Accelerating actions for implementation of decade of action for road safety

Technical Report
Accelerating action for implementation of the Decade of Action for Road Safety

Technical report

World Health Organization
Regional Office for South-East Asia
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Foreword

Road traffic injuries kill approximately 316,000 people each year in the WHO South-East Asia Region and are the leading cause of death among young people aged between 15 and 29 years. Pedestrians, cyclists and motorcyclists – the so-called vulnerable road users – make up 50% of deaths on the road in the Region. In some countries of the WHO South-East Asia and Western Pacific regions, two- and three-wheelers alone can account for up to 70% of deaths. Most vehicles on the road in some countries of these regions are two- and three-wheelers. A prominent focus on vulnerable road users is required to stem fatalities that are clearly avoidable. The safety of these groups must be addressed vigorously if a reduction in the number of deaths is to be achieved.

Road traffic crashes also rob families of their young males as they are the leading cause of death among those aged 15–29 years. They cost countries from 3% to 5% of their gross domestic product. But the true “costs” are greater than just those that can be quantified in dollar terms. Road traffic injuries have significant human cost in terms of medical treatment and rehabilitation, long-term care, loss of employment, material damage, etc. Road traffic crashes and injuries leave some individuals with significant psychological symptoms – such as post-traumatic stress disorder and depression – in addition to many physical sequelae some of which may be permanent, such as loss of a limb or head injury.

Road safety relates to many of the Sustainable Development Goals (SDGs). SDG Target 3.6 aims to reduce road traffic accident mortality by half globally by 2020. SDG Target 11.2 endeavours to provide access to safe, affordable, accessible and sustainable transport systems for all by 2030. These SDGs align well with the UN proclamation declaring the decade 2011–2020 as the Decade for Action for Road Safety.

This ministerial-level meeting in the South-East Asia Region is an important step to accelerate action on the “five pillars” of the Decade of Action while keeping the vulnerable road users in particular focus. It seeks to promote multisectoral participation that will enhance collaboration both within and among relevant ministries, as well as provide the opportunity for appropriate collaboration among UN agencies and other international and regional organizations involved in road safety to scale up action in the region. This meeting also provides a platform to consider and review the activities needed to reach the SDG targets on road safety.

I take this opportunity to thank all those who are working to reduce road traffic injuries in the WHO South-East Asia Region.

Dr Poonam Khetrapal Singh
Regional Director
WHO South-East Asia
Executive Summary

Road traffic injuries are a major public health burden causing huge numbers of avoidable deaths and disabilities. Globally, over 1.3 million people are killed and up to 50 million injured in road accidents every year. Almost 90% of these deaths and injuries occur in low- and middle-income countries, putting additional burden on health systems, besides causing loss of precious human resources, as well as untold misery and economic consequences to families and countries.

The WHO South-East Asia Region accounts for more than a quarter of all the global deaths due to road accidents. In 2013, as many as 316,000 people were killed in road crashes in the Region. Over 50% of these deaths were of vulnerable road users (VRUs), primarily motorized two- and three-wheeler riders.

Road traffic injuries are predicted to increase to be the seventh leading cause of death by 2030 from the current ninth position, unless governments, stakeholders and partners step up efforts to address this issue on a priority.

The vulnerable road users – comprising pedestrians, cyclists and riders of powered two- and three-wheelers – are exposed to greater risks and are disproportionately vulnerable. In Thailand approximately 75% of all road traffic deaths are of motorcycle riders; while in India and Indonesia more than half of all road accident deaths are of motorcyclists.

Road traffic crashes are a leading cause of death in the age group of 15–29 years, again mostly VRUs, robbing families of their youth and sometimes breadwinners.

Despite these alarming statistics countries in the Region are yet to have policies in place to separate vulnerable road users from high-speed traffic. The safety of this group must be addressed vigorously if reductions in the number of deaths at the national and regional levels are to be achieved.

Many countries of the WHO South-East Asia Region already have a large fleet of two- and three-wheelers, which is expanding further. E-bikes, or electricity powered bikes, though less polluting, pose significant road safety risks as they are silent, fast and do not require registration in many countries. They are more affordable than motorcycles, as a result their numbers are particularly increasing in Bangladesh, Myanmar and Thailand.

With the number of VRUs set to grow even further, countries need to focus attention on this group while accelerating measures for implementation of the UN Decade for Action for Road Safety 2011–2020.

In 2015, the Regional Strategy for Road Safety in South-East Asia assessed the progress against the Global Plan of Action for the Decade of Action for Road Safety, and recommended 12 actions covering partnerships, capacity development, legislative reform, data, vehicle and infrastructure improvements and post-crash care.
The same year, the United Nations included two road safety targets in the 2030 Agenda for Sustainable Development – one in the Sustainable Development Goal 3: “Ensuring healthy lives and promoting well-being for all ages”, and the other in Goal 11: “Making cities and human settlements inclusive, safe, resilient and sustainable”. Target 3.6 includes reducing the absolute number of deaths from road traffic collisions by 50% by the year 2020 while target 11.2 encourages the inclusion of road safety – notably by expanding public transport – in cities.

Road crashes are not just health issues, and addressing them needs enhanced multisectoral collaboration among relevant ministries and with the private sector, academia, nongovernmental agencies and international/regional and other organizations, to scale up action across the Region, and up to the subnational levels.

This technical document seeks to provide evidence for action, trends and gaps, specially on VRUs, as the Ministers of Health from the WHO South-East Asia Region meet in Phuket, Thailand, from 29 November to 1 December 2017, to accelerate action on the five pillars of the Decade of Action for Road Safety 2011–2020: road safety management, safer roads and mobility, safer vehicles, safer road users and post-crash response.

The evidence provided through this document is expected to help countries set regional targets and indicators, as well as agree on activities to reach the 2020 targets of the Decade of Action for Road Safety and the 2030 SDG targets.

Time is running out for countries in the Region. There are less than three years for reaching the SDG 3.6 of halving the number of road traffic deaths and injuries, and for the Decade for Action for Road Safety to end. It is time to prioritize road safety; focus on vulnerable road users; address sociocultural issues; review and improve road safety legislation, enforcement, infrastructure and vehicle standards; and improve post-crash care to save thousands of lives.

It is time to drive and accelerate road safety initiatives with the highest levels of political commitment, as the efforts made by the countries of the WHO South-East Asia Region will be critical to achieve global goals and targets.
1. Introduction

This ministerial meeting in the South-East Asia Region is an important step to inspire and accelerate action on the five pillars of the Decade of Action for Road Safety at both national and subnational levels. Multisectoral participation will enhance collaboration both within and among relevant ministries, as well as provide the opportunity for appropriate collaboration among UN agencies and other international/regional organizations involved in road safety to scale up action in the region. Coming soon after the Member States, meeting to agree on the Voluntary Global Targets and Indicators for road safety risk factors and service delivery, this meeting will also be an opportunity for consideration of regionally appropriate targets and indicators as well as the activities needed to reach the 2020 and 2030 SDG targets (SDG 3.6 and SDG 11.2) on road safety.

The overall objective of the Ministerial Meeting is to accelerate implementation of actions on the Decade of Action for Road Safety in the South-East Asia Region through high-level advocacy.

The specific objectives are:

- To prioritize road safety actions in SEA Region Member States and develop innovative strategies for the accelerated implementation of the five pillars of Decade of Action road safety.
- To discuss the role of WHO and other partners in supporting the SEA Region Member States in accelerating achievement of Decade of Action and Sustainable Development Goals towards road safety.
- To achieve high-level advocacy and strengthen political commitment on the Decade of Action for Road Safety towards meeting the SDG objectives in the SEA Region for accelerated implementation in Member States.

