

ARRIVE ALIVE

ASEAN Commits to Cutting Road Deaths

**Association of Southeast Asian Nations
Regional Road Safety Strategy and Action Plan
(2005–2010)**

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Foreword



As the major development bank in the region, the Asian Development Bank assists its member countries with their economic, social, and infrastructure development in order to reduce poverty and improve the well-being and lives of their people. I was therefore horrified to learn that about 4.7 million individuals in the Association of Southeast Asian Nations region are killed or injured in road crashes every year. These deaths and injuries cause untold pain, suffering, and grief and are a significant economic cost to the region. Estimates show that if current trends continue over the next 5 years, 385,000 people will die and 24 million will be injured, with economic losses amounting to \$88 billion. This is unacceptable and we must do everything possible to reduce this waste of human and economic resources that is

inhibiting the economic and social development of the region. Experience in other parts of the world indicates that deaths and injuries can be prevented through affirmative actions.

This report summarizes the actions that are required to address road safety in the region. The report suggests that, if the measures are successfully implemented over the next 5 years, they would save 42,000 lives, result in lesser injuries to 3 million individuals, and reduce economic losses by more than \$10 billion. The Asian Development Bank is committed to support safer roads in the region, and it is hoped that this report will help policy makers address this issue and achieve the objective of making our roads safer.

G.H.P.B. van der Linden
Vice-President (Knowledge Management and Sustainable Development)
Asian Development Bank



Road accidents are a huge economic and health problem facing our region. Each year, over 75,000 of our people are killed and over 4.7 million are injured or crippled, many of whom are disabled for the rest of their lives—which in some cases perpetuates poverty for their families. In the last 5 years, over 310,000 have died and around 20 million have been injured; our region has lost about \$52 billion through property damage, medical costs, and productivity losses. Sadly, many of these casualties are our young people, those who are most economically active and who are the future of our region. Without action, these terrible human and economic losses will continue to grow in future years. The Association of Southeast Asian Nations transport ministers commit themselves to treating this issue as a matter of urgency

and to making available the resources necessary to reduce the horrific toll of unnecessary deaths and injuries on our roads. On behalf of my fellow transport ministers, I urge all our member countries to mobilize their key ministries and other stakeholders and take urgent action on road safety-related problems.

Sun Chantol
Minister of Public Works and Transport, Kingdom of Cambodia
Chair, Association of Southeast Asian Nations Transport Ministers Meeting

Road accidents cause an estimated 1.18 million deaths and millions of injuries and disabilities annually, with about 60% of these now occurring in Asian countries. Traffic deaths and injuries are now an important public health problem. In the past, because of other perceived priorities, few efforts were made by the health sector to try to prevent or reduce road deaths and injuries. However, the health sector can play an important role in collecting accurate data on fatal and nonfatal injuries and the costs involved, investigating the causes of road traffic injuries, implementing interventions and evaluating their cost-effectiveness, establishing comprehensive and effective trauma care systems, offering input in drafting policies to prevent road traffic injuries, and advocating increased attention and resources for preventing road traffic injuries.



The Association of Southeast Asian Nations member countries are now spending increasing amounts of their annual health budgets on treating the victims of road accidents, thus diverting scarce resources—financial and human—away from other urgent health problems.

Road safety is now recognized as a high-priority health concern, and the World Health Organization has now been given responsibility by the United Nations to address this urgent issue. Calling on governments to work with other stakeholders to reduce such preventable deaths and injuries, the World Health Organization remains committed to supporting Association of Southeast Asian Nations governments in addressing this very important and urgent problem.

Shigeru Omi, MD, Ph.D.
Regional Director
World Health Organization Regional Office for the Western Pacific

Acknowledgments

This document was prepared by Alan Ross and Mike Goodge (Asian Development Bank [ADB]-Association of Southeast Asian Nations [ASEAN] Regional Road Safety Project team) but draws upon the work of the national level academics and consultants (Appendix 5) who formed part of the ADB-ASEAN team and participated in and contributed to the first phase of the ADB-ASEAN Regional Road Safety Program. Their work is documented in various reports produced under the Regional Road Safety Project, which was based on individual country action plans prepared in road safety workshops by road safety professionals (around 100 per country) from key agencies in each of the 10 ASEAN countries. The project’s objectives are to provide an umbrella regional strategy and action plan that can assist and support the efforts of many dedicated professionals now beginning to address road safety issues in the ASEAN region. We wish to acknowledge the contributions of all these people and wish them success in the important task of reducing the 75,000 deaths and 4.7 million traffic injuries that occur annually in the ASEAN region.

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Abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
ASNet	Association of Southeast Asian Nations Safety Network
ATM	Association of Southeast Asian Nations Transport Ministers Meeting
GMS	Greater Mekong Subregion
GRSP	Global Road Safety Partnership
NRSC	national road safety council
RSE	road safety education
RSWG	road safety working group
STOM	senior transport officials meeting

Note

In this document, “\$” refers to US dollars.

Executive Summary

Background

The Asian Development Bank (ADB) is concerned with the economic and social development of its developing member countries and, in response to a request by the transport ministers of the Association of Southeast Asian Nations (ASEAN), ADB initiated the ADB-ASEAN Regional Road Safety Project to assist ASEAN’s 10 countries in dealing with road safety issues. Workshops were held in each country, and local private sector, community, and government department stakeholders assisted in developing country-specific road safety action plans. The ASEAN Safety Network (Appendix 6), known as ASNet (an Internet-based regional networking tool), was also established, and around 200 ASEAN safety professionals were given some training in its use. In addition, accident data from each country were analyzed by local academics so that initial estimates could be prepared on the scale, characteristics, and costs of road safety-related problems in the ASEAN region.

This initial analysis showed that the problem is much bigger and more urgent than was originally thought and that police-reported statistics grossly underestimated the actual number of people killed and injured. These estimates indicate that over 75,000 people die and over 4.7 million are crippled or injured annually in road accidents across the region and that this costs the ASEAN economy about \$15 billion each year. If the present trend continues for the next 5 years, a further 385,000 deaths and over 24 million injuries will occur, and, with increasing gross domestic products, this will cause the region to lose around \$88 billion from its economy during that period. Such huge recurring losses are not sustainable. Action must therefore be taken to implement a regional strategy and action plan to improve road safety.

The ASEAN Regional Road Safety Strategy and Action Plan was developed after a regional workshop involving more than 120 participants from the

10 ASEAN countries was held and after comments and inputs (from ASEAN senior transport officials and land transport working groups) on the initial drafts were incorporated. The plan’s focus and objectives are summarized in the following paragraphs.

Focus of Strategy and Strategic Framework

The next phase of the ADB-ASEAN Regional Road Safety Program aims to strengthen significantly institutional capacity and address road safety issues in ASEAN countries through training local professionals; developing relevant tools, techniques, and documents; and encouraging networking and sharing of experience on good practices across ASEAN countries.

When developing this strategy, the competing needs that have to be met within limited resources, actual activities in road safety, and real potential for low-cost ways to reduce the risks of death and injury in the ASEAN region were all considered. The strategy addresses the most urgent problems, which include

- (i) inadequate awareness among decision makers of the true scale of the annual human and economic losses (75,000 deaths; 4.7 million injuries; and \$15 billion, which is 2.23% of regional gross domestic product);
- (ii) significant gaps in knowledge and expertise that prevent local professionals from becoming more actively engaged in improving road safety in their countries;
- (iii) notable absence of effective orchestration, management, and coordination of responses aimed at improving road safety;
- (iv) inadequate analyses and/or understanding of the problem and the limited collaboration and/or knowledge sharing on common issues;
- (v) noninvolvement of key private sector and community stakeholders in efforts to address the problem; and

- (vi) lack of multisector and multidiscipline action plans to provide direction and holistic approaches within a systematic framework for action.

Although the strategy includes some quick-fix solutions for the most urgent areas—which will be effective until some more permanent solutions can be implemented—the strategy is designed to be sustainable and to address longer term goals by building the capacity of individuals and organizations that must undertake and manage safety improvements in future years.

The strategy is based on 10 individual country-specific action plans that are now being implemented and upon the strong foundation of regional cooperation that was already established via the ASNet and regional meetings under the initial phase of the ADB-ASEAN project.

The strategy focuses on six priority aspects where the ADB-ASEAN regional program can add value. These are the building blocks that can ensure effective road safety activity in future years.

The regional action plan in support of this strategy is presented in Appendix 3. The action plan and strategy can help create sustainable regional level activity aimed at supporting, encouraging, and facilitating road safety activities within individual ASEAN countries.

Strategy Focus

Analysis and Understanding. Existing accident data systems in the ASEAN region are generally inadequate and do not give an accurate picture of the true scale and costs of the problem—and even the data that are collected are often not analyzed to optimal effect. Significant improvements are needed in all countries in these areas.

Advocacy and/or Awareness Raising. Getting international organizations, development partners, and ASEAN governments to recognize the seriousness and urgency of the problem—so that adequate funds get allocated and priority is given to improve road safety in the ASEAN region—is important.

Institutional Strengthening. Improved safety management structures and data systems and more effective coordination and funding mechanisms are needed to assist individual countries in implementing safety improvements. Knowledge and skills of key professionals with road safety responsibilities must be upgraded, via central train-the-trainer courses. Trainers should be assisted in running similar courses in their own countries, as these will help train local safety specialists in each sector.

Cooperation. Regional activities and workshops must be developed to share knowledge and documents, disseminate best practices, develop a knowledge network, and share mechanisms among ASEAN countries. Networks of special interest groups should be created via the ASNet, and these groups should share, develop, and exchange knowledge and experience in each sector.

Collaboration. Greater private sector, civil society, and nongovernment organization participation in safety activities should be facilitated, and their active involvement in the national and regional road safety action plans should be encouraged, as should collaboration between central and local governments.

Coordination. Road safety activity has to be orchestrated, developed, and managed for it to achieve optimal effectiveness. Individual ASEAN member governments have to make available the necessary financial and technical resources to enable country action plans to be implemented on schedule. These individual action plans will need to be monitored, and regional activity will need to be coordinated with in-country initiatives. Efforts of the private sector, nongovernment organizations, governments, and international development partners need to be harmonized, and this, if done well, will contribute significantly to the improvement of road safety in the ASEAN region.

The regional action plan is deliberately divided into 14 key sectors of activity, in broadly the same way as the individual country road safety action plans. The sectors involve many different disciplines and a very wide range of multisector activities, but all are based on applying scientific and methodical approaches to road safety-related problems.

The improvement of road safety is a very complicated task requiring coordinated actions and interventions at different stages and levels to maximize effectiveness. By implementing the proposed supportive regional actions in each sector, important regional objectives and aims will be achieved. These regional actions can be summarized as follows.

