of the main risk factors: helmet use was made mandatory for motorcyclists, as were seat belts and child restraint systems for vehicle occupants; blood-alcohol levels were lowered for drivers; and speed limits were set.

Comparing the before and after picture, Barrios said that only 35-40% of motorcyclists involved in a crash in 2007 used a helmet, but about 75% use one now. Seat belts were "practically an ornament" then, he said, but today they are widely used. The permitted blood-alcohol level for drivers was lowered from 0.8 grams per liter to zero (with a temporary step of 0.3 grams per liter), resulting in a steep decline in the presence of alcohol as a factor in road crashes, from 37% to 13%.

> Uruguay reduced road traffic deaths by more than 30% in 10 years.

Other parallel actions included improving road infrastructure and a stipulation that new vehicles must have devices to reduce the severity of injuries, such as anti-lock brakes, headrests, and airbags.

Data to inform policy-making

Every day, the Uruguayan media broadcast and publish news about the effects of road traffic crashes, but it is essential to produce reliable and accessible data on rates and trends.

Fernando Longo, current president of UNASEV, said that the agency has been generating data since it was created and that its capacity was strengthened through a 2013 agreement with the Ministry of the Interior (which oversees the police) that established a national traffic information system that is one of the most reliable in Latin America, lending great certainty to government policy-making on road safety.

Helmet use by motorcyclists involved in road traffic crashes rose from 35% in 2007 to 75% in 2017.

The permitted blood-alcohol level for drivers was lowered to zero, resulting in a steep decline in the presence of alcohol in road crashes, from 37% to 13%.

A public health problem

Another good decision was to treat road safety as a preventable and avoidable public health problem, as defined by the World Health Organization at the start of this century. In 2015, the Ministry of Public Health (MPH) included the problem in its priority health program and set the goal of reducing mortality and improving the response to traffic crashes. After heart disease, cancers, and respiratory diseases, deaths from external causes are the fourth leading cause of death in the general population, with traffic crashes accounting for 25% of deaths in this category. But they also create an enormous social burden in potential years of life lost, with a financial cost three to four times higher than any other disease.

Road crashes create an enormous social burden in potential years of life lost, with a financial cost three to four times higher than any other disease.

The Minister of Health, Jorge Basso, classifies this as a "critical problem from the standpoint of public health… due to its social impact, health-related aspects, and economic impact, affecting not only the victims, but also others affected by traffic crashes." The MPH has found that "intensive care centers are often basically full of young people who were involved in crashes; when these people are discharged, the cost of their rehabilitation continues for many

years, sometimes the rest of their lives, with many years of life lost, or years of disability." This no small issue, considering that 30% of injured people in the first half of 2018 were between 15 and 29 years old.

In order to improve rapid treatment, an agreement was signed with companies that provide mobile emergency assistance to victims of traffic crashes in the main cities throughout the country, Barrios said, while acknowledging that more needs to be done in terms of health coverage for injured people in suburban and rural areas, and on national highways.

Challenges

The sustained decline in mortality ended in 2017, rising from 12.8 (2016) to 13.5 deaths per 100,000 population. The available figures suggest that there will be no reduction in 2018 either, Longo said.

Pedestrian were one of the groups in which UNASEV noted an increase, especially people 70 years and older. The government of Montevideo noted the same trend: "In July, we were alerted to a spike of 15 deaths above the previous year's level; motorcyclists accounted for the greatest number of deaths (50%), followed by pedestrians," said Pablo Inthamoussu, the city's traffic director.

Despite national laws, "there are whole cities and departments where the use of helmets, seat belts, and child restraint systems is not enforced," Barrios noted. Departmental governments have their own powers, Longo explained, adding that work is underway on draft legislation to improve coordination with local governments.

> In Uruguay in 2017, 46.6% of people who died in road crashes were riding motorcycles; 30.4% were in cars or light trucks; 14.9% were pedestrians; 4.9% were riding bicycles; and 2.3% were in heavy trucks.

Cerro Largo, for example, is a department where helmet use is not enforced: in 2017, only 18% of motorcyclists involved in crashes were wearing a helmet; and in 2017, Cerro Largo had one of the highest road fatality rates: 23.4 deaths per 100,000 population.

Speed and distractions

Riding motorbikes, speeding, and distracted driving are the main risk factors. Distractions are commonly due to the use of cell phones, adjusting the radio, and drinking mate (a popular beverage in Uruguay). "Someone who is looking at their phone, to receive or send a message, has 19 times the risk of causing a crash," said Inthamoussu, citing international data. He added that the city government infers that phone-related distractions are affecting the number of pedestrians hit by vehicles and that, as a result, campaigns will be carried out to raise awareness of the problem. Inthamoussu also acknowledged that some parts of the city lack proper infrastructure for pedestrians.

Oversight, enforcement, and sanctions

To enforce speed limits, the city has set up a video surveillance system on some of the main thoroughfares and it plans to implement enforcement strategies in specific areas. UNASEV also intends to deploy mobile radar during the summer on highways around the country.

"You can have the best laws, the best programs, and the best educational and mass communication initiatives, but if you do not patrol the roads and highways in cities and throughout the country, the number of injuries and deaths is bound to increase," said Barrios, explaining that cameras are not a substitute for traffic police.

> "If regulations are understandable and logical, society accepts them much more quickly. Uruguayan society has shown that it is able to adapt to these changes".
>
> **- Gerardo Barrios**
> Uruguayan physician and first president of UNASEV, Uruguay's national road safety agency

In this regard, city authorities are putting greater emphasis on oversight, enforcement, and sanctions, Inthamoussu said, adding that education is a component of the work done by traffic police on public roads.