This document provides technical and background information on road safety in the region. It demonstrates why there should be a focus on vulnerable road users (VRU) and suggests a strategic direction that Member States should take in order to save as many lives as possible by 2020. The Phuket Framework for action and other commitment documents which emanate from this ministerial conference will be the tools that politicians can use to drive the issue forward.

The evidence provided through this document, is expected to help countries set regional targets and indicators, as well as agree on activities to reach the 2020 targets of the Decade of Action for Road Safety and the 2030 SDG targets.

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2. Burden and trends

2.1 Global trends

Road traffic injuries constitute a major public health burden, in terms of morbidity, mortality and disability. Over 1.3 million people are killed every year globally and up to 50 million more are injured because of road traffic crashes (1, 2).

These deaths and injuries are unevenly distributed across the world, with 90% of deaths occurring in low- and middle-income countries which only account for 54% of the world’s vehicles (2). The African Region has the highest death rate (26.6 per 100 000 population see Figure 1) while the South-East Asia Region alone accounts for more than one quarter of the global deaths in absolute numbers (3).

Figure 1: Road traffic fatalities per 100 000 population, by WHO region

Source: Global status report on road safety, 2015.

More than half of all deaths in SEA Region countries are among vulnerable road users (VRUs), i.e. pedestrians, cyclists and motorcyclists (Table 1). In some countries of the South-East Asia and Pacific regions, two- and three-wheelers alone can reach up to 70% of deaths since most of the vehicular fleets in some countries are made up of two- and three-wheelers.
Table 1: Road traffic deaths by road user category, by WHO region

<table>
<thead>
<tr>
<th>Road user category (%)</th>
<th>Car occupant</th>
<th>Cyclist</th>
<th>Motorized 2- and 3-wheeler</th>
<th>Pedestrian</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>40</td>
<td>4</td>
<td>7</td>
<td>39</td>
<td>11</td>
</tr>
<tr>
<td>Americas</td>
<td>35</td>
<td>3</td>
<td>20</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>South-East Asia</td>
<td>16</td>
<td>3</td>
<td>34</td>
<td>13</td>
<td>34</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>45</td>
<td>3</td>
<td>11</td>
<td>27</td>
<td>14</td>
</tr>
<tr>
<td>Europe</td>
<td>51</td>
<td>4</td>
<td>9</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>22</td>
<td>7</td>
<td>34</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>World</td>
<td>31</td>
<td>4</td>
<td>23</td>
<td>22</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: Global status report on road safety, 2015.

Road traffic crashes also rob families of their young males as they are the leading cause of death among those aged 15 to 29 years (2). They cost countries about 3 – 5% of the gross domestic product (GDP) and have significant human cost in terms of hospitalization, long-term care, material damage, police and rescue service, etc. They can also leave families without breadwinners because of loss of employment and productivity. But the true "costs" are greater than just those can be quantified in dollar terms. Road traffic crashes, injuries and deaths leave some individuals with significant psychological symptoms – such as post-traumatic stress disorder – in addition to many physical consequences, some of which may be permanent such as loss of a limb or head injury. A study conducted in Europe in the early 1990s found that 90% of families who had lost a loved one and 85% of those who lived with someone disabled because of a collision declared a significant, and in some cases permanent, decline in quality of life and/or standard of living (4). A more recent study conducted in Republic of Korea showed that 114 of 357 road traffic crash survivors (33%) lost their job after the collision: 36% resigned voluntarily to attend rehabilitation, 42% were unable to continue their duties, and 9% were terminated because of their injuries. In addition, respondents who were re-employed after the collision earned 40% less than the national average, 5% became separated from their spouse and 66 children lost their father as a consequence of the collision. Many of the “Faces behind the figures” reflect stories of devastation – physical, psychological, emotional and economic – which reveal gaps in prevention and care which if they had been in place could have reduced the pain and suffering encountered by those injured and their families (5).

There is also significant impact on the health-care systems with emergency rooms around the globe over-burdened with those injured in road traffic collisions. For every death from a road traffic crash there are around 20 people who suffer severe injuries and of those 1 in 20 suffer a permanent disability (2). As a result, in some countries up to 70% of patients attending accident and emergency units have been involved in a road traffic crash (2). Despite these statistics, few countries collect

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robust data on injuries, although this has recently become a priority for the European Union not only because of the cost to health care facilities but also because severe injuries have subtly different primary prevention strategies than fatal injuries (6).

Road crashes are not just health issues. Addressing those need enhanced multisectoral collaboration among relevant ministries, with the private sector, academia, non-governmental agencies and international/regional and other organizations, to scale up action across the Region, up to the sub-national levels.

Although the focus should be on primary prevention, the post-crash phase cannot be over-looked and countries should address access to care, timely and adequate prehospital care (both formal and informal, such as training first responders), training health-care workers (both doctors and nurses) and appropriate rehabilitation (7). The latter is crucial in the post-crash phase to alleviate suffering, prevent further injury, optimize functioning, and help with reintegration into society.

Without a concerted effort across the globe to address the issue, road traffic injuries are predicted to increase to be the seventh leading cause of death by 2030 from the ninth position they hold now (8).

2.2 Trends in the WHO SEA Region

In the WHO South-East Asia Region, approximately 316 000 people were killed in 2013, half of which were VRUs, primarily motorized two- and three-wheeler riders (3). However, there is considerable variation in fatality rates within the region, ranging from 3.5 per 100 000 in the Maldives to 36.2 per 100 000 population in Thailand (3), see Figure 2.

Figure 2: Road traffic deaths per 100 000 population in the South-East Asia Region, 2013

When comparing data from the three global status reports (data for 2007, 2009 and 2013) and the Global Health Estimates for 2015, the trends in the SEA Region for most countries appear to have plateaued except for India which shows a big increase in absolute numbers over the last few years (see Table 2). This is most likely due to the implementation of a new “accident” report form which now captures more events and therefore should be seen as a positive outcome.
Table 2: Trends in road traffic death rates, per 100 000 population, in SEA Region between 2007 and 2015

<table>
<thead>
<tr>
<th>Country</th>
<th>Data of 2007 (Published 2009)</th>
<th>Data of 2009 (Published 2013)</th>
<th>Data of 2013 (Published 2015)</th>
<th>**GHE 2015 data (published 2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>12.6</td>
<td>11.6</td>
<td>13.6</td>
<td>12.8</td>
</tr>
<tr>
<td>Bhutan</td>
<td>14.4</td>
<td>13.2</td>
<td>15.1</td>
<td>15</td>
</tr>
<tr>
<td>India</td>
<td>16.8</td>
<td>18.9</td>
<td>16.6</td>
<td>21.2</td>
</tr>
<tr>
<td>Indonesia</td>
<td>16.2</td>
<td>17.7</td>
<td>15.3</td>
<td>15.5</td>
</tr>
<tr>
<td>Maldives</td>
<td>18.3*</td>
<td>1.9</td>
<td>3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Myanmar</td>
<td>23.4</td>
<td>15</td>
<td>20.3</td>
<td>19.5</td>
</tr>
<tr>
<td>Nepal</td>
<td>15.1</td>
<td>16</td>
<td>17</td>
<td>17.3</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>13.5</td>
<td>13.7</td>
<td>17.4</td>
<td>17.2</td>
</tr>
<tr>
<td>Thailand</td>
<td>19.6</td>
<td>38.1</td>
<td>36.2</td>
<td>31.7</td>
</tr>
<tr>
<td>Timor-Leste</td>
<td>16.1</td>
<td>19.5</td>
<td>16.6</td>
<td>17.6</td>
</tr>
<tr>
<td>Regional</td>
<td>16.6</td>
<td>18.5</td>
<td>17</td>
<td>20.2</td>
</tr>
</tbody>
</table>


* Note: a different methodology was used in Maldives for the first report.

