

*Liaison Officer*

**World Health Day 2004**  
**Department of Injuries and Violence Prevention**  
**WHO - Avenue Appia 20 - CH-1211 Geneva 27**

By Fax: +41 22 791 4332  
By Email: [traffic@who.int](mailto:traffic@who.int)  
By Website: [www.who.int/world-health-day](http://www.who.int/world-health-day)



**World Health  
Organization**

# *Road Safety Is No Accident*

**A Brochure for  
World Health Day  
7 April 2004**



World Health  
Organization



**ROAD SAFETY  
IS NO ACCIDENT**

© World Health Organization 2004

All rights reserved. Publications of the World Health Organization can be obtained from Marketing and Dissemination, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel: +41 22 791 2476; fax: +41 22 791 4857; email: [bookorders@who.int](mailto:bookorders@who.int)). Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to Publications, at the above address (fax: +41 22 791 4806; email: [permissions@who.int](mailto:permissions@who.int)).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The World Health Organization does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use.

Printed in Switzerland

Graphic design: Tushita Graphic Vision, Geneva

## Message from WHO Director-General, Dr. LEE Jong-wook

---

Too often, road safety is treated as a transportation issue, not a public health issue, and road traffic injuries are called "accidents," though most could be prevented. As a result, many countries put far less effort into understanding and preventing road traffic injuries than they do into understanding and preventing diseases that do less harm.

Every day as many as 140 000 people are injured on the world's roads. More than 3 000 die and some 15 000 are disabled for life. Each of those people has a network of family, friends, neighbours, colleagues or classmates who are also affected, emotionally and otherwise. Families struggle with poverty when they lose a breadwinner or have the added expense of caring for disabled family members.

Current figures are alarming enough. Even more alarming are trends. If they continue, by 2020, the numbers of people killed and disabled every day on the world's roads will have grown by more than 60%, making road traffic injuries a leading contributor to the global burden of disease and injury. This burden falls most heavily on low-income and middle-income countries. Today, they account for 90% of the deaths and disabilities resulting from road traffic injuries. Soon, that will rise to 95%.

World Health Day 2004 will provide an opportunity to focus the world's attention on this very critical and rapidly growing public health problem. We have chosen "*Road Safety Is No Accident*" as the slogan for the Day. It tells an important truth, one that gives reason for hope: road traffic injuries can be prevented, if they are recognized as a serious public health problem and if governments and others take the necessary actions to prevent them.

High-income countries were the first to motorize and the first to learn by experience that, while motorized travel can provide many benefits, it can also do harm unless safety is made a primary consideration. The countries most successful at reducing harm have engaged many different groups from government, civil society and industry in coordinated programmes of road safety research, development and implementation. Now, some of the most heavily motorized countries in the world have some of the lowest rates of road traffic death per 100 000



Photo: © WHO, P. Virot

people, with annual rates below 6.0 and falling. By contrast, many other countries have rates in excess of 28.0 per 100 000 people.

We hope that you and your colleagues will join the World Health Organization in celebrating World Health Day 2004. This brochure is meant to provide you with some general information about road traffic injuries and their prevention to help you think about ways in which you might use World Health Day to raise awareness and promote action to prevent such injuries in the months and years following. I am confident that, by taking action now and by working together, we can reverse the current trends and save millions of adults and children from death and disability between now and 2020, and many millions more people in the years beyond.

A handwritten signature in black ink that reads "Jong Wook Lee". The signature is written in a cursive, flowing style.

## *An introduction to World Health Day 2004*

---

Every year the World Health Organization (WHO) hosts an event, usually on 7 April, to celebrate the anniversary of its founding in 1946. Each year the event focuses on one health issue. It promotes awareness, understanding, discussion and debate about the issue and it mobilizes action to address the issue, through prevention or treatment.

Health professionals at the local, national and international levels are always invited to participate. So is everyone else, from the youngest children to the most senior officers of government, civil society, industry and the international development community. Everyone can make important contributions to World Health Day and its objective, health promotion.

World Health Day 2004 focuses on road traffic injuries and measures to prevent them. The slogan for the day is "Road Safety Is No Accident." Road safety does not happen accidentally, but requires deliberate effort by government and its many partners.

## *For you, the potential organizer of World Health Day 2004 activities*

---

This brochure provides general information at the global level about road traffic injuries and their prevention. It invites you to do two things. First, think about the same issues at whatever level most concerns you or your organization. It could be a neighbourhood, community, country, international region, or the whole world. Second, think of activities you and your colleagues might organize to inform, engage and inspire people so they become active promoters of road safety, on World Health Day 2004 and beyond.