Uruguayan society has shown that it is able to adapt to these changes, but Barrios warns that "what we've built took a great deal of work and it could be undone very quickly."

"A road safety policy is like building a house of cards: it takes a lot of work, but remove just one card and the whole thing comes falling down. So, maintaining safety road policies and stepping up our actions is the key to continuing to reduce the problem," he explained.

Oversight is part of the educational process, of changing habits, changing the culture. Regulations often depend greatly on how society receives them: if they are understandable and logical, society adopts them much more quickly than if they are more questionable," he concluded.

> Maintaining road safety policies and stepping up our actions is the key to continuing to reduce the problem.

Success stories: Brazil

HOW THEY DID IT

01 Structural changes.

02 Coordinated work.

03 Data for action.

04 Childhood education.

Salvador, the Brazilian city that reduced road traffic deaths by more than 50%

Some years ago, Afrânio Peixoto Avenue, better known as "Suburban Avenue", was considered one of the most dangerous streets in Salvador, capital city of Bahia state. In 2010, 23 people died on the avenue, a figure that fell to three deaths in 2018. What turned things around was a program that identified the most dangerous streets and highways and implemented a series of measures to reduce crashes and save lives.

"That improved the avenue a great deal; a lot of people used to die there," recalled Ederaldo Jorge de Carvalho, a resident of Salvador who uses it every day. Since radar was installed, the number of crashes dropped drastically, he said.

Speed bumps were built to force vehicles to slow down at pedestrian crossings, and bike lanes protect cyclists from other motor vehicle traffic.

Structural changes to Suburban Avenue are only one example of actions carried out to improve road safety in the city .costera de casi 3 millones de habitantes.

In 2013, Salvador began to implement the Vida no Trânsito (Life in Traffic) program, an initiative of the Ministry of Health of Brazil, in association with the Pan American Health Organization (PAHO). The program focused mainly on rigorous data analysis to inform decision-making, blood-alcohol checks on main streets, infrastructure projects aimed at improving safety and reducing speed, and road education initiatives. All this helped change the culture, improving mutual respect among the various types of road users.

"Salvador used to be one of the Brazilian cities with the highest incidence of road traffic deaths".

- Antônio Carlos Magalhães Neto
Mayor of Salvador

In 2010, there were 266 fatal crashes, compared to 121 deaths on the roads in 2017, a reduction of 54%. With these numbers, the city was three years early in reaching its final target for reducing road traffic deaths, set for 2020. At the country level, however, smaller reductions are expected (around 12%).

"Any life that can be saved makes it worth all the effort to establish discipline and improve city traffic conditions," said Antônio Carlos Magalhães Neto, the Mayor of Salvador.

Coordinated work to save lives

Fabrizzio Müller, superintendent of Transalvador, the city's Traffic and Transportation Authority said the program's success is the result of "coordinated work" between several public and private agencies "for a common objective: to reduce serious crashes that cause deaths and severe injuries." This was achieved by creating a committee that included representatives of different sectors: traffic, safety (including police), education, and health.

"Traffic and health care cannot be considered separately. Health care saves victims, but prevention has to be coordinated with other actors to prevent crashes from occurring."

- Rita Cal,
Technician at Salvador's municipal epidemiological surveillance service

Road traffic crashes cause injuries and deaths are, therefore, a public health problem. They are also very costly for governments. It is estimated that at least 60% of victims are treated in Brazil's Unified Health System (SUS).

"Among external causes of deaths, traffic incidents rank between first and third, so it is essential to intervene," said Edna Rezende, an employee of the Department for Disease Surveillance and Noncommunicable Diseases, part of Salvador's municipal health service.

Data for action

When the program began, its managers found themselves facing a great challenge: they lacked standardized data and an integrated information system that would provide an overview of the situation. Health units provided some data, but important information that could help explain the causes of crashes was missing, because it was recorded by other sectors.

"As a representative of the health sector, I knew that people were dying in traffic, because their deaths were reported.

And I knew they were being admitted to hospitals, but I didn't know where or when those events occurred," explained Rita Cal, a technician at Salvador's municipal epidemiological surveillance service.

The committee began to gather and analyze data on traffic incidents and their causes to decide on evidence-based measures to prevent injuries and deaths where they were most frequent. They identified the 40 most dangerous streets in the city, did risk analyses, and began blood-alcohol controls, among other actions to reduce crashes.

The data also showed a need to prioritize pedestrians. In the city's historic center, for example, which is full of tourists, the municipal council plans for one street to be free of motor vehicle traffic.

"The intention is to make the historic center a place where people are the priority, setting up structures that facilitate active mobility and making all that historic heritage available to pedestrians," said Transalvador manager, Fernando Pinto Coelho.

A continuous effort

The Life in Traffic program has been a key to reducing traffic injuries and deaths and it has become a model for other cities in Brazil to follow. The program's managers in Salvador say its continuity is essential, especially for the safety of pedestrians, cyclists, and motorcyclists, the most vulnerable road users. They believe the initiative should become government policy. This experience in Salvador has demonstrated that it is possible to reduce the road accident rate and save lives.

CHILDHOOD EDUCATION

Educating new generations to be responsible road users has been one of the linchpins of Salvador's Life in Traffic program. Traffic agents visit educational facilities and help students review the basics of signaling, signs, speed, responsibilities of pedestrians, and ways to cross streets safely.

More than 30,000 children from preschool to fifth grade in the city's public and private schools participated in the last five years of Children: Future Drivers, an educational program developed by Gedut, Transalvador's traffic education office. "The data show that we have one of the lowest crash rates involving children, especially in school zones," said Mirian Bastos, manager of Gedut. "In addition to the educational part, children get to practice different activities at school entrances, including driving, signaling, and monitoring traffic."

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