** Due the availability of new data, and updated time series for many covariates used the regression, estimates for the full time series have been revised. Hence, the GHE (published 2016) road traffic deaths estimates are not directly comparable to previous WHO estimates published in the first, second and third global status report on road safety.

Pedestrians, cyclists and riders of powered two- and three-wheelers – most often referred to as vulnerable road users (VRUs) – make up over 50% of the deaths, with individual countries registering up to 80% (see Figure 3).

Figure 3: Distribution of road traffic deaths in 8 SEA Region countries by road user in 2013

According to data for 2013 there were 516 million registered two-wheelers on the road in the world (2). The South-East Asia Region has the highest proportion of registered two- and three-wheelers
and their growth in this region is also the highest – 39% in the preceding three years (9). An increasing proportion of these are powered by electricity – so-called e – bikes – which although being less polluting pose significant road safety risks because they are silent, fast and in many countries do not require registration (9). In the South-East Asia Region these are becoming plentiful in countries such as Bangladesh, Myanmar and Thailand as they are manufactured in China and are more affordable than motorcycles.

Table 3: Road Traffic Deaths – Road Users

<table>
<thead>
<tr>
<th>Country (data year)</th>
<th>Car occupants</th>
<th>2 or 3 wheelers</th>
<th>Cyclist</th>
<th>Pedestrian</th>
<th>Total*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh (2012)</td>
<td>1 054</td>
<td>274</td>
<td>45</td>
<td>817</td>
<td>2 190</td>
</tr>
<tr>
<td>Bhutan (2013)</td>
<td>56</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>59</td>
</tr>
<tr>
<td>Myanmar (2010)</td>
<td>640</td>
<td>567</td>
<td>222</td>
<td>641</td>
<td>2 070</td>
</tr>
<tr>
<td>India (2013)</td>
<td>23 710</td>
<td>46 598</td>
<td>4 863</td>
<td>12 536</td>
<td>87 707</td>
</tr>
<tr>
<td>Indonesia (2010)</td>
<td>1 902</td>
<td>11 140</td>
<td>533</td>
<td>6 593</td>
<td>20 168</td>
</tr>
<tr>
<td>Maldives (2013)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Sri Lanka (2013)</td>
<td>135</td>
<td>964</td>
<td>260</td>
<td>703</td>
<td>2 062</td>
</tr>
<tr>
<td>Thailand (2012)</td>
<td>592</td>
<td>3 328</td>
<td>106</td>
<td>368</td>
<td>4 394</td>
</tr>
</tbody>
</table>

* Includes all road users, beyond those included in the table
Source: Global status report on road safety, 2015

Despite some countries in the Region having large fleets of two- and three-wheelers, these road users remain disproportionately vulnerable because they are exposed to greater risks. Motorcyclists, for example, account for approximately 75% of all road traffic deaths in Thailand while in India and Indonesia they account for more than half of all deaths. Table 3 and Figure 4 (below) provide the breakup of number of road traffic deaths as per the Road users. India, Indonesia, Sri Lanka and Thailand show a preponderance of fatalities amongst the users of 2-3 wheelers. Pedestrians suffer the major brunt of fatalities in Bangladesh, whereas Myanmar reflects a mixed picture but with significant fatalities for the users of 2-3 wheelers and pedestrians.
Despite these alarming statistics there is no country in the SEA Region which has policies in place to separate vulnerable road users from high-speed traffic. The safety of these groups must be addressed vigorously if reductions in the number of national and regional deaths is to be achieved. Furthermore, most countries in the Region do not have legislations on key behavioural risk factors, such as speeding and drink driving, in line with good practice and those that do appear to have weak enforcement (see Table 4) (2,3). Only two countries in the Region apply any of the seven priority international vehicle standards (none apply ALL seven and motorcycle standards have yet to be assessed) and only six countries require road safety audits on new roads and four assess the safety of existing roads.
The post-crash phase is critical. It is important that injured patients are provided the onsite attention and transported to an appropriate facility in a timely manner and that they receive appropriate care once there. Most high-income countries have a national emergency number while others have simple mechanisms to inform members of the public about their nearest facilities and transport options. In the South-East Asia Region only six countries have an emergency access number to activate an emergency response system and while nine out of 10 countries have accredited training for doctors, only four countries have appropriate nurse training.

Time is running out for countries in the Region. There are less than three years for reaching the SDG 3.6 of halving the number of road traffic deaths and injuries, and the Decade for Action for Road Safety. It’s time to prioritize road safety, to focus on vulnerable road users, address socio-cultural issues, review and improve road safety legislation, enforcement, infrastructure and vehicle standards, and improve post-crash care to save thousands of lives.

It is time to drive and accelerate road safety initiatives with highest political commitment, as efforts made in countries of WHO South-East Asia Region, are critical for achieving global goals and targets.
3. Global movements

3.1 The Decade of Action for Road Safety

Recognizing the burden of road traffic collisions, the first Ministerial Level Meeting on Road Safety, which was hosted by the Russian Federation in 2009, called for a Decade of Action on Road Safety. This was taken up by the United National General Assembly which proclaimed the period 2011–2020 as the Decade of Action for Road Safety through resolution 64/255 in early 2010.³

The Global Plan for the Decade of Action introduced the “Five Pillar” concept of addressing road safety (see Figure 5) (10). The plan suggested 34 actions to guide Member States to strengthen activities in the various Pillars.

Figure 5: Pillars of the Global Plan for the Decade of Action for Road Safety 2011 – 2020

<table>
<thead>
<tr>
<th>Pillar 1</th>
<th>Pillar 2</th>
<th>Pillar 3</th>
<th>Pillar 4</th>
<th>Pillar 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road safety management</td>
<td>Safer roads and mobility</td>
<td>Safer vehicles</td>
<td>Safer roads users</td>
<td>Post-crash response</td>
</tr>
</tbody>
</table>

Many countries around the world developed plans of action for road safety that were aligned to the five pillars and progress was made, albeit at a slow pace.

3.2 Sustainable Development Goals

In September 2015, the United Nations included two road safety targets in the 2030 Agenda for Sustainable Development – one in the Goal 3: Ensuring healthy lives and promoting well-being for all ages and the other in Goal 11: Making cities and human settlements inclusive, safe, resilient and sustainable.

Target 3.6 includes an ambitious target of reducing the absolute number of deaths from road traffic collisions by 50% by the year 2020 while target 11.2 encourages the inclusion of road safety – notably by expanding public transport – in cities (11).

3.3 Other declarations and resolutions

The 2nd Global High-Level Conference on Road Safety was hosted by the Government of Brazil in November 2015. The outcome document – The Brasilia Declaration⁴ – called on governments and the international community to do more towards addressing the key risk factors – those related to the vehicle, infrastructure and road user behaviour – as well as managing the post-crash phase. It also called on WHO to lead a process of developing global targets and indicators for road safety risk factors and service delivery.

In April 2016, the UN General Assembly through its resolution A/70/260 ⁵ requested that WHO take on the role in leading the global targets and indicators process. This was accepted in May 2016, through World Health Assembly resolution 69.7⁶.

According to the 2015 edition of the Global Status Report on Road Safety (2) progress has been made by governments since 2010 in terms of adopting and enforcing new road safety laws on risks such as speeding and drink driving, redesigning roads with protective infrastructure such as sidewalks, and ensuring that vehicles are equipped with life-saving technologies, but much more needs to be done in order to achieve Sustainable Development Goal target 3.6 given that the latest Global Health Estimates seem to indicate that numbers are going up and not down (1).