### *The World's First Death by Motor Vehicle*

---

On 17 August 1896, Bridget Driscoll, a 44-year-old mother of two, became the first person ever killed by a motor vehicle. She and her teenage daughter were on their way to see a dance performance at Crystal Palace in London. She was struck by a car as they crossed the palace grounds. Witnesses said the car was going "at tremendous speed." It may have been going 8 miles/h (12.8 km/h), though it was meant to be going no more than 4 miles/h (6.4 km/h). A young man was driving, giving free rides to demonstrate the new invention and, according to some, trying to impress a young female passenger. At the inquest, the coroner said, "This must never happen again."

Source: World's first road death. London, Roadpeace.  
(<http://www.roadpeace.org/articles/WorldRirstDeath.html>, accessed 11 December 2003).

## *What has happened since?*

---

As everyone now knows, motor vehicles caught on rapidly, moving from luxury for the few to necessity for the many. Cars, vans, buses, lorries, motorcycles, mopeds, and other types of motorized two- and three-wheelers are now filling our streets. Today, in some high-income countries, there is an average of one car for every two or three people. In other countries, cars are growing in popularity while other types of motor vehicle such as motorcycles are already the primary mode of transport. The different types of motor vehicle share roads with each other and, often, with pedestrians, animals and bicycles. Crashes are frequent. So are injuries. What happened to Bridget Driscoll back in 1896 has happened again, in spite of the coroner's stern warning. In fact, it has happened tens of millions of times.

## *Enjoying the benefits of motor vehicles while reducing the costs to human health*

---

Motor vehicles have gained steadily in popularity because they have provided irresistible benefits. They have opened up new worlds of experience and opportunity to people who once rarely travelled beyond their own communities. By making the transportation of people and goods faster and more efficient, motor vehicles have supported social and economic development. Against those benefits have been costs, including costs to human health. In addition to millions of deaths and injuries annually, motorized transport contributes to respiratory and pulmonary disease through its waste emissions, discourages physical exercise contributing to obesity and other health problems, and, in some places, disturbs concentration and sleep due to the noise it creates. Measures to reduce deaths and disabilities on the world's roads may improve health in other ways. Making roads safer for pedestrians and cyclists, for example, may encourage people to engage more regularly in physical exercise.

Photo: © PAHO



## How many are injured in road crashes today? What are the trends?

It is estimated that in 2002 road crashes killed 1.18 million people and injured about 20 to 50 million more. Millions were hospitalized for days, weeks or months. Perhaps 5 million were disabled for life. By the year 2020, if current trends continue, the annual numbers of deaths and dis-

bilities from road traffic injuries will have risen by more than 60% to number three on WHO's list of leading contributors to the global burden of disease and injury. They were at number nine on the list in 1990.

### Top 10 Leading Contributors to the Global Burden of Disease\*

1990		2020	
Disease or injury		Disease or injury	
1	Lower respiratory infections	1	Ischaemic heart disease
2	Diarrhoeal diseases	2	Unipolar major depression
3	Perinatal conditions	3	Road traffic injuries
4	Unipolar major depression	4	Cerebrovascular disease
5	Ischaemic heart disease	5	Chronic obstructive pulmonary disease
6	Cerebrovascular disease	6	Lower respiratory infections
7	Tuberculosis	7	Tuberculosis
8	Measles	8	War
9	Road traffic injuries	9	Diarrhoeal diseases
10	Congenital abnormalities	10	HIV

\* Epidemiologists use estimated DALYs (disability-adjusted life years) lost as the measure of the burden of disease.

Source: Murray CJL, Lopez AD, eds. The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020. Boston, Harvard University Press, 1996.

## How do countries compare?

### Countries differ in their patterns of road use and road traffic injury

In most high-income countries, cars make up the largest portion of road traffic. In low-income and middle-income countries, pedestrians and riders of bicycles, motorcycles and mopeds are more common. In these countries forms of public transportation such as passenger vans, mini-buses, buses, and other motorized two- and three-wheelers are widespread. On some of these vehicles, passengers remain standing or seated on decks which were not designed with their safety in mind.

These differences in road use have an important impact on the occurrence of injuries among different types of road users. In some countries, car drivers and passengers account for more than 70% of road traffic deaths. In others, they are the minority and the vast majority of those killed or injured on the road are pedestrians, drivers and passengers of two-wheelers and people travelling by public transportation. This has important implications for the planning of prevention measures.