- (i) Developing modules centrally (e.g., legislation on helmets, drinking and driving, and others) will allow models and/or examples to be prepared for easy adaptation by those who do not yet have such items. This reduces development and implementation time.
- (ii) Creating centralized train-the-trainer courses will allow systematic development of safety professionals in each sector who can later, after gaining some experience, become trainers in their own countries.
- (iii) Assisting and supporting centrally trained people in running local courses in their sectors (in their countries) will develop pools of local experts in each sector to implement the country action plans more effectively.
- (iv) Facilitating exchanges and cooperation between countries will enable the sharing of best practices and expertise across the region.
- (v) Forming special interest groups via the ASNet will allow the creation of expert working groups in each sector in every country, where the key people can easily exchange information, experiences, and documents with their counterparts in neighboring countries. This will facilitate harmonization and experience sharing and make optimal use of regional expertise.
- (vi) Establishing an ASNet-based knowledge database will provide the technical information and references needed to assist implementers in each sector in finding the information and references needed to help them implement their part of the action plan in their countries. Monitoring and reporting of progress regularly in individual countries and across the region as a whole via senior transport officials

- (vii) meetings and the Association of Southeast Asian Nations Transport Ministers Meeting will maintain momentum and identify early problems and delays.

Holding annual ASEAN conferences and workshops on road safety action plans will allow exchanges of ideas and experiences (viii) and provide advice and guidance in different sectors and for the sector working groups to have annual sector-specific workshops. Annual conferences will also raise awareness and commitment of ASEAN road safety professionals via the presentation of annual ASEAN road safety awards.

Ensuring the ongoing availability of expertise to provide regular (quarterly) short advisory visits to action plan implementers in each (ix) country will keep the action plans on track for each sector.

The road safety activities in each sector and the regional action plan are summarized in Appendix 3.

Possible Regional Road Safety Initiative

The existing ADB-ASEAN Regional Road Safety Project has been very successful in raising awareness of the true scale and costs of ASEAN road safety-related problems; assisting the 10 ASEAN countries in developing their country-specific road safety action plans; establishing the ASNet; and, with assistance of safety experts from all 10 countries, drafting a ministerial declaration and a draft regional road safety action plan.

Recognizing the importance of solving road safety-related problems and the significant progress and momentum already established, ADB and other bilateral and multilateral development partners are considering the development of a regional road safety initiative to follow up on and extend the work already undertaken under the current ADB-ASEAN project. This initiative is outlined in Appendix 4 and is designed to

- (i) facilitate implementation of regional and national road safety action plans by providing technical advice and support to individual countries and the ASEAN Secretariat;
- (ii) assist in monitoring the implementation of the ASEAN Regional Road Safety Strategy and Action Plan and in improving the performance-management capacity of individuals entrusted to oversee the implementation of national road safety action plans;
- (iii) continue the development and extension of the ASNet;
- (iv) raise awareness of road safety via publication of an ASEAN road safety newsletter;
- (v) promote capacity building for road safety, including support for the private sector and civil society; and
- (vi) develop training modules and train-the-trainer programs and national road safety training courses.

ADB is currently discussing and exploring funding opportunities with development partners, including multilateral and bilateral agencies as well as private sector companies interested in road safety. However, such private and development partner support will only be forthcoming if there is clear evidence that individual ASEAN countries have recognized the seriousness and urgency of road safety-related problems and are themselves investing money or other resources in road safety so their country action plans could be implemented as scheduled.

ASEAN countries therefore need to demonstrate their commitment to improving road safety by finalizing and publishing their individual country-specific road safety action plans and making available the necessary technical and financial resources needed to implement these plans.

The regional initiative will be used to assist the individual countries in implementing their action plans more effectively and develop local expertise in each

country and across the region. This will be done by using local ASNet focal points and regional ASNet focal points, where feasible and appropriate, to provide technical support to countries and the ASEAN Secretariat on monitoring action plans and as venues for regional and national training courses and workshops.

Introduction

Background and Approach

The lack of road safety is a worldwide problem that needs to be tackled in a comprehensive and coordinated manner to achieve success. Different types of interventions are effective at different stages of a country's development in safety. To maximize benefits, the lack of road safety needs to be addressed within a systematic, multidisciplinary, and multisector strategic plan.

The lack of road safety is a worldwide problem.

Overloaded vehicles are a danger to drivers and passengers.



The Association of Southeast Asian Nations (ASEAN) Regional Road Safety Strategy and Action Plan is modeled on successful road safety action plans from around the world and encompasses the individual road safety action plans being implemented in each ASEAN country. The plan was produced as part of the Asian Development Bank (ADB)-ASEAN Regional Road Safety Project and follows general action plan guidelines published by ADB, United Nations, World Bank, and World Health Organization. The plan is, however, specifically tailored to the particular needs of the ASEAN region and the individual countries within this region.

This plan has identified a set of actions that are intended to have an immediate and long-term impact on the safety of the ASEAN region's most vulnerable road users (particularly motorcyclists). Moreover, these actions are intended to build capacity and institutions within the region so that road safety issues can be addressed more effectively by local specialists in the future.

Individual Country Action Plans: Role within the Regional Action Plan

The regional plan builds upon the individual country plans, which were developed in each of the 10 ASEAN countries through national workshops that lasted 3–5 days and involved hundreds of key local stakeholders and international experts. These country action plans were organized into 14 or 15 sectors. A few of the sectors are concerned with understanding problems related to road safety and ensuring the successful delivery of the plan, and they focus on coordinating, monitoring, and financing the plan. The other sectors identify sets of measures that are targeted at specific types of accidents that contribute most frequently to deaths and injuries in the ASEAN region—accidents involving motorcycles, speeding and driving under the influence of alcohol, and pedestrians.



Poorly maintained bridges hamper road safety efforts.

The road safety actions included in individual country action plans were selected on the basis of their potential to (i) enhance safety activities in key agencies responsible for road safety and (ii) strengthen the ability of these agencies to improve safety in regard to the types of accidents most frequently contributing to deaths and injuries in the ASEAN region. The country action plans identified the key agencies responsible for each improvement and the time frame needed to

implement the necessary measures, ranging from short term (within 1 year), medium term (within 2–3 years), and long term (within 4–5 years).

These multisector and multidisciplinary country action plans are designed to be implemented via a partnership approach that will enable different government ministries and departments to work together and with the private sector and civil society stakeholders in each country.

Country-specific action plans will be implemented by the individual countries, but these efforts will be supported and supplemented with activity at the regional level. This activity is designed to strengthen the institutional capacity of key professionals and agencies responsible for road safety and implementing the country plan recommendations within their ministries. Such training and capacity building will enable these professionals and agencies to play more effective roles in improving road safety across the region. These supportive regional activities are outlined in the following paragraphs, summarized in the sector action plans presented in the regional action plan chapter, and presented in more detail in the appendixes.



Unsafe or poorly designed crossings should be improved.

Role and Focus of a Regional Strategy

A strategy was devised that provides overall direction and focus of activities to be undertaken in the ASEAN region over 2005–2010, and a regional action plan was devised to deliver the initial outcomes and impacts to be achieved during the first 3 years of implementation of that strategy. The regional activities to be undertaken as part of the proposed regional action plan are specifically designed to facilitate, support, and

reinforce country activities under the national road safety action plans. The regional strategy primarily focuses on analysis and understanding, advocacy and/or awareness raising, institutional strengthening, cooperation, collaboration, and coordination.

The regional strategy is aimed at developing technical and institutional capacities to enable more effective implementation of the country-specific action plans and creation of a pool of expertise as a resource for sustainable development of future road safety activities in the region.



Regional roads serve the full spectrum of users.

Role of the Association of Southeast Asian Nations Regional Action Plan

This regional action plan is designed to stimulate road safety activity across the ASEAN region by supporting and facilitating implementation of the 10 individual country action plans. The regional plan will carry out the necessary human resource development, institutional strengthening, and cooperation and coordination within the region to help create a pool of knowledgeable ASEAN safety specialists and an environment conducive to the effective implementation of safety interventions in ASEAN countries.

Training courses and modules can be carried out centrally, where appropriate, to develop the skills and expertise needed, and centrally trained instructors can then be assisted in training other safety specialists in their respective countries to develop a pool of safety specialists and safety champions in key ministries in each country. These more knowledgeable safety specialists can help imbed and institutionalize safety activities in all key ministries.

This ADB-ASEAN program will continue to support regional activities and promote working in partnership wherever feasible. The program will encourage private sector partners to (i) work with governments in implementing national safety action plans and (ii) promote regional initiatives to increase cooperation and safety exchanges among private sector fleet operators. The program will also systematically assist the development and strengthening of nongovernment organizations that can become more actively involved in road safety and encourage networking and experience sharing among these organizations.

ADB and ASEAN secretariats recognize the urgency of solving problems related to road safety and are now determined to make major improvements in road safety over the next few years through coordinated implementation of this regional action plan.

This ADB-ASEAN program will continue to support regional activities and promote working in partnership wherever feasible.



Motorcycles are a major component of the traffic fleet across ASEAN and a road safety problem almost everywhere.

Problem

Background

The Association of Southeast Asian Nations (ASEAN) covers a region of immense contrasts, with motorization levels ranging from some of the least motorized countries in the world (at 9.5 vehicles per 1,000 people) to highly motorized countries (with 683.0 vehicles per 1,000 people). The region contains one of the world's smallest national populations (at 0.36 million) and one of the world's largest populations (at 234 million). Urbanization of populations ranges from as low as 20% to as high as 100%. Despite motorcycles being an important part of the traffic fleet in many countries, their proportion ranges from as low as 3% to as high as 95% of traffic fleets. ASEAN member countries also include some of the poorest countries in the world and some of the wealthiest. Annual gross domestic product per capita ranges from \$128 per year to \$23,000 per year. The region therefore covers the whole spectrum of development, ranging from very poor underdeveloped countries to those that are as wealthy and fully developed as any in the world.



Proper reporting at accident scenes is important.

Despite these huge contrasts, many similarities also exist among subgroups of countries. For example, motorcycles are a major component of the traffic fleet and a problem almost everywhere. Vulnerable road users have in the past not been well looked after in any of the countries, and several countries exhibit similar road safety-related problems over certain periods, such as the New Year, Songkram, and/or Tet holidays. Accident data are generally very poor and incomplete. Even in countries where data are available, data are generally not used effectively to improve road safety. Most importantly, in the past, inadequate awareness existed among decision makers about the true scale and costs of the problem and ineffective use of accident data.

Accident data are generally very poor and incomplete.

Such contrasts and common features offer opportunities for ASEAN countries. Contrasts and the spectrum of development allow neighbors who have faced and overcome specific problems to share experiences with those who are facing similar problems. Similarities allow the pooling of resources and efforts for the development of solutions to common problems, such as motorcyclist and vulnerable road user safety.

Traffic accidents are a growing worldwide problem that now results in over 1 million deaths and over 23 million injuries per year, and roughly 85% of these deaths now occur in developing countries. The problem is particularly urgent in Asian Development Bank (ADB) developing member countries, as the Asia and Pacific region contributes 44% of global road deaths while only having around 14% of the world's motorized vehicle fleet.¹

The economic development of ASEAN countries,² in particular, spurred rapid growth in the level of motorization and resulted in a significant worsening of the road safety situation across the region.