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⁶ http://apps.who.int/gb/ebwha/pdf_files/WHA69/A69_R7-en.pdf?ua=1&ua=1
4. Guiding principles

To make headway towards both the Decade of Action and SDG targets, road safety needs to be shared across multiple sectors. The establishment of a functional multi sectoral coordinating platform to review and revise road safety plans and strategies, as well as strengthening capacity of national authorities, are fundamental to the way forward. Strengthening road safety information systems, preferably in line with international standards, is also urgently needed as is implementing good practices. The Safe Systems approach to road safety and the Save LIVE package of interventions are two important guiding principles that Member States should embrace.

4.1 Vision Zero and the Safe Systems approach

The Safe System Approach is based on Sweden’s Vision Zero strategy (12). It provides a framework to examine road traffic injury risk factors and interventions from a holistic perspective. It is based on the four following principles:

- people will always make mistakes that can lead to road traffic crashes;
- the human body can only tolerate a certain amount of kinetic energy before harm occurs;
- road-users should act responsibly and abide by traffic laws, but equally the government and those who design, build, manage and use roads and vehicles should share the responsibility to prevent crashes that result in serious injury or death and to provide post-crash care; and
- all parts of the Safe System should be strengthened in combination so that road users are still protected if one of the parts fail.

The Safe System Approach to road safety ensures that, in a crash, kinetic energy remains below the threshold likely to result in death or serious injury. It goes beyond establishing speed limits to managing the interactions between the vehicle, the road and the road user. If one part fails the other parts will still prevent serious harm from occurring.

There is no single or standard way of adopting, establishing and implementing the Safe System in a country. It is a learning-by-doing process best described as a journey that presents opportunities, hazards and challenges along the way (13). The experiences of pioneering countries
such as Netherlands and Sweden show that each country follows its own journey, shaped by the cultural, temporal and local context, but guided by the four underlying principles. With this approach, instead of seeing how to make incremental progress in road safety, one starts by setting the goal of no road traffic deaths and then works backwards, implementing measures to achieve that goal in a systematic and steady fashion.

4.2 Save LIVES

In May 2017, WHO released *Save LIVES: A road safety technical package*, an evidence-based inventory of 6 components and 22 interventions (see Table 5) (14). It has the following focus areas:

- **Speed management** should be central to all road safety strategies.
- **Leadership** is needed at the highest political levels as well as among road safety practitioners and advocates to create a sense of urgency for change.
- **Infrastructure design and improvement** should include safety as a key principle.
- **Vehicles** should meet and/or exceed the seven most important UN safety standards.
- **Enforcement of traffic laws** is effective in changing behaviours and thus reducing road traffic fatalities and injuries.
- **Post-crash Survival** is extremely time-sensitive. Delays of minutes can make the difference between life and death.

The interventions recommended in the package follow the Safe Systems approach and are interrelated. They should therefore be implemented, if possible, in an integrated manner to effectively address road traffic deaths and injuries. However, the package should not be considered as a blueprint for road safety. It should rather be used by Member States as a guide to prioritize actions or to scale up road safety activities to reduce deaths and injuries.

The 22 interventions included in the technical package have been tried and tested in many settings. If implemented they will save lives and related socioeconomic costs. They will also contribute to improving the safety aspects of walking and cycling, to improving the legislative framework for road safety policy as well as the broader governance issues that affect road safety policy.
### Table 5: Save LIVES – 6 components and 22 interventions

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Component</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Speed management</td>
<td>Establish and enforce speed limit laws nationwide, locally and in cities&lt;br&gt;Build or modify roads which calm traffic, e.g. roundabouts, road narrowing, speed bumps, chicanes and rumble strips&lt;br&gt;Require car makers to install new technologies, such as intelligent speed adaptation, to help drivers keep to speed limits</td>
</tr>
<tr>
<td>L</td>
<td>Leadership on road safety</td>
<td>Create an agency to spearhead road safety&lt;br&gt;Develop and fund a road safety strategy&lt;br&gt;Evaluate the impact of road safety strategies&lt;br&gt;Monitor road safety by strengthening data systems&lt;br&gt;Raise awareness and public support through education and campaigns</td>
</tr>
<tr>
<td>T</td>
<td>Infrastructure design and improvement</td>
<td>Provide safe infrastructure for all road users including sidewalks, safe crossings, refuges, overpasses and underpasses&lt;br&gt;Put in place bicycle and motorcycle lanes&lt;br&gt;Make the sides of roads safer by using clear zones, collapsible structures or barriers&lt;br&gt;Design safer intersections&lt;br&gt;Separate access roads from through-roads&lt;br&gt;Prioritize people by putting in place vehicle-free zones&lt;br&gt;Restrict traffic and speed in residential, commercial and school zones&lt;br&gt;Provide better, safer routes for public transport</td>
</tr>
<tr>
<td>V</td>
<td>Vehicle safety standards</td>
<td>Establish and enforce motor vehicle safety standard regulations related to: • seat-belts;&lt;br&gt;• seat-belt anchorages;&lt;br&gt;• frontal impact;&lt;br&gt;• side impact;&lt;br&gt;• electronic stability control;&lt;br&gt;• pedestrian protection; and&lt;br&gt;• ISOFIX child restraint points&lt;br&gt;Establish and enforce regulations on motorcycle anti-lock braking and daytime running lights</td>
</tr>
<tr>
<td>E</td>
<td>Enforcement of traffic laws</td>
<td>Establish and enforce laws at national, local and city levels on: • drinking and driving;&lt;br&gt;• seat-belts; and&lt;br&gt;• motorcycle helmets;&lt;br&gt;• child restraints</td>
</tr>
<tr>
<td>S</td>
<td>Survival after a crash</td>
<td>Develop organized and integrated prehospital and facility-based emergency care systems&lt;br&gt;Train those who respond to crashes in basic emergency care&lt;br&gt;Promote community first responder training</td>
</tr>
</tbody>
</table>

Source: Save LIVES: A road safety technical package, 2017, see http://apps.who.int/iris/bitstream/10665/255199/1/9789241511704-eng.pdf?ua=1
5. International and regional action

5.1 Partnerships

Road safety is a multisectoral issue which needs to be addressed in a collaborative approach. Partnerships between different departments within governments, international agencies, nongovernmental agencies, the private sector, academia need to be forged to address the issue. A few examples of partnerships which have been successfully implemented are outlined below.

5.1.1 The United Nations Road Safety Collaboration

The United Nations Road Safety Collaboration (UNRSC) was created in 2004 following a request from the UN General Assembly (through resolution A/58/289) to WHO to act as coordinator on road safety in collaboration with the regional commissions. It is an informal consultative mechanism whose members are committed to road safety efforts and to the implementation of the recommendations of the World report on road traffic injury prevention published in 2004 by WHO and the World Bank.

The goal of the Collaboration is to facilitate international cooperation and strengthen global and regional coordination among UN agencies and other international partners to implement UN General Assembly Resolutions and the recommendations of the World report, thereby supporting country programmes. It has supported the preparation and implementation of the Decade of Action for Road Safety as well as both Global High-level Conferences on Road Safety (2009 in Russia and 2015 in Brazil).

Members are drawn from governments, international agencies, civil society, academia and the private sector. By 2017 there were more than 80 member organizations.