### Countries differ in their efforts to prevent crashes and reduce the harm done by them

In general, the wealth of high-income countries means they have not only more cars per capita but also more kilometres of road. They also spend more money on designing and building safe roads and on other measures to prevent road traffic crashes and the harm done by them. In other countries, it is often the case that roads are not built to handle either the mixes of traffic or the speeds at which motor vehicles travel these roads. Pedestrians and riders of bicycles, motorcycles and mopeds, and other non motorized two- or three-wheelers, have to jostle and compete with cars, passenger vans, mini-buses, buses and lorries. Often, there are no sidewalks or safe crossings for pedestrians even when they constitute the majority of road users. In addition, there is often less in the way of laws and law enforcement to ensure safe road use and less in the way of emergency first aid response at the scene of crashes and appropriate medical care and rehabilitation afterwards.



Photo: © WHO, P. Virot

Photo: © WHO, P. Virot



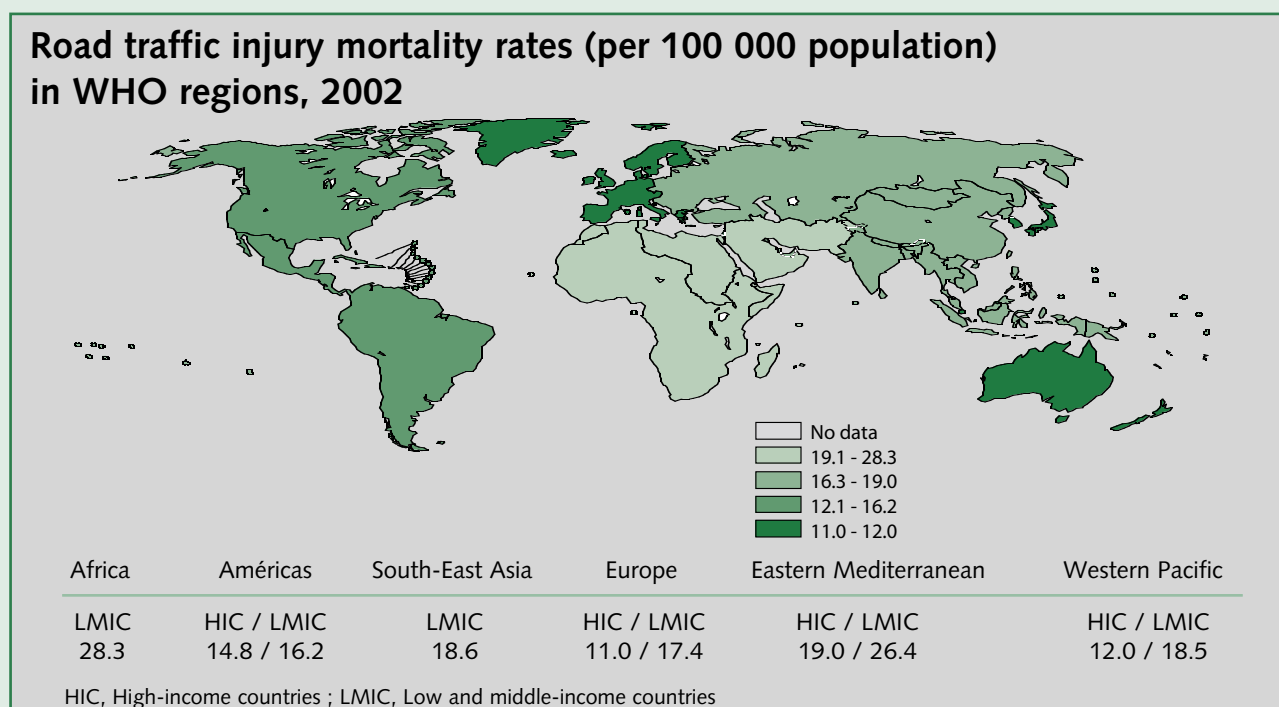
## Low-income and middle-income countries account for a disproportionate share of the global burden of road traffic injuries

In 2002 the global rate of death from road traffic injuries was 19.0 per 100 000 people. The rate was lower, at 12.6, in high-income countries and higher, at 20.2, in low-income and middle-income countries. The rates were lowest in the high-income countries of Europe, averaging 11.0 and going as low as 5.4 in the United Kingdom. The rates were highest in the low-income and middle-income countries of Africa and the Eastern Mediterranean Region, averaging 28.3 and 26.3 per 100 000 people respectively. In 2002 low-income and middle-income countries accounted for 90% of all disability adjusted life years (DALYs) lost as a result of road traffic injuries, meaning 90% of the average years of healthy life lost to premature death or partially lost to disability due to road traffic crashes.

## How will countries compare in the future?

By 2020, if current trends continue, the annual numbers of road traffic deaths and disabilities in high-income countries may have *decreased* by as much as 30%. This will be due largely to their continuing efforts to improve road safety. At the same time, the annual numbers of road traffic deaths and disabilities may have *increased* globally by 60%. That is, the annual numbers of deaths and disabilities will have *increased* in low-income and middle-income countries enough to account for the entire 60% increase globally and, also, to cancel out the global impact of the decrease in high-income countries.