It is estimated that about 75,000 road deaths and over 4.7 million injuries (many resulting in permanent disability or serious injury) occurred



Apart from injuries and deaths, road accidents result in property damage and economic losses.

in the region in 2003. Huge economic losses are now incurred annually in ASEAN countries as a direct result of traffic accidents, and most research suggests annual losses across the region are now in excess of \$15 billion per year (around 2.23% of the region's annual gross domestic product). These losses inhibit economic and social development and can contribute to the perpetuation of poverty.

Recent Trends and Statistics

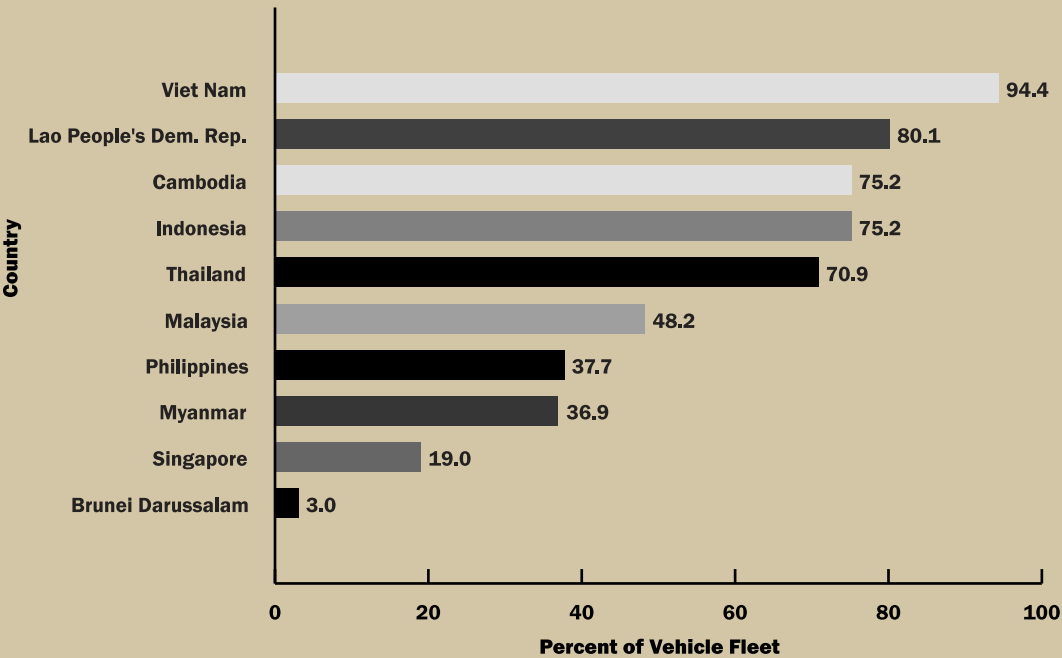
Before discussing recent trends in casualty statistics across the region, the link between motorization and road safety must be understood, as must the driving factors that worldwide experience shows can influence the deterioration of road safety. With few exceptions, most countries in the region are still at the lower end of the motorization curve and, in many cases, are only now starting to enter their phase of rapid motorization and vehicle growth. The number of motorcycles (already the major part of the traffic stream in several countries) is increasing even more rapidly than the numbers of other vehicles comprising the general vehicle population. Because of the influx of lower priced models from the People's Republic of China into markets, motorcycles now constitute a large proportion of the vehicle fleet in several countries (Figure 1). Their proportion of the vehicle fleet may be even higher in some

countries than is shown, because in some cases there is large-scale underregistration of motorcycles. For example, a recent multiagency motorcycle registration campaign in Myanmar identified an additional 465,783 motorcycles, which almost doubled the previously registered vehicle fleet (from 479,275 to 945,058) and increased the number of motorcycles to 638,351. Hence, the 36.9% of the fleet shown for Myanmar (based on analysis of official government statistics) should really be around 68.0%, and motorcycles now account for over 65.0% of the fleets of six countries.

¹ Jacobs, G., A. Aeron-Thomas, and A. Astrop. 2000. *Estimating Global Road Fatalities: Transport Research Laboratory Report 445* Crowthorne, Berkshire: Transport Research Laboratory.

² ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

Figure 1: Motorcycles in 2003 Vehicles Fleet (%)

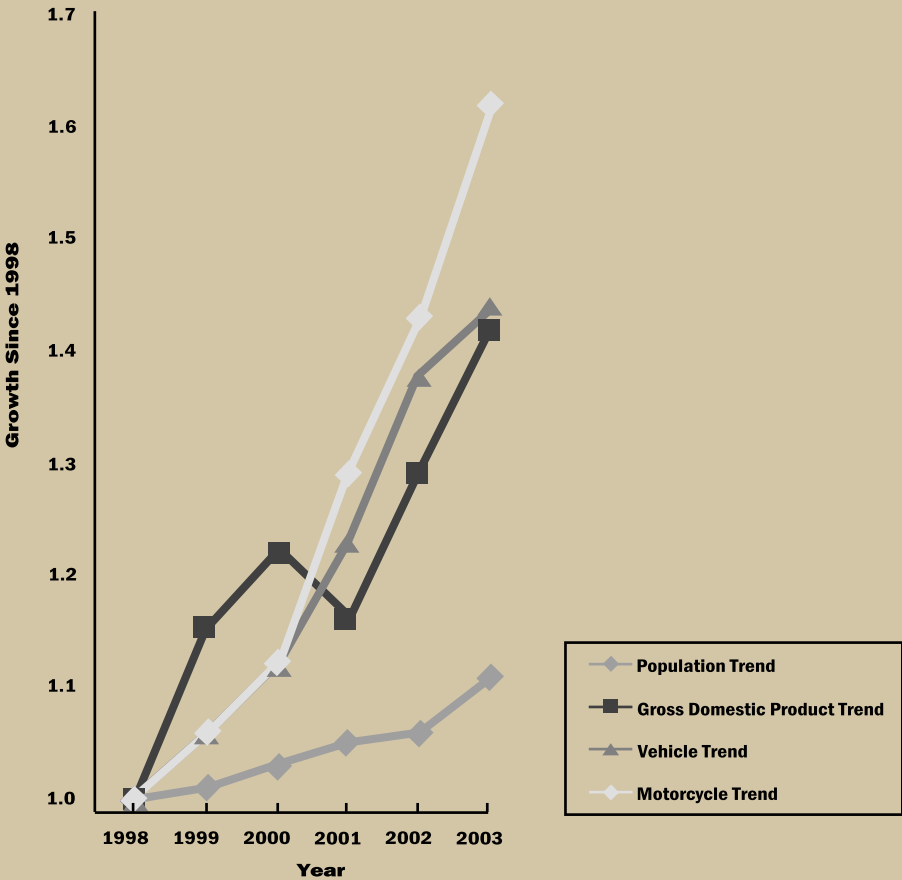


Source: Study estimates.

International experience indicates that with increases in ASEAN countries’ gross domestic products, as well as populations, vehicles, and motorcycles—which are some of the key driving

factors affecting road safety (Appendix 1 and Figure 2)—the numbers of reported deaths can be expected to increase in parallel with these underlying trends.

Figure 2: Recent Association of Southeast Asian Nations Trends in Population and Gross Domestic Product and Vehicle Registration (1998–2003)

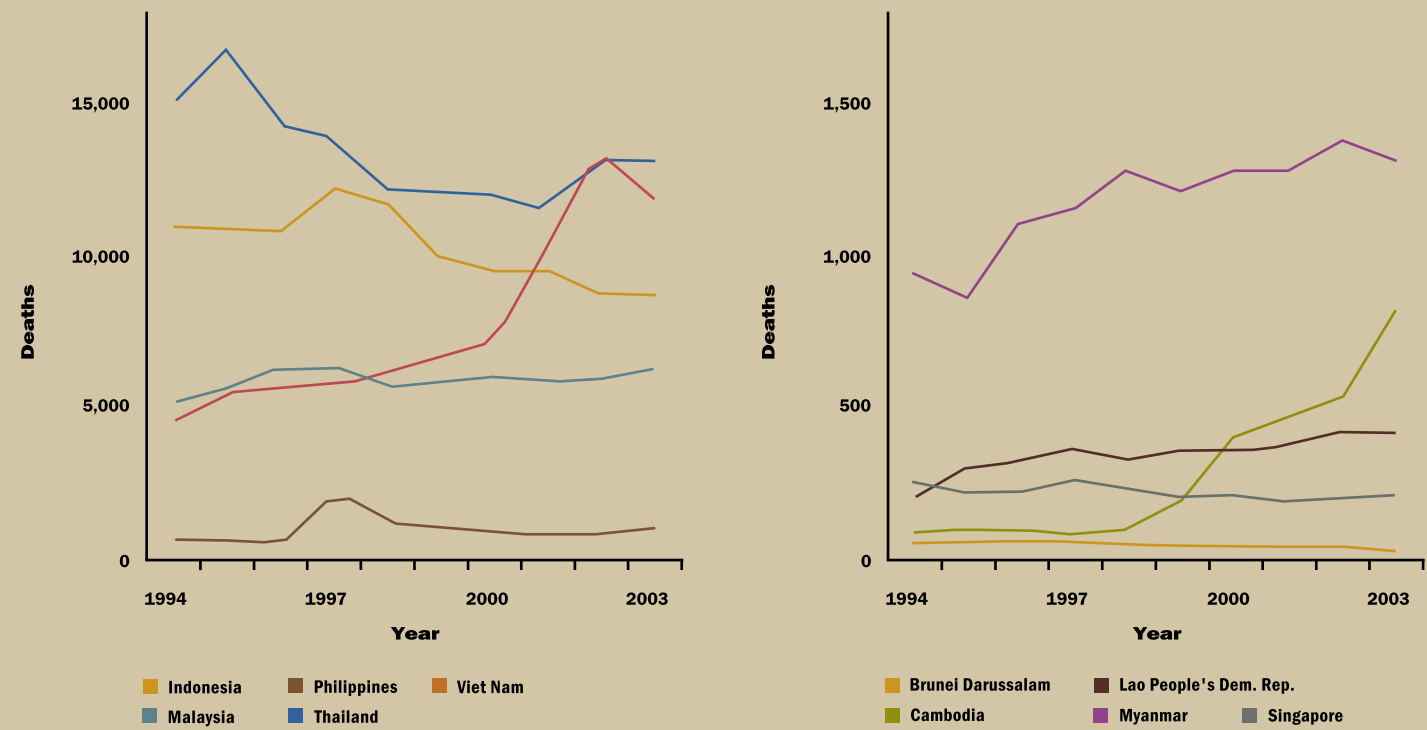


Source: Study estimates.

Despite this, and as Figure 3 indicates, the number of police-reported road accident deaths and injuries appears to be dropping in several countries, and in others there were erratic fluctuations and unexplainable large reductions in deaths and injuries over unrealistically short periods. International experience shows that these are highly improbable, without major new

safety initiatives being implemented or major disruptions (such as wars or natural disasters) occurring. These apparent downward trends were noted in Indonesia, Philippines, and several other countries and are much more likely the result of incomplete reporting than genuine year-on-year reductions in traffic deaths.