5.1.2 Friends of the Decade

The Friends of the Decade of Action for Road Safety 2011–2020 is an informal group of 19 governments and eight international agencies committed to making the Decade a success. The group first convened in November 2009 in the context of the First Global Ministerial Conference on Road Safety, with several ministers of transport and health representing their governments. Since then the Friends of the Decade of Action has been instrumental in shaping the political agenda that lead to the declaration of the Decade of Action and the development of its Global Plan of Action. The most recent meeting of the Friends of the Decade took place on 8 June 2015 in Gothenburg, Sweden, and was hosted by the Government of Sweden.

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7 www.who.int/roadsafety
5.1.3 The Global Alliance for Road Safety NGOs

The Global Alliance for Road Safety NGOs\(^\text{10}\) is a network of approximately 90 nongovernmental organizations from various countries and regions around the world. It includes professional NGOs such as Handicap International, the Global Road Safety Collaboration, etc. as well as victims’ organizations such as the Association for Safe International Road Travel, Mothers against Drunk Driving, etc. These NGOs are instrumental in getting civil society involved in road safety programmes. They facilitate the celebration of the World Day of Remembrance for Road Traffic Victims every third Sunday of November and play an important role in the regular UN Road safety weeks (\(^\text{16}\)).

5.1.4 Youth for Road Safety

Established in 2010, Youth for Road Safety (YOURS)\(^\text{11}\) is a group of young road safety advocates from more than 85 countries. Its main goal is to make roads safer for young adults for whom road traffic collisions are the leading cause of death. It supports road safety efforts through advocacy, networking and capacity development. In partnership with governments, development banks, foundations and the private sector YOURS holds trainings across the world to grow a new generation of young road safety leaders.

5.2 Investments in road safety

The World report on road traffic injury prevention published in 2004 noted the large discrepancy between the burden of road traffic crashes and investment in road safety. Following its publication, many donors stepped up various aspects of road safety. A few are outlined below.

5.2.1 The FIA Foundation

The FIA Foundation\(^\text{12}\) was established in 2001 with a US$ 300 million donation from the Fédération Internationale de l’Automobile (FIA). Its aim is to ensure “Safe, Clean, Fair and Green” mobility for all through innovative global road safety philanthropy, practical environmental research and high impact advocacy on road safety and motor vehicle fuel efficiency. The Foundation was the first large donor to WHO to develop a five-year Road Traffic Injury Prevention Strategy in 2002. Over the years it has expanded its reach to support new car assessment programmes (European and Latin America), the road assessment programmes (European and international), the UN Road Safety Collaboration and, in particular, the call for a Decade of Action for Road Safety, the Global Road Safety Facility, the Commission for Global Road Safety, the road safety ministerial meetings, the call for inclusion of road safety targets in the SDGs and, most recently, the partnership with UNICEF, Save the Children, Safe Kids Worldwide et al to tackle child road traffic injury. Together with WHO the FIA Foundation also supports a modest Road Safety Fund to help NGOs to advocate for, and deliver, evidence-based road safety projects and injury prevention programmes.\(^\text{13}\)

\(^\text{10}\) http://roadsafetyngos.org/
\(^\text{11}\) http://www.youthforroadsafety.org/
\(^\text{12}\) https://www.fiafoundation.org/
\(^\text{13}\) https://www.fiafoundation.org/our-work/road-safety-fund
5.2.2 The Global Road Safety Facility

The Global Road Safety Facility (GRSF)\(^{14}\) is a global partnership administered by the World Bank. It was established in 2006 with a mission to help address the growing crisis of road traffic deaths and injuries in low-and middle-income countries (LMICs). It has three main objectives: to build safety management; to support interventions for safer outcomes; and to support research for results. To date it has supported many projects in more than 35 countries.

GRSF provides funding, knowledge and technical assistance designed to scale up the efforts of LMICs to build their scientific, technological and managerial capacities. Since its inception, the GRSF has operated as a hybrid grant-making global programme, allowing it to distribute funding externally for global, regional and country activities, and internally through World Bank-executed grants. In 2016, GRSF funds of US$ 3.74 million mobilized support of around US$ 411 million in road safety investments.

5.2.3 Bloomberg Philanthropies global road safety initiatives

In 2008, Michael Bloomberg, the then Mayor of New York City, provided a grant to WHO to implement good road safety practices in two low-income settings. Following the success of this pilot project, Bloomberg Philanthropies announced a US$ 125 million grant to a consortium of five organizations – EMBARQ, GRSP, Johns Hopkins University, the World Bank and WHO – to implement activities in 10 countries. The project, which came to be known as Road Safety in 10 countries (or RS10 for short), was conducted over five years between 2010 and 2014.\(^{15}\)

In 2015, Bloomberg Philanthropies announced a second grant of US$ 125 million to support road safety interventions in 10 cities and five countries.\(^{16}\) The Bloomberg Initiative for Global Road Safety (BIGRS) applies three main approaches to its global road safety work, namely partnerships, data and evaluation, and local actions.

In mid-2016, Michael Bloomberg was announced as the WHO Global Ambassador for Noncommunicable Disease Prevention. In May 2016, Bloomberg Philanthropies announced a US$ 5 million initiative called “Partnership for Healthy Cities” which includes three road safety interventions.

5.2.4 The Botnar Challenge

The Botnar Child Road Safety Challenge (“The Challenge”) is a Swiss Franc 15 million project of the Fondation Botnar, a Swiss-based charitable foundation established with the core purpose to support children’s basic needs throughout the world. The Challenge is designed to address locally relevant road safety problems that affect children in small- and mid-sized cities in six priority countries – India, Mexico, South Africa, Romania, Tunisia and Viet Nam – with practical, innovative and evidence-based interventions. The Challenge is managed by the Global Road Safety Partnership, a hosted programme of the International Federation of Red Cross & Red Crescent Societies and is based in Geneva, Switzerland.

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\(^{16}\) [https://www.bloomberg.org/program/public-health/road-safety/#overview](https://www.bloomberg.org/program/public-health/road-safety/#overview)
Launched in mid-2017 with a call for proposals, the Challenge will formally commence in April 2018.

5.2.5 The UN Road Safety Fund

The United Nations General Assembly, through resolution 70/260, requested the Secretary-General to consider the establishment of a UN Road Safety Fund from existing and voluntary funds. Lead by United Nations Economic Commission for Europe, a proposal was developed and a consultation process was launched during the Global Sustainable Transport Conference in November 2016 by the Executive Secretary of ECE and the UN Secretary-General’s Special Envoy for Road Safety. The proposal was also discussed at the Inland Transport Committee meeting in February 2017 and will undergo further consultation with Member States and other relevant stakeholders before it is implemented.
6. Available tools

6.1 Resolutions

Road safety resolutions constantly draw attention to the problem of road safety, highlighting its magnitude, risk factors and solutions that can be implemented. For example, Resolution 57.10 from the World Health Assembly in 2004 recommended, among other things, that WHO Member States should integrate the prevention of road traffic injuries into public health programmes, legislate and enforce laws on wearing of helmets by motorcyclists, and should raise awareness about risk factors such as alcohol abuse, while the numerous UN General Assembly resolutions have called for the Decade of Action, implementation of good practices, putting in place a lead agency in the countries, and many more.

6.2 Conventions and regulations

Another important set of policy tools are those held by the United Nations Economic Commission for Europe (UNECE) which has played a key role in the development of global and regional road safety conventions for over 70 years. The Vienna Convention of 1968 and other subsequent agreements managed by the United Nations provide the platform for coordinating global road safety efforts.

There are also legal instruments pertaining to road traffic and road signs and signals. Contracting parties to these conventions are expected to implement them.