Why is there such an alarming increase in low-income and middle-income countries? The main reasons include that the populations of these countries are increasing more rapidly than those of high-income countries, their people are migrating from rural to urban areas where they become more reliant on motorized transport, new roads are being built to support economic development, and more and more people are able to afford motor vehicles to travel these roads. These rapid changes are not always matched with increased safety measures.



Source : WHO Global Burden of Disease project, 2002, version 1

## *Who are the road users most likely to be injured in crashes?*

---

### **Pedestrians and riders of bicycles, motorcycles and mopeds**

Pedestrians and riders of bicycles, motorcycles and mopeds are less protected. Per kilometre travelled, they are at far greater risk than the drivers and passengers of cars and larger motor vehicles. Road safety experts call them “vulnerable road users.” In 2003, the European Road Safety Council completed a study which found that for each kilometre travelled on a road in the European Union, a person on a bicycle is eight times more likely to be killed than a person in a car, a person on foot is nine times more likely to be killed, and a person on a motorcycle is twenty times more likely to be killed. Again, the fact that such large portions of their road traffic are made up of the most vulnerable road users is one of the main reasons that low-income and middle-income countries account for such a disproportionate share of the world’s growing burden of road traffic injuries.



### **Males**

In all countries, males of any particular age are more likely to be injured in a road traffic crash than females of that same age. As children, males are more likely to play on busy roads and to run or ride bicycles out into roads without stopping to check for traffic. In addition to being more likely to own and drive motor vehicles, adult males are more likely than adult females to drive while under the influence of alcohol and to speed or engage in other reckless behaviour. In 2002, the global rate of death from road traffic injuries was 19.0 per 100 000 people. The rate was 27.6 per 100 000 males and 10.4 per 100 000 females. Males were almost three times as likely as females to be killed in a road traffic collision. Globally, adults from age 15 to 44 years account for more than 50% of all road traffic deaths; roughly three out of four of those killed are male. Losing a breadwinner to road traffic death or disability is emotionally as well as financially devastating for many families.

### **Older people**

Older people may be less alert and agile than others, and therefore more prone to becoming involved in road crashes. They are less resilient, so when they are involved, older persons are more likely to die or to become seriously disabled. For example, in 2002 the rate of death from road traffic injury in the Eastern Mediterranean Region was 26.3 per 100 000 people, but it was 116.3 per 100 000 males who were 60 years of age and older and 46.0 per 100 000 females of that age. This may become even more important as people over 60 years of age in all countries are projected to make up greater percentages of populations between now and the year 2030.



## Children, especially poor ones

Every year, more than 180 000 children under fifteen years of age are killed in road crashes and hundreds of thousands are disabled for life. In 2002, of all children killed, 96% were from low-income and middle-income countries. In all countries, children in poor urban neighbourhoods are at especially great risk. Whether on foot or bicycle, they use roads as their playgrounds, because they have few other choices. They are smaller and less visible than adults, so they are frequently hit by motor vehicles. When a poor child is injured, he or she usually gets less than the best medical care available in the country. As a result, the child's injuries are more likely to result in death or disability.

## Who else is affected?

Those actually killed and disabled are the primary victims, but certainly not the only victims of road traffic injuries. Each person killed or disabled has a network of relatives, friends, neighbours, employers, colleagues, teachers or classmates. Those closest to the injured may experience short or long term adverse physical, psychological and social health outcomes. Everyone in that network may be affected to some greater or lesser extent.

Globally it is estimated that there are now roughly 100 million families coping with the deaths or disabilities

of family members who were injured in a road traffic collision, recently or in the past. They are coping with grief for the dead and care for the disabled. Often, they are also living with reduced incomes, increased expenses and the burden of dealing with police, courts, insurers, medical systems and other bureaucracies. They experience emotional and financial stress that sometimes leads to depression and from there to physical ailment and even suicide. Many families are pushed into poverty and many children are orphaned by road traffic injuries.

## What are the financial costs, globally and nationally?

Globally, according to conservative estimates, the annual costs of road traffic injuries amount to approximately US\$ 520 billion. In low-income and middle-income countries, they cost US\$ 65 billion. (Some road safety experts believe these estimates are too low, but there is insufficient data to make precise estimates on which everyone can agree.) The portion attributed to high-income countries is so much higher because those countries are so much wealthier. They spend far more per case of road traffic injury on emergency response, medical care and rehabilitation, court proceedings, insurance settlements, and disability pensions. Altogether, road traffic injuries cost high-income countries an estimated average of 2% of their Gross National Product (GNP). Road traffic injuries cost low-income and middle-income countries an estimated average of 1% to 2% of their GNP. The combined total annual cost of US\$ 65 billion is more than that which developing countries receive in development aid.