Figure 3: Police-Reported Road Accident Deaths: Trends in Association of Southeast Asian Nations Member Countries



Source: Study estimates.

Police reporting of accident data, especially injuries, was often incomplete in most of the countries concerned, as only a very small proportion of injuries appeared to be reported to police. Under the ADB-ASEAN Regional Road Safety Project, domestic consultants and/or researchers compared police and, where available, hospital, health ministry, or other data to estimate more accurately the actual numbers of deaths and injuries occurring in each country. In a few countries, police-reported deaths were found to be very

significantly underestimated, but in most countries the numbers of deaths reported seemed to be reasonably accurate. However, in the case of injuries, significant discrepancies often occurred between the numbers of injuries reported by the police and the numbers of traffic accident victims recorded as getting medical treatment in hospital or ministry of health records. Table 1 shows the degree of underreporting estimated across the region.

Table 1: Reported and Estimated Road Accident Deaths and Injuries in Association of Southeast Asian Nations Member Countries (2003)

Country	Police-Reported		Estimated	
	Deaths	Injuries	Deaths	Injuries
Brunei Darussalam	28	645	28	1,273
Cambodia	824	6,329	1,017	20,340
Indonesia	8,761	13,941	30,464	2,550,000
Lao People's Democratic Republic	415	6,231	581	18,690
Malaysia	6,282	46,420	6,282	46,420
Myanmar	1,308	9,299	1,308	45,780
Philippines	995	6,790	9,000	493,970
Singapore	211	7,975	211	9,072
Thailand	13,116	69,313	13,116	1,529,034
Viet Nam	11,319	20,400	13,186	30,999
Total ASEAN	43,259	187,343	75,193	4,745,578

ASEAN = Association of Southeast Asian Nations.
Source: Study estimates.

Once more accurate estimates of road accident casualties were made, it became possible to estimate the annual economic losses resulting from road accidents in each country and for the region as a whole. Domestic consultants (usually academics from leading universities or research institutes in each country) were recruited by ADB to carry out an accident costing exercise for each country, so that the true costs of the problem could be made known to senior decision makers. Various methodologies exist for cost estimation, and countries were encouraged to

use the gross output method, believed to be the most appropriate for developing countries. This approach tends to give lower valuations than other methodologies available, so the estimates of losses made in each country may be conservative, and actual losses may well be higher than those calculated. All countries (with the exception of Malaysia, which already uses the more complex willingness-to-pay method) used the gross output method for their calculation of annual economic losses, and the results of those costing exercises are shown in Table 2.

Table 2: Annual Economic Losses from Road Accidents

Country	\$ Million	Percentage of Annual Gross Domestic Product
Brunei Darussalam	65	1.00
Cambodia	116	3.21
Indonesia	6,032	2.91
Lao People's Democratic Republic	47	2.70
Malaysia	2,400	2.40
Myanmar	200	3.00
Philippines	1,900	2.60
Singapore	457	0.50
Thailand	3,000	2.10
Viet Nam	885	2.45
Total ASEAN	15,102	2.23

ASEAN = Association of Southeast Asian Nations.
Source: Study estimates.



Each year, over 75,000 people are killed in road accidents.

Domestic consultant research on accident statistics and accident costing, although by no means exhaustive, has provided a reasonable first assessment of the present levels of underreporting in deaths and injuries and provided an initial estimate of annual economic losses sustained in each country. The methods of calculation and estimation were deliberately selected to be conservative, so that it can be confidently said that these are the minimum levels of human and economic losses occurring. These initial estimates will be updated and refined as more data become avail-

able, and periodic updates of the costing exercise will be produced in future years, but the current estimates provide some appreciation of the true scale and costs of the problem in the region.

Each year, over 75,000 people are killed and approximately 4.7 million are injured in road accidents—some so severely that they will be disabled for the rest of their lives. Assuming that each of those killed or injured has five family members or dependents reliant upon the dead or injured person’s earnings, there could be 25 million people in the region (in addition to those

killed or injured) directly affected by or suffering economic hardship annually as a result of road accidents. These road accidents result in annual losses of about \$15 billion each year (around 2.23% of the total annual ASEAN gross domestic product) and are now undoubtedly inhibiting the economic and social development of the region.

In the last 5 years, over 310,000 people died and about 20 million were injured in the ASEAN region. Unless urgent action is taken, a further 385,000 people will die in the next 5 years and a further 24 million will be injured or crippled,

costing countries in the region over \$88 billion in property damage, medical costs, and productivity losses. No region, especially one that is still developing, can afford to sustain such recurring human and economic losses, and efforts must be made to address this problem urgently and aggressively, if the problem is to be brought under control.



Targets and Potential Savings

Vehicle fleets (particularly motorcycles), numbers of licensed drivers, population sizes, budgets, and other factors that generate the conditions that can lead to a deterioration of road safety are all growing in Association of Southeast Asian Nations (ASEAN) countries, and these are contributing to the growth of the problem. The resulting carnage on the roads needs to be addressed.

The resulting **carnage** on the roads **needs** to be **addressed**.

ASEAN governments should recognize the huge economic and social costs incurred annually in their countries from those killed, crippled, or injured in road accidents every year. The urgency of the problem must be brought to the attention of the most senior decision makers so that adequate resources can be applied to address it. Those at the highest levels must recognize that

increasing affluence; increasing speeds, due to more powerful vehicles and good road facilities; and underresourced traffic policing functions.

Although immediately bringing about drastic reductions in deaths and injuries under such conditions may not be possible, slowing the growth, stabilizing it, and gradually turning the trends in a downward direction should be pos-



In six out of 10 ASEAN countries motorcycles account for over 65% of vehicle fleets.

this situation has now reached catastrophic levels and that stern measures need to be implemented to achieve safety benefits. They must also understand that reducing road accidents will not be easy in a traffic environment with high traffic growth (typically 10% or more); high proportions of motorcycles (up to 95% in some countries);

sible. The present rate of increase in deaths was calculated from historical data, and an estimate was made of the likely deaths by year that could be expected for the business-as-usual situation in each country (i.e., existing activities continuing as at present with no special or additional effort made to improve road safety). An estimate was

Potential savings from the implementation of national action plans equal around \$10.56 billion.

then made of the likely reduction in the rate of increase that might be achievable through specific safety interventions, such as increasing the number of people wearing safety helmets, introducing safety audits, and improving hazardous locations. The annual deaths likely in future years with a reduced rate of increase were calculated, and the difference between that and annual deaths from the business-as-usual case gave the potential number of lives saved for each year. The cumulative total for a number of years then provided the potential savings in lives that could be achieved through implementing the national road safety action plans of each country.

This exercise was undertaken for each country during the preparation of each draft national action plan, and target reductions were agreed with implementing agencies for inclusion into individual action plans. These target reductions are shown in Table 3. Because most ASEAN countries are still in the rapid growth phase of the motorization curve, road accident deaths are likely to continue their upward trend at this time. The realistic aim of most individual country-specific action plans was to reduce the anticipated rate of increase in deaths and injuries over 2005–2010, thereby saving a specific number of lives that otherwise would be lost.

Table 3 shows the estimated number of lives that could be saved across the ASEAN region (nearly 42,000) if individual country-specific action plans supported by the regional strategy are implemented effectively and as designed.

For every life saved, there will also be a much larger number of injuries and accidents that are prevented. At present, however, estimating precisely how many that might be is impossible. But if the same deaths-to-injuries ratio found by do-

mestic researchers examining underreporting in each country under the current project is used, for every one death around 69 injuries (the total of serious and slight) can be assumed to occur in the ASEAN region. Indicative estimates of potential casualty savings are given in Table 3 for each country. There will, in addition, be savings from the reduced incidence of damage only accidents.

The potential casualty savings constitute around 12% of the total deaths and injuries expected over the period, so it is not unreasonable to assume that economic savings could be around 12% of potential economic losses expected in that period. Thus, the potential savings from the successful implementation of the actions plans equal 12% of \$88.00 billion, or around \$10.56 billion.

The casualty reductions that are thought to be achievable in ASEAN countries (Table 3) and the individual country action plans, if implemented as agreed, should deliver these savings during the period of these action plans. These targets will act as benchmarks for monitoring the casualty reduction success aspects of the individual country-specific plans and individual country contributions toward regional targets.

Table 3: Target Reductions in Deaths and Injuries via Individual Country Action Plans

Country	Potential Lives to be Saved via Country Plans	Potential Injuries to be Saved via Country Plans	Potential Economic Savings (\$) ^a
Brunei Darussalam	45	2,025	
Cambodia	1,800	36,000	
Indonesia	12,000	996,000	
Lao People's Democratic Republic	919	29,408	
Malaysia	3,000	21,900	
Myanmar	940	32,900	
Philippines	3,000	258,000	
Singapore	100	4,300	
Thailand	13,000	1,508,000	
Viet Nam	7,000	16,100	
Total ASEAN	41,804	2,904,633	10,560,000,000

ASEAN = Association of Southeast Asian Nations.

^a Potential economic savings have only been calculated for the region as a whole to give a global overview of the potential savings accruing to the ASEAN region. The share of such savings between countries will vary because of differing valuations of death and injury in each country and because of the differing levels of casualty savings in individual countries.
Source: Study estimates.

The likelihood of the individual country targets being achieved will be significantly enhanced if the regional action plan and regional initiatives are implemented as designed. The regional plan was carefully designed to harmonize with and supplement and reinforce individual country plans.

Individual country action plans and the regional plan will be reviewed periodically, and targets reassessed to ensure that they remain realistic and feasible. In most countries, agreed targets have included raising the percentage of helmet wearing among motorcyclists. This is a low-cost measure that can be applied and easily monitored by all countries. This measure will have a very sig-

nificant impact on the numbers of those killed or injured in all countries with large proportions of motorcycles in the vehicle fleet.

The regional action plan, especially as it relates to institutional strengthening of road safety activities and delivery of improved safety in terms of casualty reductions, will be monitored by the ASEAN Secretariat, with assistance from the ADB-ASEAN Regional Road Safety Project team (Appendix 2). This will assist countries in more effectively implementing their individual action plans and enable the ASEAN Secretariat to regularly report on regional progress.



Failing to restrict overloading endangers lives.



Lack of suitable safe pedestrian crossing facilities endangers the lives of schoolchildren.



Regional Strategy

Vision and Objectives

The Asian Development Bank (ADB)-Association of Southeast Asian Nations (ASEAN) Regional Road Safety Project aims to significantly strengthen institutional capacity to address road safety issues in ASEAN countries through training local professionals; developing relevant tools, techniques, and documents; and encouraging networking and the sharing of experiences related to best practices across ASEAN countries.

Motorcycle helmet use saves lives, so helmet wearing campaigns promote road safety.