The World Forum for Harmonization of Vehicle Regulations is a working party of UNECE. It is tasked with creating a uniform system of UN Regulations designed to address vehicle safety, environmental protection, energy efficiency and theft-resistance. The forum’s work is based around the 1958 Agreement. Contracting parties agree on a common set of technical prescriptions and protocols for vehicles and components (in the case of road safety this includes helmets, seat-belts, child restraints, etc.). Through the World Forum, motor vehicles can now be internationally approved without further tests, provided they meet the relevant UN regulations that include crash-worthiness (providing protection when an incident occurs) and crash avoidance (preventing a collision from happening at all). Among the most important vehicle standards promoted by the World Forum are the following seven regulations: seat-belts (No 16); seat-belt anchorages (No 14); frontal impact (No 94); side impact (No 95); electronic stability control (No 140 or GTR. 8); pedestrian protection (No 127 or GTR. 9); and ISOFIX child restraint anchorage points.

20 https://www.unece.org/trans/conventn/agreem_cp.html
6.3 Good practice guides

The World report on road traffic injury prevention, published in 2004, concluded with six recommendations that countries could take to improve their road safety record. However, the Report did not provide step-by-step guidance on “how” to implement the recommendations. As a result, four global road safety organizations – the FIA Foundation, the Global Road Safety Partnership, the World Bank, and WHO – under the auspices of the UNRSC agreed to develop a series of “how to” or good practice guides to help Member States and road safety organizations implement evidence-based interventions. A series of seven documents have been produced, viz. helmets (2006), drinking and driving (2007), Speed management (2008), Seat-belts and child restraints (2009), Data systems (2010), Pedestrian safety (2013) and Powered two- and three-wheeler safety (2017).

22 http://www.who.int/roadsafety/publications/en/
7. Global and regional initiatives

7.1 Global initiatives

In April 2015, the United Nations Secretary-General announced a Special Envoy for Road Safety. Mr Jean Todt was tasked with mobilizing sustained political commitment towards making road safety a priority; advocating and raising awareness about the United Nations road safety legal instruments; sharing established road safety good practices; and generating adequate funding for advocacy efforts through strategic partnerships between the public, private and nongovernmental sectors.

This was followed in 2016 by the announcement that Michael Bloomberg, philanthropist and three-time mayor of New York city, was named as the WHO Global Ambassador for Noncommunicable Diseases, including road safety.

The announcement of these two high profile “ambassadors” has been a major boost in raising the profile of the issue at a global level as they both work to alert national and local leaders on the preventability of the issue.

Many other global initiatives have been started since the launch of the World report in 2004. Some have already been mentioned in this document such as the Bloomberg Philanthropy funded RS10 project (in 10 countries between 2010 and 2014) followed by the BIGRS project (2015–2019); the global NCAP and international road assessment projects; the Global Road Safety facility; and the Botnar Challenge to name just a few.

In addition to these initiatives which focus mainly on primary prevention of road traffic crashes, many post-crash initiatives have been developed. These include the Global Alliance for the Care of the Injured (GACI) and the Global Alliance of Road Safety NGOs mentioned previously. In addition, a World Health Assembly resolution 60.22 on emergencycare systems was passed in 2007 urging Member States to assess their prehospital and emergency care systems and take appropriate action.

7.2 Regional initiatives

Many regional initiatives have been undertaken in the SEA Region over the last decade led primarily by governments with the support of international and regional organizations such as UN ESCAP and the WHO Regional Office for South-East Asia.

A Regional Strategy for Road Safety in South-East Asia was published in 2015. The strategy assessed progress in the region against the 34 activities proposed in the Global Plan of Action for the Decade of Action. While some progress was noted, many gaps were also obvious. The Regional Strategy thus proposed a more tailored set of 12 recommendations covering partnerships, capacity.

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24 http://www.who.int/emergencycare/gaci/en/
development, legislative reform, data, vehicle and infrastructure improvements and post-crash care (17).

A “Regional Technical Advisory Group on Road Traffic Injuries” (RTAG-RTI) was formed in 2015 and held its first meeting in Jakarta in December 2015. The recommendations of this expert group were widely shared with the Member States.

Many regional initiatives have also been instigated by UN ESCAP – the regional commission covering road safety issues in most of the WHO SEA Region. These initiatives include high-level meetings of ministers of transport. The 2nd Ministerial Conference on Transport held in 2011 included a paper on emerging issues in transport and road safety in the region. It highlighted key regional road safety initiatives – including the development of regional targets and indicators and national workshops on road safety – and proposed a series of region-specific interventions.26 A further high-level conference was held in Moscow in December 2016 which proposed an updated set of regional goals and targets.27 These were finalized in September 2017 at Phnom Penh, Cambodia.

7.3 Country initiatives

Many countries in the Region have already accelerated their road safety activities. Six Member States have now implemented a dedicated injury unit within the Ministries of Health to address road safety and data is available from 10 of the 11 countries which allows for robust assessment of progress towards the goals of the Decade of Action and SDG 3.6. In addition, action plans have been developed in Bangladesh and Sri Lanka and road safety laws have been assessed in Bangladesh, India, Maldives, Sri Lanka, Thailand and Timor Leste with the help of the WHO Regional Office to ensure that they comply with good practices on risky behaviours such as drinking and driving, helmet wearing, etc. and incorporate vehicle standards. In the post-crash area, the JP Apex Trauma Centre, AIIMS, New Delhi, and Khon Kaen Hospital, Thailand, were supported to carry out an inter-country workshop on “Strengthening emergency care in primary care setting” while capacity building for emergency care was supported in India and Sri Lanka.28

Appendix A highlights six case studies which provide a snapshot of recent and ongoing road safety initiatives in the Region, ranging from data improvement, vehicle standards, behaviour change, through to the post-crash response. While it can be seen that some countries are beginning to tackle this issue, it is clear that road safety is not a priority to all countries in the region and that activities tend to be somewhat uncoordinated and not focused on vulnerable road users. If each country designated a lead agency and developed a strategic plan that focused on both the priorities for the Region (vulnerable road users, improving and enforcing laws, vehicle standards, and post-crash care) and proven practices (Safe Systems, Save LIVES), many lives could be saved.

27 http://www.unescap.org/sites/default/files/pre-ocs/MCT3_9E.pdf
28 Road safety paper submitted to Seventieth Session of WHO Regional Office for South-East Asia Regional Committee on 21 July 2017.
8. Monitoring and evaluation

Ongoing monitoring and evaluation is a critical component of road safety as it provides insight into what works in various settings and what should be changed. Monitoring should be undertaken continuously while evaluation should be done at regular intervals and include both output and outcome (short, medium and long-term) indicators. At a global level WHO publishes regular global status reports on road safety. The next one is due for publication in late 2018. Regional factsheets are also available based on the indicators collected through this mechanism.

In addition, the development of targets and indicators provide Member States with aspirations. WHO is currently leading the process to develop voluntary global targets and indicators for road safety risk factors and service delivery. A second revision of the WHO Discussion Paper (which has already undergone extensive consultation with UN committees, nongovernmental organizations and the private sector) – which proposes 13 targets under the five road safety pillars – will be negotiated by Member States at WHO in Geneva in November 2017 (see Appendix B for a summary of the proposed targets and indicators). The agreed set of targets and their related indicators will be approved by the appropriate governing body. The resultant set of targets and indicators will guide countries on national road safety efforts in pursuit of SDG 3.6 and the goals of the Decade of Action.

9. Road safety challenges and solutions with a focus on VRUs

Despite the gains made by many countries much more needs to be done if the ambitious SDG target of halving the road traffic deaths by 2020 is to be met. To ramp up activities it is critical that countries address some of the many challenges which have been identified over the last decade. These include implementing a lead agency which is responsible and accountable for road safety and yet is able to work in a multisectoral manner; obtaining and maintaining high-level political support for road safety through changes in government and competing priorities; training and keeping a trained group of road safety professionals; and securing finances commensurate with the size of the problem not only through donors and international agencies but through innovative financing mechanisms.