Photo: © WHO, P. Viot



## How can crashes and injuries be prevented?

Improving road safety involves identifying the risk factors (see box) that contribute to crashes and injuries, then identifying the interventions that reduce the risks associated with those factors. Both the risks and interventions have been divided into four broad categories, the first relating to one's exposure to road traffic and the others relating to the pre-crash, crash and post-crash periods. Following are some of the interventions that are known to reduce the risks of crashes and injuries at these levels.

### Reduce exposure to road traffic

- Plan communities so the places where people live, work, go to school, and shop are close together and people do not have to travel long distances every day.
- Plan road networks so that different types of traffic are channelled along different roads specifically designed for each type. For example, roads through residential and shopping areas should be designed both

to discourage through-traffic (that neither originates in nor is destined for those areas) and to inhibit the speed of local traffic.

- Provide safe crossings and sidewalks or separate paths and lanes for pedestrians and cyclists.
- Provide convenient and affordable public transportation, operating in safe conditions.

### Reduce the occurrence of crashes

- Provide an environment conducive to safety.
- Design or improve roads to separate road users going at different speeds and in different directions.
- Improve the visibility of roads, road signs, vehicles, and road users during both day and night. Visibility should be a priority when roads are designed. On existing roads, shrubbery and other obstacles that obscure views should be removed and prohibited. Good lighting, highly visible colours and reflective surfaces on signs as well as highly visible clothing and reflectors on pedestrians and cyclists also improve visibility.



Photo: © PAHO

## *Some of the main risk factors for road traffic crashes and injuries*

### **Factors influencing exposure to road traffic**

- Economic factors such as level of economic development
- Demographic factors such as age, gender and place of residence
- Land use planning practices which influence how long people travel and by which means
- Mixture of vulnerable road users and high speed motorized traffic
- Lack of consideration of the ways in which roads will be used when determining speed limits, road design and layout

### **Risk factors influencing being involved in a crash**

- Inappropriate and excessive speed
- Presence of alcohol and other drugs
- Fatigue
- Being young and male
- Being a vulnerable road user in an urban or residential area
- Travelling in darkness
- Poor vehicle maintenance
- Road design, layout and maintenance defects
- Inadequate visibility due to weather conditions
- Poor eyesight

### **Risk factors influencing the severity of a crash**

- Individual characteristics such as age which influence the ability of a person to tolerate a crash
- Inappropriate and excessive speed
- Non use of seat-belts and child restraints by vehicle users
- Non use of crash helmets by two-wheeled vehicle users
- Unforgiving roadside objects such as concrete pillars
- Insufficient vehicle crash protection such as air bags for occupants and vehicle soft fronts for those who may be struck by vehicles

### **Risk factors influencing the consequences of injuries sustained as a result of a crash**

- Delayed crash detection and transport to a health facility
- Rescue and evacuation
- Lack of appropriate care prior to arriving at a health facility
- Post collision fire
- Leakage of hazardous materials



Photo: © PAHO

- Pass and enforce laws that set maximum blood alcohol content levels for drivers. This can reduce the occurrence of crashes that result in death by as much as 40%. Experience shows drivers will obey drunk-driving laws if they fear being caught, so intensive enforcement is necessary.
- Control speed with traffic calming road design such as roundabouts and enforce speed limits consistently, using devices such as speed cameras. As a car's speed increases from 50 km/h to 80 km/h, it becomes eight times more likely to become involved in a crash that kills a pedestrian. Decreasing speed by 1% can reduce the occurrence of crashes by 2% to 3%. Traffic calming measures are very effective at reducing the incidence of road crashes in urban areas.
- Require daytime running lights on motorcycles and mopeds. These lights are a low-cost way of reducing the incidence of crashes by 10% to 15%.
- Implement a graduated driver licensing system whereby novice drivers are restricted initially to driving while accompanied by an experienced driver, then to driving unaccompanied only during daylight hours, then to driving with a limited numbers of passengers, and so on, until they are fully experienced and competent.

- On highways where people are travelling long distances, provide opportunities for rest stops to help prevent driver fatigue.

## Reduce the harm done when crashes occur

- Require that there be seat-belts available for all drivers and passengers of cars and other four-wheel vehicles. Require that drivers and passengers use these seat-belts at all times when motor vehicles are in motion. Since seat-belts are especially effective in motor vehicles travelling at relatively low speeds on urban roads, attention should be paid to the enforcement of seat-belt laws on those roads.