Strategic Framework

Development of this strategy considered the competing needs that have to be met within limited resources, actual activities in road safety, and real potential for low-cost ways to reduce the risks of death and injury in the ASEAN region. The strategy addresses the most urgent problems, which include

- (i) inadequate awareness among decision makers of the true scale of the annual human and economic losses (75,000 deaths; 4.70 million injuries; and \$15 billion, which is 2.23% of regional gross domestic product);
- (ii) significant gaps in knowledge and expertise that prevent local professionals from becoming more actively engaged in improving road safety in their countries;
- (iii) notable absence of effective orchestration, management, and coordination of responses aimed at improving road safety;
- (iv) inadequate analyses and/or understanding of the problem and limited collaboration and/or knowledge sharing on common issues;
- (v) notable absence of key private sector and community stakeholders from efforts to address the problem; and
- (vi) notable absence of multisector and multidisciplinary action plans to provide direction and holistic approaches within a systematic framework for action.

The strategy focuses on **six priority aspects** where the ADB-ASEAN regional program **can add value.**

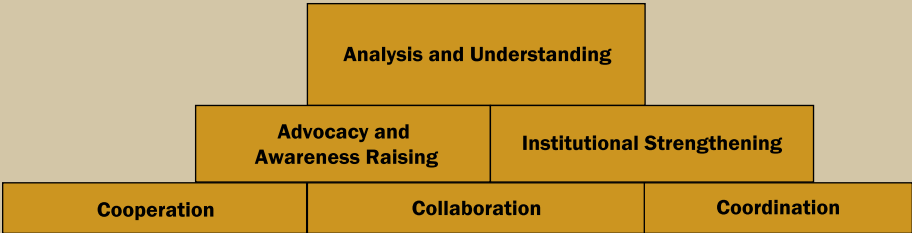
Although the strategy includes some quick-fix solutions for the most urgent areas, which will be effective until some more permanent solutions can be implemented, the strategy is designed to be sustainable and to address longer term goals by building the capacity of the individuals and organizations that must undertake and manage safety improvements in future years.

The strategy is based on the 10 individual country-specific action plans that are now being implemented and upon the strong foundation of regional cooperation that was already established via the ASEAN Safety Network (ASNet) and regional meetings under the initial phase of the ADB-ASEAN project.

The strategy focuses on six priority aspects where the ADB-ASEAN Regional Road Safety Program can add value. These are the building blocks that can ensure effective road safety activity in future years (Figure 4).

The action plan in support of this strategy is in Appendix 3. The bulk of the work will be done in each country, under individual country-specific national road safety action plans, but this work will be supported and reinforced by activities at the regional level. Appendix 3 indicates areas where the ADB-ASEAN Regional Road Safety Program could help create sustainable activities aimed at encouraging and facilitating road safety efforts in individual countries and across the region as a whole.

Figure 4: Safety Building Blocks
(to be established via the Association of Southeast Asian Nations
Regional Road Safety Strategy and Action Plan)



Source: Study estimates.

Strategy Focus

The strategy focuses on several key aspects.

- (i) **Analysis and understanding.** Accident data systems used by police must be improved in most ASEAN countries, supplementary data must be collected from health ministries, and more effective analyses must be done on the data that are available. These actions are necessary so that the true scale and characteristics of the problem can be defined.
- (ii) **Advocacy and/or awareness raising.** Getting international organizations, development partners, lenders, and ASEAN governments to recognize the seriousness and urgency of the problem is important, so that adequate funds get allocated and priority is given to road safety improvement measures in the ASEAN region.
- (iii) **Institutional strengthening.** Establish improved safety management structures; data systems; and core modules of legislation, guidelines, and others to assist individual countries in implementing safety improvements. Of particular importance will be upgrading knowledge and skills of key professionals with road safety responsibilities, via central train-the-trainer courses, and assisting such trainers in running similar courses in their own countries, to train local safety specialists in each sector.

- (iv) **Cooperation.** Facilitate greater cooperation between ASEAN countries, to share expertise and experiences and solicit support from bilateral and multilateral agencies, dialogue partners, and others, as necessary, to encourage increased investment in road safety and seek active support in developing a regional road safety initiative.
- (v) **Collaboration.** Collaboration mechanisms need to be established to facilitate closer and more effective working between (a) central and local governments, (b) private sector organizations, (c) nongovernment organizations and governments, and (d) safety professionals in different countries. Developing and extending the ASNet and knowledge databases for ASEAN countries is also important, as is creating networks of special interest groups, via the ASNet, to share, develop, and exchange knowledge and experiences in each sector.
- (vi) **Coordination.** To ensure effective implementation, the 10 individual country plans and the regional plan need to be closely monitored and coordinated. Efforts to develop road safety will be supervised and coordinated by the ASEAN Secretariat, with technical assistance and support from ADB.

The strategy will be implemented via the regional road safety action plan, which is summarized in Appendix 3 and discussed in the next chapter, in relation to the sorts of activities to be undertaken in each sector. These regional activities, such as increasing cross-regional cooperation, establishing an ASEAN road safety working group, and issuing ministerial declarations, are expected regardless of whether or not a regional initiative is created. The regional action plan therefore assumes some activity via the proposed regional initiative but is not solely dependent upon it.

Possible Regional Road Safety Initiative

The existing ADB-ASEAN Regional Road Safety Project has been very successful in raising awareness of the true scale and costs of ASEAN road safety-related problems; assisting the 10 ASEAN countries in developing their country-specific road safety action plans; establishing the ASNet; and, with assistance of safety experts from all 10 countries, drafting a ministerial declaration (Ap-

and extend the work already undertaken under the current ADB-ASEAN project. This initiative is outlined in Appendix 4 and is designed to

- (i) facilitate implementation of regional and national road safety action plans by providing technical advice and support to individual countries and the ASEAN Secretariat;
- (ii) assist in monitoring the implementation of the ASEAN Regional Road Safety Strategy and Action Plan and in improving the performance-management capacity of individuals entrusted to oversee the implementation of national road safety action plans;
- (iii) continue the development and extension of the ASNet;
- (iv) raise awareness of road safety via publication of an ASEAN road safety newsletter;
- (v) promote capacity building for road safety, including support for the private sector and civil society; and
- (vi) develop training modules and train-the-trainer programs and national road safety training courses.

are themselves investing money or other resources in road safety to enable their country action plans to be implemented as scheduled.

ASEAN countries therefore need to demonstrate their commitment to improving road safety by finalizing and publishing their individual country-specific road safety action plans and making available the necessary technical and financial resources needed to implement these plans.

The regional initiative will be used to (i) assist the individual countries in implementing their action plans more effectively and (ii) develop local expertise in each country and across the region. This will be done by using local and regional ASNet focal points, where feasible and appropriate, to provide technical support to countries and the ASEAN Secretariat on monitoring action plans and as venues for regional and national training courses and workshops.

The regional action plan therefore **assumes some activity via the proposed regional initiative but is not solely dependent upon it.**

pendix 1) and a draft regional road safety action plan.

Recognizing the importance of solving road safety-related problems and the significant progress and momentum already established, ADB and other bilateral and multilateral development partners are considering the development of a regional road safety initiative, to follow up on

ADB is currently discussing and exploring funding opportunities with development partners, including multilateral and bilateral agencies and private sector companies interested in road safety. However, such support will only be forthcoming if there is clear evidence that individual ASEAN countries have recognized the seriousness and urgency of road safety-related problems and

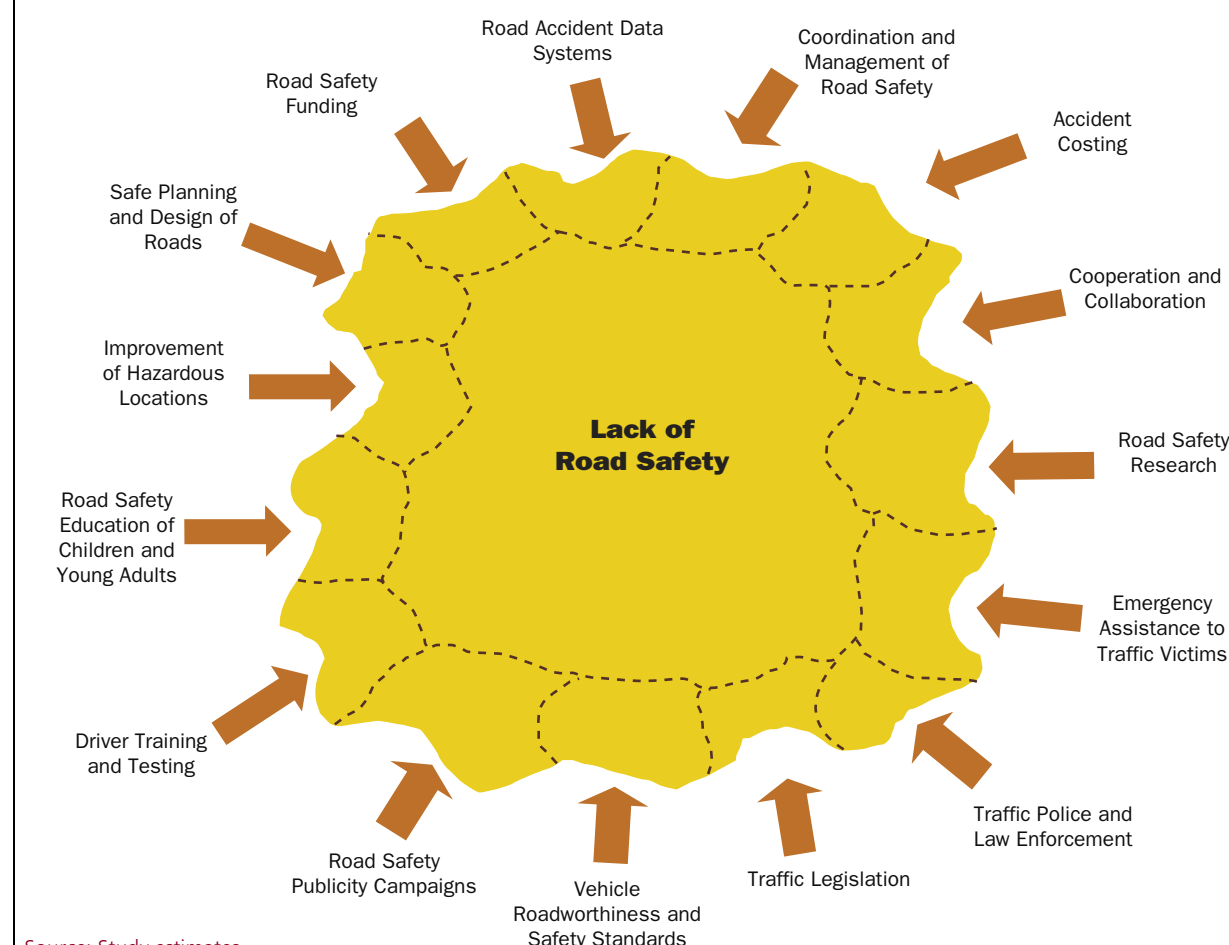


Regional Action Plan

Improving road safety requires action from all sectors and an effective and coordinated road safety action plan that will enable stakeholders to take action in their respective areas to reduce the size of the overall problem (Figure 5). In the case of the Association of Southeast Asian Nations (ASEAN) region, each of the 10 member countries are now implementing their own country-specific multi-sector road safety action plans, and the regional plan was designed to supplement and support activities being undertaken at the national level. The regional plan is intended to provide training related to regional activities, sharing of experiences, and monitoring, to ensure more effective implementation of the individual country-specific action plans.