Given the high and growing number of powered two-wheelers in the region the following solutions could be applied which would address this vulnerable group specifically but road safety more generally:

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Challenge</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Pillar 1 | Strengthen leadership and political support | Obtain support for road safety from the highest level of government.  
Put in place a financed lead agency which has responsibility and accountability for road safety including safety features and registration procedures of motorcycles (and other vehicles).  
Put in place robust monitoring systems (include severe injuries and injuries to all road users).  
Agree a set of regional targets and indicators based on those agreed by Member States in Geneva in November 2017.  
Secure funding for the implementation of a national multisectoral road safety strategy with a focus on vulnerable road users.  
Develop and air social marketing campaigns (including TV, radio and outdoor advertisements) which focus on vulnerable road users and risky behaviours such as speeding and not wearing helmets. |
<table>
<thead>
<tr>
<th>Pillar</th>
<th>Challenge</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillar 2</td>
<td>Put in place infrastructure that considers the needs of vulnerable road users</td>
<td>Provide infrastructure for ALL road users, e.g. sidewalks, safe crossings, overpasses, etc. Separate traffic, e.g. put in place dedicated motorcycle lanes. Prioritize people by putting in place distinct zones that are vehicle-free. Restrict speed in residential areas and around schools, hospitals (e.g. 30km/hr), etc. Provide safer and convenient public transport.</td>
</tr>
<tr>
<td>Pillar 3</td>
<td>Accede to UN vehicle regulations</td>
<td>Establish and enforce regulations on motorcycle anti-lock braking and daytime running. Put in place other UN approved vehicle regulations that focus on vulnerable road users, especially motorcycles (as a priority). Establish a regional new car assessment programme.</td>
</tr>
<tr>
<td>Pillar 4</td>
<td>Set and enforce good road safety laws</td>
<td>Set and enforce good laws on drinking and driving, helmet wearing, speeding, seat-belts and child restraints. Consider setting laws on drugs and driving and mobile phone usage. Provide training for police on enforcement principles and practices.</td>
</tr>
<tr>
<td>Pillar 5</td>
<td>Improve post-crash response</td>
<td>Develop an integrated and organized prehospital care system, including holistic ambulance fleet management and innovative ways of providing early on-site care. Develop or improve facility-based emergency care systems. Train doctors and nurses in emergency care. Train community first responders. Integrate emergency and trauma care into primary health care</td>
</tr>
</tbody>
</table>
10. Conclusions

Time is running out for countries in the SEA Region to implement known good practices to drive down their road traffic deaths and injuries. There are less than three years before SDG 3.6 of halving the number of road traffic deaths and injuries should be reached. The international community has rallied around to provide as much support to countries as possible in terms of providing the evidence-base of what works through the Save LIVES package, the Safe Systems approach and, in November 2017, a set of targets and indicators for road safety.

The countries in the South-East Asia Region account for almost one quarter of the road traffic deaths around the world and could therefore make a significant contribution to achieving the global goals and targets. The region is unique in that there are only 11 countries and therefore collaboration and agreement at the highest level is a definite possibility. This region could lead the way in political support to road safety.

Furthermore, putting in place evidence-based interventions using a Systems Approach, focusing on vulnerable road users, addressing sociocultural issues, reviewing and improving road safety legislation, enforcement, infrastructure, vehicle standards and improving post-crash care would save thousands of lives.

There is still time, but countries should act now. This high-level meeting of ministers and the Phuket Framework and Commitment will be important tools to galvanize multisectoral support and action in the Region.
11. References


Appendix A: Six case studies on road safety activities in the SEA Region

Case Study 1: Implementing a common accident database in Sri Lanka

As part of their Decade of Action plan, the National Road Safety Secretariat in Sri Lanka established a central and common “accident” database. GPS technology was also introduced to report on collision location. A public website was developed to regularly publish data on collisions (see Table).

<table>
<thead>
<tr>
<th>Road Accidents</th>
<th>The way they are taking place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>Total</td>
</tr>
<tr>
<td>Deaths</td>
<td>3003</td>
</tr>
<tr>
<td>Fatal Accidents</td>
<td>2824</td>
</tr>
<tr>
<td>Minor Accidents</td>
<td>13961</td>
</tr>
<tr>
<td>Critical Accidents</td>
<td>8518</td>
</tr>
<tr>
<td>Damages Only</td>
<td>13675</td>
</tr>
</tbody>
</table>

Robust and timely monitoring data such as these is critical to understand both the epidemiology of the problem as well as to assess the impact of interventions that are being undertaken to reduce deaths and injuries from road traffic crashes.


Case Study 2: Assessing the road infrastructure in Indonesia

To help Indonesia understand the role that infrastructure plays in road traffic injuries and deaths, International Road Assessment Programme (iRAP) was invited by AusAID through the Indonesian Infrastructure Initiative and the Directorate-General of Highways to assess the North Coast Corridor in Java. This 836 km stretch of road accounts for nearly 7000 deaths or serious injuries each year at a cost of around US$ 550 million. Nearly three quarters of those killed are motorcyclists.
The infrastructure risk assessment found that a significant percentage of Jalan Lintas Pantura Jawa only receives 1 or 2 stars out of a possible 5-star rating indicating a high level of risk.

Two Safer Roads Investment Plans were generated for the corridor, each of which identified economically viable infrastructure safety countermeasures. The plans focused on:

- reducing the likelihood and severity of run-off road crashes by widening shoulders and clearing roadside hazards;
- reducing risk at intersections through grade separation and signalization;
- reducing risk for motorcyclists by providing dedicated motorcycle lanes; and
- reducing risk for pedestrians and bicyclists through the installation of bicycle lanes, footpaths and crossings.

Since these evaluations were conducted, the Institute of Road Engineering has built capacity to scale up the use of iRAP tools and assessed thousands of additional kilometres of roads.

### Star Ratings for Jalan Lintas Pantura Jawa

<table>
<thead>
<tr>
<th>Road user type</th>
<th>Length (km)</th>
<th>1星</th>
<th>2星</th>
<th>3星</th>
<th>4星</th>
<th>5星</th>
<th>6星</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle occupants</td>
<td>836</td>
<td>2%</td>
<td>15%</td>
<td>34%</td>
<td>36%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>Motorcyclists</td>
<td>836</td>
<td>11%</td>
<td>32%</td>
<td>26%</td>
<td>29%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Pedestrians</td>
<td>836</td>
<td>0%</td>
<td>72%</td>
<td>28%</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Bicyclists *</td>
<td>836</td>
<td>0%</td>
<td>66%</td>
<td>14%</td>
<td>9%</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

* 12% of roads did not have bicycle traffic and were not star rated.


### Case Study 3: Improving vehicle safety in India

In 2014 the first-ever independent crash tests were conducted on some of India’s most popular small cars. All the cars selected by Global NCAP received a zero-star rating for adult protection when crashed at 64 km/hr.

The five cars chosen for testing accounted for around 20% of vehicles sold in India in 2013. None of these entry-level cars were fitted with air bags.

Crash tests revealed that the vehicle structure of three of the five cars was so inadequate that even adding air bags would not prevent life-threatening injuries to the occupants. In the other two vehicles, the structure remained stable enough so that fitting air bags would benefit the driver and passenger in the event of a crash.
The poor results of these crash tests resulted in action by motor manufacturers, and for one vehicle, improvements and the addition of air bags resulted in a three-star rating when retested in 2017, demonstrating that progress is possible and that lives can be saved in India from safer vehicle design.