Photo: © WHO, P. Vliot

- Encourage the inclusion of air bags in new cars, since they protect drivers and passengers automatically, even when they fail to use seat-belts.
- Require that children sit in rear seats only, where they are known to be safer. (Children should not be carried in laps, where adults in crashes can crush them.) In the case of small children, require that they transported in special child seats.
- Require helmets on all riders of bicycles, motorcycles and mopeds. Head injuries are the ones most likely to result in death or disability of riders. Efficient helmets are not necessarily costly.
- Design road signs and other furnishings so they are crash protective, yielding to impacts or cushioning them. On highways, design barriers between lanes of



Photo: © WHO, P. Virot

traffic going in opposite directions and design shoulders so as to minimize impact when motor vehicles crash into them. Stone or concrete walls at the sides of highways should be avoided.

- Design all motor vehicles, including buses and lorries, so their fronts and other surfaces do the least possible damage should they crash with pedestrians and other road users. Road safety experts agree that far too little attention has been paid to this aspect of motor vehicles design, even in those countries with the best road safety records.

## Reduce the post-crash harm

- Design motor vehicles so as to minimize the likelihood that crashes will result in fires or leakages of hazardous material and, also, to make it easy for drivers and passengers to escape or for emergency crews to rescue them.
- Detect and respond to crashes in a timely manner, with good systems of emergency communication and transportation.
- Provide appropriate first aid at the scene of crashes, appropriate medical care in emergency rooms and appropriate post-emergency medical care and rehabilitation.



- Provide specialized training to health professionals who may handle trauma cases, in recognition of the fact that such cases have unique complications with which many health professionals are unfamiliar.

## What can be achieved?

High-income countries were the first to motorize and now have the highest levels of motorization. That is, they have the most motor vehicles and the most kilometres of road per capita and their populations travel the greatest distances per capita every year. Such countries have had decades not only to enjoy the rewards of motorized transport, but also to address some of its adverse consequences. As discussed earlier, even though they are the most motorized countries, high-income countries have much lower rates of death from road traffic injuries than do low-income and middle-income countries. Finland is a typical case. Over the past 30 years, its volume of road traffic has increased by 200%, but its annual number of road traffic deaths has decreased by 50%. It expects to continue improving its road safety record and achieve ever-lower numbers in the years ahead. Other countries such as Australia, Sweden, the United Kingdom of Great Britain and Northern Ireland and the United States of America are in similar situations.

Meanwhile, even though motorization at large scale came later to most low-income and middle-income countries, many of them have also been implementing road safety measures that address their own particular traffic problems. Malaysia has reduced its numbers of crashes and injuries by building highways specifically designed and reserved for motorcycles and mopeds and by requiring that they use daytime running lights. Ghana has prevented many road traffic injuries by introducing rumble strips, speed bumps and other traffic calming measures on roads where pedestrians are common. Bogotá, Colombia, has reduced bus crash rates by providing dedicated bus lanes and convenient crossings for pedestrians at bus stops.

## *What more can those countries do?*

---

Even in countries where annual rates of death are now at less than 6.0 per 100 000 people, road safety experts are setting targets for lower rates in the years ahead. They know their countries often fail to implement road safety measures that are known to work, so there is room for improvement. For example, more efforts could be made to increase the use of seat-belts or combat drunk driving. In addition decisions could be taken regarding modifications to the fronts and other parts of motor vehicles that would protect the most vulnerable road users and others could be taken regarding lower speed limits and the enforcement thereof. Globally, only US\$ 25 million to US\$ 35 million per year go towards health related road safety research and development while some other diseases that do less harm attract hundreds of millions of dollars for research and development. No one would deny that those diseases deserve all of the attention they can get. Still, it is worth noting that so little goes towards road safety, even though road traffic injuries are a leading cause of death and are projected to rise considerably in the years ahead.

## *Vision Zero*

---

In 1997, Sweden's parliament adopted Vision Zero, a bold new road safety policy based on four principles:

**Ethics:** Human life and health are paramount and take priority over mobility and other objectives of the road traffic system.

**Responsibility:** Providers and enforcers of the road traffic system share responsibility with users of the system.

**Safety:** Human beings make errors, so road traffic systems should take those errors into account and both minimize opportunities for errors and minimize the harm done when they occur.

**Mechanisms for Change:** Providers and enforcers must do their utmost to guarantee the safety of all citizens. They and road users must cooperate with each other and each of them must be ready to change in order to achieve safety.

Several other countries have followed the Swedish example. Vision Zero provides a model suitable for many countries.