The regional plan is intended **to provide training** related to **regional activities.**

Figure 5: Improvement of Road Safety is a Multidisciplinary Problem



Source: Study estimates.

Role and Objectives of the Regional Road Safety Strategy and Action Plan

The regional action plan is deliberately divided into 14 key sectors of activity, in broadly the same way as the individual country road safety action plans (although some countries have 15 sectors). The sectors involve many different disciplines and a very wide range of activities, but all are based on applying proven scientific and methodical approaches to improving road safety.

The improvement of road safety is a very complicated task, requiring coordinated actions and interventions at different stages and levels to maximize effectiveness. The format of this chapter of the action plan attempts to summarize the

existing situation in each sector, identify countries that are strongest in each sector, outline the sorts of actions being undertaken in that sector in each country, and identify specific regional actions that can be taken to support and supplement the in-country activities now under way. By implementing the proposed supportive regional actions in each sector, as outlined in the remaining parts of this chapter, the following important objectives will be achieved.

- (i) **Promoting central development of modules** involving legislation on helmets and drinking and driving, for example, will allow models and/or examples to be prepared by sector-specific interest groups for easy adaptation by those who do not yet have such items, and this will

reduce development and/or implementation time.

- (ii) **Centralizing training courses and/or workshops** will allow systematic development of safety professionals in each sector who can later become trainers and leaders in their own countries.
- (iii) **Facilitating exchanges and cooperation between countries** will enable the sharing of best practices and expertise across the region.
- (iv) **Promoting road safety to development partners and funding agencies** should result in increased incidence of road safety components in aid-funded road infrastructure, health, and education projects.
- (v) **Creating special interest groups via the ASEAN Safety Network (ASNet)** will allow key people in each sector in each country to easily exchange experiences, documents, and information with their counterparts in neighboring countries. This will facilitate harmonization and experience sharing and make optimal use of regional expertise.
- (vi) **Creating an ASNet-based knowledge database** will provide the technical information and references needed to assist

implementers in each sector in their parts of the action plan.

- (vii) **Establishing an ASEAN road safety working group (RSWG)** will ensure coordinated implementation and regular reporting of progress in individual countries and across the region as a whole via senior transport officials meetings (STOMs) and ASEAN transport ministers meetings (ATMs), to ensure momentum is maintained.
- (viii) **Holding annual ASEAN conferences and/or workshops on road safety action plans** will allow exchanges of ideas and experiences and create opportunities to provide advice and/or guidance in different sectors.
- (ix) **Maintaining the ongoing availability of experts to provide regular short advisory visits to action plan implementers in each country** will keep the action plans on track for each sector.

Each sector is important to long-term road safety in the ASEAN region, so coordinated action is required in all sectors. Road safety activities in each sector and the regional action plan are summarized in the following two-page format.



Improving road safety will greatly benefit the region's most vulnerable road users.



Country-level and regional
discussion workshops and seminars improve road safety.

The percentages given to current activities are based on snapshot assessments made during workshops by participants who considered a standard template of best practices for each sector. Scores are intended to reflect (as a percentage) roughly where each country stood at the time of assessment in terms of depth of activity undertaken or national coverage, in comparison with where it would be if everything was working as well as possible. In some cases, there may have been improvements since the time of assessment. This being the case, the percentages should simply be seen as a way for countries to assess progress made in-country toward the desired level of activity. Countries with a low starting score in any sector will simply have more scope for significant improvement (which will be achieved by the end of the action plan implementation period) than those with a high starting score.



A lack of pedestrian-related signs decreases safety.

Coordination and Management of Road Safety

Strong political, financial, and technical support is needed for those delegated to initiate and coordinate road safety on behalf of the state. Road safety is a multidimensional social problem involving many government agencies, so the state must play a leading role in initiating, organizing, and coordinating the national assault on road safety problems in a country.

Overview

All countries in the ASEAN region have some kind of national road safety council (NRSC) or similar body to coordinate activities, although several covered other forms of transport as well and some have not met for a considerable period. None were adequately funded or resourced for the work required.

Most such coordinating bodies have representatives from ministries responsible for highways, transport, and police, but education and health ministries' involvement is not common. The private sector and nongovernment organizations are usually not represented.

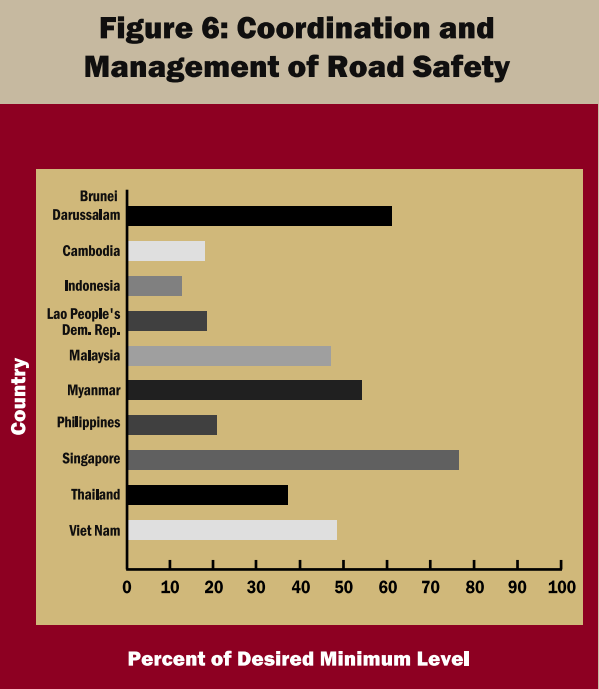
All countries have individual officers responsible for coordinating and implementing road safety programs, but few had well-resourced teams of multidisciplinary specialists who were able to carry out effective work in all sectors.

Local-level committees are typically less common and less organized, where they exist. Most countries, however, do not have local-level committees operating.

Brunei Darussalam, Malaysia, and Singapore were the strongest in the coordination and management sector, but Myanmar and Viet Nam have also made some good progress (Figure 6). The remaining countries need very significant improvements. Even the best countries have potential to improve.

Asian Development Bank (ADB)'s Road Safety Guidelines 4.1³

It is important to note that in figures 6–19 each percentage score is based on the needs of the individual country concerned. In this sector, the problem of coordinating and managing safety in a country as large as Indonesia is obviously much greater than in a smaller urban area, such as Singapore. Thus, it should not be surprising that Indonesia, for example, has a much longer way to go toward achieving its desired minimum level of activity than Singapore. The scores should therefore be seen as country-specific assessments, rather than as direct country comparisons.



Source: Study estimates.

Country-Level Action

All ASEAN countries have now produced road safety action plans using a very similar format, covering the 14 sectors included in this regional plan, and all countries agreed that the effectiveness of their NRSC or similar body could be improved through (i) better political, financial, and technical support and (ii) better representation, including more private sector and community involvement.

Those concerned generally agree that national road safety strategies and action plans would provide a focus for increased NRSC activity.

Most countries made specific efforts to launch their new road safety action plans as drafts for discussion. In some cases, these launches were timed to coincide with the World Health Organization's World Health Day in April 2004, which focused on road safety issues for the first time. Specific actions being undertaken at the country level in this sector include those listed in Table 4.

Regional Supportive Action

Supporting actions will include ensuring ministerial declarations on road safety; monitoring country and regional action plans via the ASEAN Secretariat; promoting the ASEAN road safety charter, to get commitment from government and private sector and nongovernment organization stakeholders; creating special interest groups via the ASNet; and training road safety champions.

Table 4: Country-Level Actions for Coordination and Management of Road Safety

Country	Action
Brunei Darussalam	Establish, through the national road safety council (NRSC), a working group to review secretariat resources and budget needs at the national and district levels.
Cambodia	Seek a decree from a council of ministers to create an NRSC and establish a secretariat.
Indonesia	Create a steering committee to establish an NRSC, under a presidential decree.
Malaysia	Seek Prime Minister's directive on road safety. Establish state road safety councils and secretariats.
Myanmar	Hold a seminar; create an interim agency; and establish a full NRSC and state, division, district, and township organizations.
Lao People's Democratic Republic	Have a national road safety strategy agreed by the Prime Minister. A new NRSC will be inaugurated.
Philippines	Reactivate, reconstitute, and reorganize the NRSC through a new administrative order.
Singapore	Establish a senior officials committee with public, private, and community representatives to create a steering group.
Thailand	Strengthen the road safety center within the National Transport Safety Commission. Seek cabinet approval for a national road safety action plan.
Viet Nam	Improve active involvement of the private sector and the community. Incorporate a new national road safety action plan into the NRSC and/or World Bank project.

Source: Study estimates.

³ ADB. 1999. *Road Safety Guidelines for the Asian and Pacific Region*. Manila.

Road Accident Data Systems

An effective computer-based accident data system using a standard police data collection form nationwide is one of the most important prerequisites for a country that hopes to improve its road safety problem. It permits the characteristics and nature of the problem to be defined and appropriate countermeasures to be devised (footnote 3).

Overview

Domestic consultants were engaged in all ASEAN countries to produce reports on road safety and accident costs. These reports included analyses of existing national accident databases and detailed estimates of the degree of underreporting.

Systems vary significantly throughout the region, as does the availability of useful data and effective data analysis and use by decision makers, researchers, engineers, and others. Some countries gained the most useful information for planning road safety interventions from small-scale hospital surveys of traffic casualties (e.g., Cambodia and Lao People’s Democratic Republic).

Malaysia made excellent use of its accident data in researching and planning road safety initiatives, but black spot improvement work at present is only conducted on the federal road network.

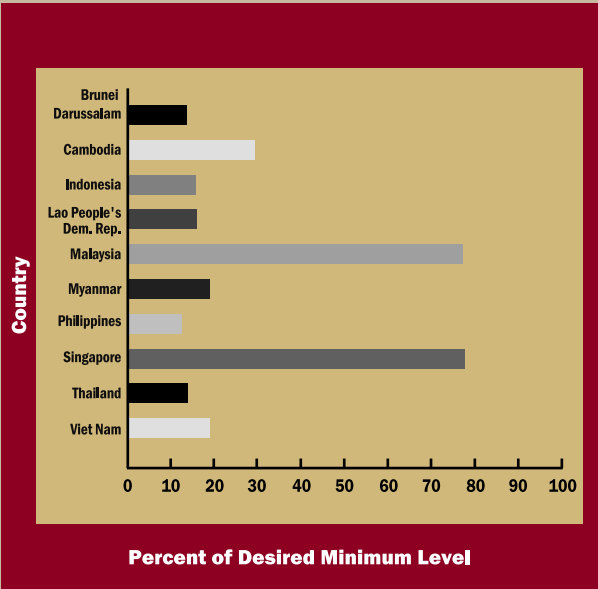
Underreporting was a serious problem in most countries, with police-reported traffic fatalities in some countries being only 10–30% of those recorded in hospital statistics. Injuries were grossly underreported in all countries, and hospital data often showed 20–30 times the injuries being reported annually in police statistics.