Source: http://www.globalncap.org/crash-tests-show-indias-cars-are-unsafe/

Case Study 4: Speed management in Bangladesh

According to the Global Status Report for Road Safety 2015, more than 21,000 people lose their lives on Bangladeshi roads every year. More than 70% of these fatal collisions occur in rural areas. In 2014, two organizations – CIPRB (Bangladesh) and Safe Crossings (Netherlands) – received permission from the Government of Bangladesh to design and implement an integrated speed management programme at three locations on a national highway. The intervention consisted of small-scale infrastructural adaptations coupled with public education and community engagement.

Assessment of the intervention in 2015 revealed that the integrated speed management programme had resulted in a net speed reduction of around 13.3 km/hr and an approximate 60% reduction in road traffic injuries and deaths at the three locations. An additional benefit was that the intervention was quick to implement (less than six months) and that the cost-effectiveness was high, i.e. cost per DALY was around US$ 100.


Case Study 5: Assessing helmet wearing in Myanmar

The wearing of motorcycle helmets was recorded at eight different locations throughout Myanmar during July and August 2016. The survey was a collaborative effort between the Myanmar Organization for Road Safety, the Myanmar Traffic Police Force, the Technical University of Berlin, and the Leuphana University of Lueneburg.

Helmet use was found to vary widely between the eight observation sites. In addition, the following were revealed:

• drivers were more likely to wear helmets than passengers;
• drivers had the highest helmet use (68.1%) and the rate decreased for every additional passenger (see Table).
• helmet wearing varied by the time of day;
• helmet wearing was higher in urban areas than in rural areas; and
• the overall helmet wearing rate at the observation sites was 51.7%.

The Myanmar helmet law requires that all passengers on a motorcycle wear a helmet and that it is strapped correctly. However, the law does not stipulate a standard for the helmet and enforcement
levels are less than optimal. The wearing of non-standard helmets can reduce their effectiveness greatly. These two issues should be addressed to save lives from head injuries in Myanmar.

Case Study 6: Improving trauma care in Thailand

In 2006, a review of data from Thailand’s north-eastern province of Khon Khaen indicated that about 10,000 road traffic injured patients visited the hospital’s emergency room each year, of whom 4,000 were admitted to the hospital.

To examine if patient care was optimal, a multidisciplinary trauma review committee was created to design a quality improvement programme. The programme required that the case notes of all patients who had died in the hospital because of a road traffic crash be reviewed to assess whether their care could have been better. Many gaps were identified. A few cost-effective opportunities for improvement were identified and implemented. These included the regular review of care for severely injured patients, training for carers, monitoring protocols and resource checks.

The mortality rate among moderately and severely injured road traffic victims was reduced by almost 50%.

Appendix B: Summary of proposed voluntary global targets and their associated indicators

<table>
<thead>
<tr>
<th>Core area</th>
<th>Target</th>
<th>Indicators</th>
</tr>
</thead>
</table>
| Road safety management (Pillar 1) | 1. All countries accede to one or more of the road safety related UN legal instruments.  
                                      2. All countries establish a multisectoral national road safety action plan with time-bound targets. | • Number of countries acceding to the 1949 Geneva Convention and/or 1968 Vienna Conventions on Road Traffic and Road Signs and Signals.  
                                                                                 • Existence of a multisectoral national road safety action plan that is funded and includes time-bound targets.  
                                                                                 • Existence of a lead agency on road safety that performs a specified number of functions. |
| Safer roads and mobility (Pillar 2)| 3. 100% of new roads are 3 stars or better for all road users.  
                                      4. >75% of travel on existing roads are 3 stars or better for all road users (or national equivalent). | • % of new roads that are 3-stars or better for all road users (or national equivalent).  
                                                                                 • % of travel on existing roads that are 3-stars or better for all road users (or national equivalent). |
| Safer vehicles (Pillar 3)         | 5. 100% of new (defined as produced, sold or imported) and used (defined as imported) vehicles meeting the recommended priority UN Regulations or equivalent recognised.  
                                      Implementation national performance requirements.  
                                      Establishment of national new car assessment programmes. | • Implementation of UN Regulation R94 and R95 front and side impact protection.  
                                                                                 • Implementation of UN Regulation R13H. electronic stability control (note that as of Jan 2017 ESC will be covered by UN Regulation 140 or GTR 8).  
                                                                                 • Implementation of UN Regulation R1275 (or GTR 9) pedestrian protection.  
                                                                                 • Seat-belts: UN Regulation 16.  
                                                                                 • Seat-belt anchorages: UN Regulation 14.  
                                                                                 • Child restraints: UN Regulations 44 and 129.  
                                                                                 • Implementation of UN Regulation R78 motorcycle braking (or GTR 3).  
                                                                                 • National car assessment programmes from around the world. |
<table>
<thead>
<tr>
<th>Core area</th>
<th>Target</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safer road users (Pillar 4)</td>
<td>7. Reduce the proportion of vehicles travelling over the posted speed limit by at least 10% per year.</td>
<td>• National legislation on urban speeds meets best practice.</td>
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<tr>
<td></td>
<td>8. Reduce the proportion of unhelmeted motorcycle riders by at least 10% per year.</td>
<td>• % of vehicles driving over the speed limit in urban and rural areas.</td>
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<td>9. Reduce the proportion of unrestrained occupants by at least 10% per year.</td>
<td>• % of deaths attributable to speed.</td>
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<td></td>
<td>10. Reduce the proportion of driver deaths attributable to alcohol by 10% per annum.</td>
<td>• Legislation on motorcycle helmet use meets best practice.</td>
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<td></td>
<td>11. All countries to enact working time regulation for commercial vehicle drivers or accede to international/regional working time regulation.</td>
<td>• Number of countries applying UN Regulation 22 (or equivalent national standard).</td>
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<tr>
<td></td>
<td>12. All countries to have national laws on mobile phone use while driving.</td>
<td>• % of motorcycle riders (drivers and passengers) wearing helmets.</td>
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<tr>
<td></td>
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<td>• Legislation on seatbelt use meets best practice.</td>
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<td></td>
<td></td>
<td>• Legislation on child restraint use meets best practice.</td>
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<td></td>
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<td>• % of all occupants wearing seat-belts (disaggregated by driver, front seat passenger and rear seat passenger rates).</td>
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<td>• Legislation on drink-driving meets best practice.</td>
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<td>• % of driver deaths attributable to alcohol.</td>
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<td>• % of drivers over the legal BAC limit.</td>
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<td></td>
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<td>• Countries signed up to ILO Convention 15322.</td>
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<tr>
<td></td>
<td></td>
<td>• Countries signed up to UNECE AETR, EU, Directive 2002/15 and Regulation 2006/561.</td>
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<td></td>
<td></td>
<td>• Countries with national legislation on working time for commercial vehicle drivers.</td>
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<td></td>
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<td>• Legislation restricting the use of hand-held and/or hands-free mobile phones while driving.</td>
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<tr>
<td></td>
<td></td>
<td>• Legislation on mobile phone use while driving.</td>
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<tr>
<td>Post-crash response (Pillar 5)</td>
<td>13. Reduce the time from serious injury to first emergency care provider by 10% per year.</td>
<td>• Average time from serious injury to first contact with emergency care provider (includes providers at all trauma facility levels).</td>
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<tr>
<td></td>
<td></td>
<td>– in urban areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– in rural areas</td>
</tr>
</tbody>
</table>

Source: Second revision of WHO discussion paper of global voluntary targets and indicators
Accelerating actions for implementation of decade of action for road safety

Technical Report