## *How much does road safety cost?*

---

Historically, advocates of road safety have had to argue with those who claim that road safety is too expensive for countries. All evidence suggests that the opposite is true. In high-income countries, the money spent on improving road safety has proved to be an excellent investment that yields financial returns ranging anywhere from 9% to 22% per year. That is, expenditures on road safety have been more than offset by savings on the costs of road traffic injuries. Road safety has achieved net financial gains. Countries can ill afford not to improve road safety, for purely financial reasons, let alone for the humane reason that human lives are too valuable to waste.

## What are some important elements to improving road safety?

---

Comparing what different countries have achieved, road safety experts have concluded that what works best is a scientific, comprehensive and systematic approach, coordinated by one agency given clear authority by national government. The agency should be staffed by professionals and be independent of road building and other agencies that may have conflicts of interest because they are not dedicated just to promoting public health through road safety, but also to mobility and other objectives that may conflict with safety.

Although this road safety agency should coordinate efforts, many different groups should contribute. They might include:

- Ministries of finance, health, transportation, education, justice, labour commerce, tourism, etc.
- Local governments and their departments of planning, engineering, police, health, etc.
- National, state or provincial, and local associations representing road users, professional drivers and transportation organizations, and victims of road traffic injuries.
- Motor vehicle manufacturers and motor vehicles insurance agencies.
- Universities and other research institutions.
- Professional associations representing scientists, engineers, urban and regional planners, health professionals, police, lawyers, and educators.
- Anyone else with particular concerns about road safety. School boards, parent teacher associations and associations for older persons are some examples.

In addition to the road safety agency, a dedicated research institute is recommended to undertake independent research and development and provide advice and guidance to the road safety agency.



Photo: © WHO, P. Virot

The scientific approach to road safety involves:

- Surveillance to provide basic data on the numbers of road traffic injuries, the nature of the injuries, the characteristics of the people injured, the nature of the motor vehicles and roads involved, and the trends.
- Research to identify the risk factors that contribute to road crashes and injuries and to measure how each risk factor contributes. Since the risk factors vary from country to country, location to location and circumstance to circumstance, much of the research has to be country-specific, location-specific and circumstance-specific.
- Identify, implement and evaluate known interventions which do the most to reduce risk and find new and more effective interventions. Much of this work also has to be tailored to particular situations.

Though the scientific approach involves rigorous observation and experimentation by trained scientists, it works best when it also involves many of the various kinds of groups mentioned. They can all bring something of value to the table, putting particular road safety issues on the agenda and helping set priorities and win support for research and implementation of road safety measures.

All governments work under financial constraints. When allocating their budgets, they have to determine which of many competing demands take priority over others. When planning their programmes, they have to determine how to make best use of the budget allocated to each programme. The scientific approach to road safety can help governments produce plans of action that establish immediate and long-term objectives; set budgets, identify resources, and schedule work; and can be adjusted when needed. With good plans of action, even countries with the lowest income can improve road safety gradually, making small, affordable gains year by year adding up to significant improvements over several years.

## *Taking action for road safety*

### **What governments can do**

#### **Institutional development**

- Make road safety a political priority.
- Appoint a lead agency for road safety, give it resources and make it accountable.
- Set appropriate road safety targets and establish national road safety plans.
- Develop mechanisms that promote a multi-disciplinary approach to road safety.
- Support the development of safety advocacy groups.

#### **Policy, legislation and enforcement**

- Ensure that road safety is viewed to be a serious political issue.
- Set and enforce strong and uniform vehicle safety standards.
- Enact and enforce legislation requiring the use of seat-belts and motorcycle helmets, speed limits and the control of alcohol impaired driving.
- Enforce safety laws already in existence.
- Ensure that road safety considerations are embedded in environmental and other assessments for new projects and the analysis of transport policies and plans.
- Establish data collection systems designed to collect, analyse and use these data to improve safety.
- Make funding of road infrastructure conditional upon compliance with safety standards.
- Create budget lines for road safety and increase investment in demonstrably effective road safety activities.
- Support the development of safety advocacy groups.
- Establish appropriate design standards for roads that promote safety for all.
- Manage infrastructure to promote safety for all.
- Provide efficient, safe and affordable public transport services.
- Encourage walking and the use of non-motorised two-wheelers.
- Set and enforce appropriate speed limits.

#### **What public health can do**

- Include road safety in health promotion and disease prevention efforts.
- Systematically collect health-related data on the magnitude, characteristics and consequences of road traffic crashes.
- Support research to increase knowledge about risk-factors and the development, implementation, monitoring and evaluation of effective countermeasures.
- Promote capacity building in all areas of road safety and the management of survivors of road traffic crashes.