No country appeared to have a system that can yet meet the basic requirements of road safety engineers, who need to be able to develop prioritized accident black spot lists, with full details of accident patterns, so that remedial measures can be devised. Even where the basic data systems were quite good, the data were often not fully analyzed or used to maximum potential. In most countries, data were not used for hazardous locations improvement, and even where data were used for such work, this was often only on national roads, with hazardous sections of roads on the rest of networks being left untreated.

Malaysia and Singapore are the only countries with reasonably good nationwide systems, and even these have room for improvement. All other countries have inadequate systems that need significant improvements (Figure 7).

Some countries in the ASEAN region have installed and are improving their computerized data systems. Easy-to-use and/or easy-to-adapt computer data systems, such as the Transport Research Laboratory’s microcomputer accident analysis package system, have or are being introduced into several countries (Indonesia, Malaysia, and several others already have Microcomputer Accident Analysis Package-based systems). The Philippines is introducing a system based on that of VicRoads (highway agency of Victoria State) in Australia, and Singapore has its own system.

Figure 7: Road Accident Data Systems



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they could make improvements by

- (i) agreeing on a new standard accident data reporting form, for introduction nationwide;
- (ii) computerizing data storage, retrieval, and analysis;
- (iii) supplementing police-reported data with hospital data on traffic casualties treated by medical staffs;
- (iv) producing a consolidated report based on police and hospital data, to give a more complete picture of the scale and characteristics of road safety-related problems; and
- (v) analyzing and using data for design of remedial measures.

Specific actions being undertaken in this sector at the country level include those listed in Table 5.

Regional Supportive Action

Supporting actions will include reaching an agreement across the region on core items to be collected in every ASEAN country (coordinate with Asia-Pacific Road Accident Database requirements); making information available on accident data systems and key features required in terms of data collection, data retrieval, data analyses, accident location, data dissemination systems; supplementing police data with health data, to get the true scale of problem; and creating a data system special interest group on the ASNet.

Table 5: Country-Level Actions for Road Accident Data Systems

Country	Action
Brunei Darussalam	Publish 2003 report and distribute this widely. Plan a computerized system.
Cambodia	Hold a seminar on data collection, improve links with hospitals and the insurance industry, and design a new system.
Indonesia	Upgrade the system using microcomputer accident analysis package-type software and disseminate this to relevant institutions.
Lao People's Democratic Republic	Improve form, continue with hospital surveys, and design a new system.
Malaysia	Extend existing traffic intelligence enforcement system to operate throughout the country.
Myanmar	Determine lead agency, improve form, and establish a new system.
Philippines	Determine lead agency; establish a coordination committee; and integrate, eventually, a traffic accident recording and analysis system with other national systems (i.e., Department of Health, Department of Public Works and Highways, Land Transportation Office, and Metro Manila Development Authority).
Singapore	Better location information with scanned photos and increased dissemination of data.
Thailand	Improve form, and pilot test and establish a new national system.
Viet Nam	Improve the standard form and implement a pilot program.

Source: Study estimates.

Road Safety Funding

Funding of road safety is primarily the responsibility of governments. However, the private sector and especially the insurance industry can and should play an important role in tackling road safety. Opportunities do exist for governments to draw the insurance industry and other private sector investors into the battle to improve road safety by establishing voluntary and compulsory levies (footnote 3).

Overview

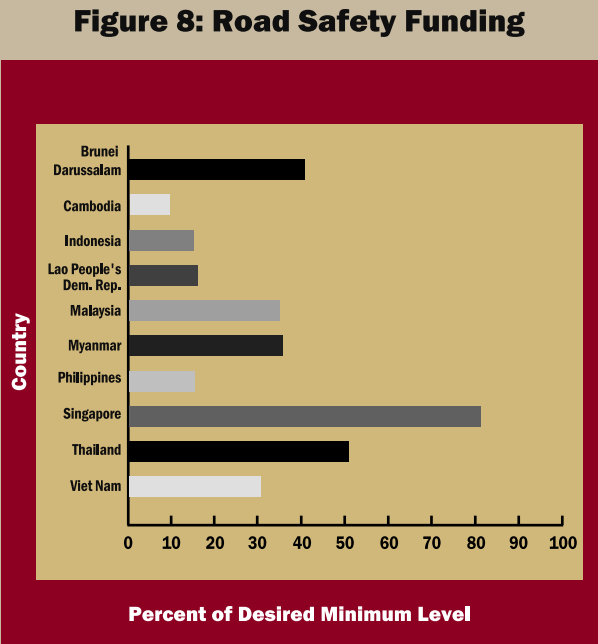
Only Singapore (and perhaps Malaysia, to some extent) can claim to have a reasonable level of funding for road safety. The remaining countries are all underresourced.

Current private sector involvement is mainly through fuel companies and vehicle manufacturers, with minimum involvement from the insurance industry. However, several excellent examples of private sector sponsorship exist for safety activities, particularly in Singapore and Viet Nam, and these should inspire other countries in the region. Thailand’s recent decision to allow half of the health levy on alcohol and tobacco sales to be used for road safety will make millions of dollars available annually for safety actions—an excellent example of what can be done to raise additional funding.

The insurance sector is small but growing in ASEAN countries. Insurers need to address the real cost of covering high-risk groups, and they need to adjust premiums accordingly. This will be good for business and road safety. Absence or noncompliance of minimum third-party insurance in some countries inhibits safety, so governments should enforce insurance regulations to achieve a high rate of coverage.

Although governments must finance key line ministries with road safety responsibilities, levies (on fuel, vehicle inspections, driver’s licenses, insurance, alcohol, and others) can be used to finance road safety activities. A particularly good source of such funds (where it exists) is a road fund. In the Philippines, 7.5% of the road fund is now allocated for road safety activities.

Singapore appears reasonably well resourced. Brunei Darussalam and Thailand are the next strongest, but all countries need to improve in this sector and seek innovative ways, as Thailand has done, to improve the funds available for road safety (Figure 8).



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they could make improvements by making more funding available for road safety, establishing long-term sustainable funding via levies or road funds, and increasing private sector involvement. Levies can be applied to fuel, alcohol, road funds, insurance, driver’s licenses, and vehicle inspections, to provide a guaranteed and growing income for road safety activities. Moreover, most countries still need to improve the link between insurance premiums and risk rates of different classes of road users. Specific actions being undertaken in this sector at country level include those in Table 6.

Regional Supportive Action

Supporting actions will include preparing a short information note on alternative sources of funding for road safety; encouraging international development partners, lending agencies, and ASEAN governments to invest in road safety; and raising awareness among key decision makers about the annual economic losses due to a lack of road safety.

Table 6: Country-Level Actions for Road Safety Funding

Country	Action
Brunei Darussalam	Review insurance premiums, with the aim of making them risk-based, and research road funding mechanisms.
Cambodia	Identify potential sources of financial support, including the insurance industry.
Indonesia	Propose to increase funds for road safety, and create a road safety fund coordinating board.
Lao People's Democratic Republic	Seek development partner support and road safety components in infrastructure projects.
Malaysia	Increase private sector contributions through the Road Safety Friends program, and establish a road safety levy.
Myanmar	Draft legislation for a road safety fund, and secure a sustainable funding mechanism.
Philippines	Request funding from the road safety fund, and examine ways to increase sustainable funding to support road safety activities (e.g., insurance levy or fuel levy).
Singapore	Identify stakeholders who benefit from reduced accidents, and consider enacting legislation to encourage support by the insurance industry and other industries.
Thailand	Review sources of government and private funds, including possible taxes and levies, and enforce insurance laws.
Viet Nam	Establish a private sector and nongovernment organization forum to improve cooperation with the Government.

Source: Study estimates.

Safe Planning and Design of Roads

Developing countries need to adopt more safety conscious design procedures when planning land use or improving their road networks. Safety audits (or safety checking procedures) should also be adopted to ensure that road networks are designed to be safer, particularly for pedestrians, nonmotorized vehicles, and motorcyclists (footnote 3).

Overview

Malaysia and Singapore have good safety audit guidelines and firmly established road safety audit policies, training, and programs of actual audits. Thailand recently produced safety audit guidelines, and Brunei Darussalam has a very high-quality road network.

Most countries still need to establish a pool of trained specialists capable of carrying out safety audits. Several countries benefited from pilot audits and training as part of major development partner-aided highway projects. However, an urgent concern is that many of these aid-funded road schemes are still not subject to compulsory safety audits. Failure to impose compulsory safety audits on all new (and especially rehabilitated) road schemes continues to be a major contributing factor to the deterioration of road safety across the region, and urgent action is required on this issue.

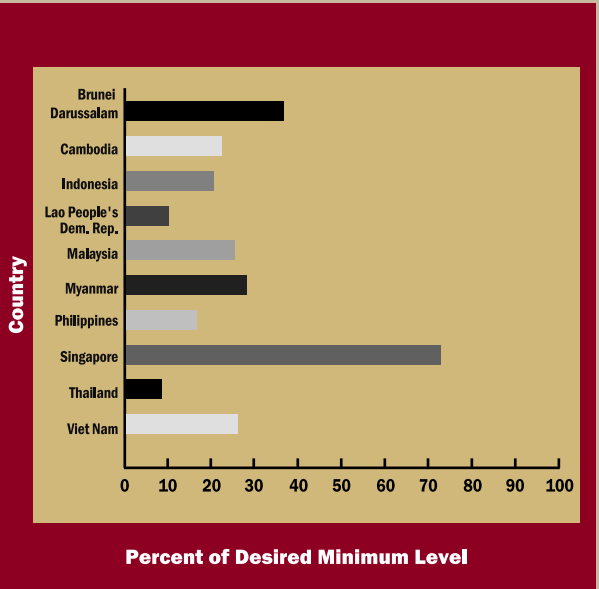
Political and commercial pressures, however, can often override safety considerations in most countries, resulting in unsafe roadside development that can result in long-term road safety-related problems. Establishing systems and procedures to prevent unsafe development is therefore important.

Effective development control and access control (to prevent unsafe roadside development) should be applied uniformly, ensuring safe road networks for future generations.

Introduction of compulsory safety audits and training of safety auditors should be a high priority for ASEAN countries.

Singapore applies safety audits across all major roads. Malaysia applies safety audits only on selected schemes, but few others have yet to do much in this sector. A few (e.g., the Lao People’s Democratic Republic) introduced safety audits via aid-funded projects. Although Thailand now has safety audit guidelines, safety audits are not yet being applied on all roads, and more safety auditors need to be trained. All countries need to implement more preventative activities to ensure safer road networks (Figure 9).

Figure 9: Safe Planning and Design of Roads



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize the benefits of road safety audits, but only Singapore has an effective policy and program in place. Malaysia also conducts audits on major roads.