- Translate effective science-based information into policies and practices that protect vehicle occupants and vulnerable road users.
- Strengthen prehospital and hospital care as well as rehabilitation services for all trauma victims.
- Develop trauma care skills of medical personnel at the primary health care, district and tertiary health care levels.
- Promote the development of policies aiming at greater integration of health and safety concerns into transport policies and facilitate this by further developing methods and tools to this effect (e.g. for integrated assessments).
- Invest in medical research to improve the care of trauma survivors.
- Advocate for greater attention to road safety in view of the health impact and costs.

#### **What vehicle manufacturers can do**

- Ensure that all motor vehicles meet minimum safety standards, regardless of where a vehicle is made, sold or used - including the provision of seat-belts and other basic safety equipment.
- Begin to manufacture vehicles with safer vehicle fronts to reduce injury for vulnerable road users.
- Advertise and market vehicles responsibly by emphasising safety.

#### **What donors can do**

- Make funding for road safety part of grants for health, transport, environmental or educational programmes.
- Support road safety research, programmes, and policy in low-income and middle-income countries.
- Make funding for transport infrastructure projects conditional on the completion of a safety audit and follow up.
- Generate mechanisms for providing funding for knowledge sharing and safety promotion in developing countries.

#### **What communities, civil society and individuals can do**

- Encourage governments to make the roads safe.
- Identify local safety problems.
- Help plan safe and efficient transportation systems that accommodate drivers as well as vulnerable road users like cyclists and pedestrians.
- Encourage safety programmes for school children.
- Demand safety features, e.g. seat-belts, in cars.
- Encourage strong enforcement of traffic safety laws and regulations, and advocate for strong and swift punishment for traffic offenders.
- Behave responsibly by:
  - Abiding by the speed limit on roads.
  - Never driving when over the legal alcohol limit.
  - Always wearing a seat-belt, and properly restrain children, even on short trips.
  - Always wearing a crash helmet when riding a two-wheeler.

## What is WHO doing?

---

In 2001, WHO hosted a meeting of road safety experts from all the world's regions. Together they developed A 5-year WHO strategy for road traffic injury prevention. The strategy outlined three objectives:

- to build better systems for gathering and reporting data on road traffic injuries
- to make prevention of road traffic injuries a public health priority in all countries
- to advocate for prevention and promote appropriate prevention strategies

Since then, WHO has been involved in a number of collaborative efforts to promote these objectives in selected low-income and middle-income countries. To mark the occasion of World Health Day 2004, the *World report on road traffic injury prevention* is being released. Jointly sponsored by WHO and the World Bank, this Report benefits from the contributions of more than one hundred experts in health, transportation, education, engineering, law enforcement and civil society from all continents. The Report describes in detail information on the magnitude, risk factors and prevention of road traffic injuries. Some of this information was used to compile this brochure. The Report concludes with recommendations for the consideration of all national governments.



## Conclusion

---

The slogan for World Health Day 2004 is "Road Safety Is No Accident." Improving road safety requires deliberate efforts by government and its many partners.

If road safety has failed to be addressed comprehensively in the past, it is likely for two reasons. Firstly, people take a fatalistic attitude. Since many of the risks associated with road crashes are entirely within our control, most crashes and injuries are preventable and, therefore, not entirely accidental. Secondly, people are not fully aware that road crashes do so much harm. Nor do they realize that many crashes can be prevented, and the adverse health consequences of many others can be reduced. The costs of road safety can be covered by savings on preventing crashes and injuries.

The slogan for World Health Day 2004 is a reminder that we humans are good problem solvers if we put our minds to it. We can raise awareness and push for action. World Health Day 2004 is an opportunity for you and your colleagues to engage in both of these, at whatever level most concerns you.

"Planning a World Health Day 2004 Activity: A Toolkit for Organizers" outlines some ideas for events you and your organization may wish to host. This and other related materials are available from a WHO Regional Office which serves you or from:

Liaison Officer to World Health Day 2004

Department of Injuries and Violence Prevention

World Health Organization

20 Avenue Appia

CH-1211 Geneva 27

Switzerland

Phone: +41 22 791 4547

Fax: +41 22 791 4332

Email: [traffic@who.int](mailto:traffic@who.int)

[www.who.int/world/health/day](http://www.who.int/world/health/day)

## Acknowledgements

---

This brochure is based on the *World report on road traffic injury prevention*. More than 100 international professionals from the sectors of health, transport, engineering, law enforcement and education as well as WHO Regional Offices, the private sector and nongovernmental organizations were involved in the development of the Report.

Special thanks to those listed below for the valuable input and contribution to this World Health Day 2004 brochure:

World Health Day Team

Writer: Stuart Adams

Reviewers: Dinesh Mohan, Nicole Muhlrاد and Rick Waxweiler

WHO Secretariat



**ROAD SAFETY  
IS NO ACCIDENT**