Most countries still need to increase the pool of specialists capable of carrying out audits. This will require an extensive program of training and pilot audits over several years. Meanwhile, many local manuals and guidelines from countries within the region can easily be adapted to the local needs of any country yet to draft its own. The ASNet can be used to contact relevant people and exchange and/or share safety audit documents. Specific actions being undertaken in this sector at the country level include those in Table 7.

Regional Supportive Action

This is a crucially important area for long-term safety, and key actions required include establishing a safety audit policy and guidelines for each country; creating a safety engineering special interest group via the ASNet; centralizing the practical training of safety audit trainees from each country; having centrally trained trainers conduct safety audit training courses in each country, with help from central trainers; and making safety audits mandatory on all major road schemes.

Table 7: Country-Level Actions for Safe Planning and Design of Roads

Country	Action
Brunei Darussalam	Initiate, through the national road safety council, a road safety audit policy; adopt guidelines from nearby countries; and establish training courses.
Cambodia	Establish a team to be trained, and draft legislation to make road safety audits a national requirement.
Indonesia	Establish an audit team, carry out audits on existing construction, and produce guidelines and training courses.
Lao People's Democratic Republic	Draft a road safety audit policy and guidelines that will be followed by training schemes and pilot audits.
Malaysia	Strengthen road safety audit policy and training, and improve development and access controls.
Myanmar	Establish a policy on road safety audit, start training, and produce guidelines.
Philippines	Review technical manuals, train local government units, and establish a road safety audit unit.
Singapore	Review planning guidelines to improve safety, including developing a process to create a safer environment.
Thailand	Increase road safety audit training and numbers of audits, and focus on motorcycle problems.
Viet Nam	Review all relevant legislation and technical design manuals, and set out a safety plan for major highways.

Source: Study estimates.



Road safety audits can help prevent many road crashes.

Improvement of Hazardous Locations

Improvement of known hazardous locations is one of the most cost-effective investments that can be made in the transport sector and should be a high priority for every government (footnote 3).

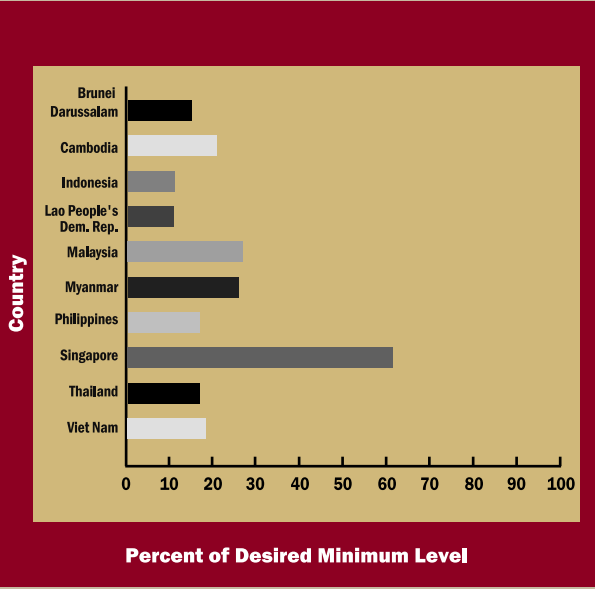
Overview

This is a disappointingly underdeveloped sector, as only Malaysia and Singapore can be considered to have anything like a systematic program of remedial works at hazardous locations. Poor accident data systems with inadequate accident site location information systems are partly to blame, but much could still be done if the will is there to do it. Proven techniques are readily available to improve black spots and tackle hazardous routes and areas, and many other remedies can be applied as mass action plans to dangerous bends; single-lane bridge approaches; and safety problems for communities, such as villages, schools, and markets. Guidance on possible low-cost countermeasures designed to produce speed reduction and other outcomes are available in documents, such as Transport Research Laboratory’s *Towards Safer Roads* (available on the ASNet database), and traffic calming links within the ASNet.

Examples of traffic calming techniques can be seen in several countries, including the widespread use of rumble bars in Viet Nam (outside Hanoi) and speed bumps in Brunei Darussalam (Bandar Seri Begawan). However, these generally appear to have been installed as isolated measures, rather than as the result of systematic and in-depth analyses of the accidents occurring at hazardous locations. Very little systematic work is being done in this area, despite being one of the most cost-effective ways of improving road safety. A need exists to develop such activity and train government engineers and consultants in each country in the necessary techniques and skills.

Malaysia and Singapore are most active in this area, but Malaysian work is at present restricted mainly to national roads (Figure 10). Most other countries still have a long way to go. The absence of good data systems is one reason why such work not be done at present.

Figure 10: Improvement of Hazardous Locations



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize the effectiveness of improving hazardous locations and that very few engineers were working in this field in the region. Most ASEAN countries still need to improve their accident data systems, to enable hazardous locations to be readily identified, and all countries need to focus more on the safety needs of vulnerable road users and the locations most frequently involved in their accidents. All countries need guidelines in this area and more trained specialists for this type of work. Specific actions being undertaken in this sector at the country level include those in Table 8.

Regional Supportive Action

Supporting actions will include developing a hazardous locations investigations course and guidelines; creating a safety engineering special interest group via the ASNet; centralizing hazardous location investigation and/or instructor training; implementing hazardous location investigation courses in each country, to train a pool of government, consultant, and academic engineers in such techniques; and exchanging regularly, via the ASNet, information on hazardous location improvements.

Table 8: Country-Level Actions for Improvement of Hazardous Locations

Country	Action
Brunei Darussalam	Establish a policy for improved access to accident data, and adapt neighboring country guidelines.
Cambodia	Identify hazardous locations; prepare preliminary designs; and improve road signs, signals, markings, lighting, and pedestrian cycle facilities.
Indonesia	Strengthen the black spot investigation unit, including funding and training.
Lao People's Democratic Republic	Establish a national black spot team, and coordinate a program of training and pilot projects with development partners.
Malaysia	Have the Government require road safety units to be established in each road authority.
Myanmar	Require each road authority to implement a black spot program and guidelines developed from neighboring countries.
Philippines	Seek commitment from road management agencies to establish a black spot program; develop criteria for identifying black spots; and establish systems for black spot investigation, evaluation, and prioritization.
Singapore	Improve prioritization of a black spot program. Develop a program specifically for motorcycles and vulnerable road users.
Thailand	Analyze, survey, and identify hazardous locations and design criteria and solutions in all related agencies.
Viet Nam	Require all road management authorities to establish accident black spot programs and update guidelines.

Source: Study estimates.

Proven **techniques** are readily available to **improve** hazardous locations.



Road Safety Education of Children and Young Adults

Children need to be made more aware of road safety and should be taught “survival” skills appropriate to their age and needs. Teaching of road safety in schools is best done by teachers who have themselves been trained on road safety issues, and who can provide such instruction on a regular basis to their students. On average 20% of all people killed in developing countries are aged under 15. This is twice as high as in the developed world (footnote 3).

Overview

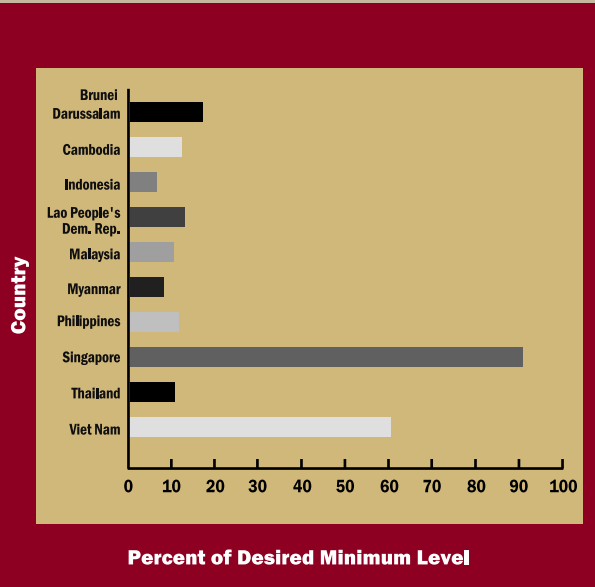
Eight of the ASEAN countries have poor road safety education programs for children, with only Singapore doing well and Viet Nam making good progress. Malaysia and Thailand have invested significant resources in developing a school curriculum but still have some way to go in achieving reductions in accidents involving children.

In many of the countries, because police are the main providers of safety education, far too much focus is still placed on teaching children traffic regulations and the meanings of traffic signs, when they should be taught survival skills appropriate for their age groups.

Few countries (with the exception of Singapore) systematically teach safety survival skills to children, and significant improvements are required in this sector in all countries, although Viet Nam has developed some useful materials and Thailand has included road safety education in the life skills course.

Singapore, in cooperation with Shell, has invested heavily in the safety education of children, but few other countries (apart from Thailand and Viet Nam) appear to have much effective activity in this sector (Figure 11).

Figure 11: Road Safety Education of Children



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they could make improvements by better using existing resources. They also realize that they could create programs that are more effective by improving road safety teaching in schools.

Most countries still need to improve teacher training, teacher guidelines, and availability of resources for teachers and children. Two nongovernment organizations, Handicap International and Asia Injury Foundation, were making significant contributions in this sector in the Lao People's Democratic Republic and Viet Nam, respectively. Thailand will open a road safety education learning center in December 2005.

The safety of schoolchildren can be improved by using engineering and traffic calming techniques on roads near school buildings, which will reduce speeds at schools, and developing safe-

routes-to-school projects, which will improve safety on surrounding road networks. This is also a good way of improving the partnership among schools, highway authorities, communities, and parents. Specific actions being undertaken in this sector at country level include those in Table 9.


Regional Supportive Action

Supporting actions will include making sample road safety education (RSE) material available on the ASNet database, encouraging the exchange of RSE material among countries, centralizing the training of RSE trainers and/or curriculum developers, using RSE training courses in each ASEAN country to develop a pool of local RSE developers and specialists, and creating an RSE special interest group via the ASNet.

Table 9: Country-Level Actions for Road Safety Education of Children and Young Adults

Country	Action
Brunei Darussalam	Create a task force to review existing materials and acquire resources from neighboring countries.
Cambodia	Review the existing program, develop better programs, and introduce these programs to children in preschool and others.
Indonesia	Integrate road safety material into the national curriculum. Prepare training materials and train teachers.
Lao People's Democratic Republic	Establish a review team, comprising Handicap Institutional (a nongovernment organization) and police, to develop materials and distribute these to five main towns.
Malaysia	Hold talks and competitions in all schools, train trainers, and develop teaching aids.
Myanmar	Increase road safety input to existing life skills subjects, develop further curriculum material by adapting overseas materials, and implement safe-routes-to-school projects.
Philippines	Improve road safety in school zones, which will include training children in correct crossing behavior, integrating road safety education in the curriculum, and training teachers.
Singapore	Form a steering group and task force, and review existing programs. Promote the use of existing safety zones at schools.
Thailand	Arrange seminars for executives, teachers, and children. Implement pilot projects in 10 provinces. With private sector support, open an instructor training center for road safety education in December 2005.
Viet Nam	Make topics on road safety an integral part of the school curriculum at all levels (first in kindergarten, then primary and secondary schools).

Source: Study estimates.

A group of children in school uniforms are wearing fire helmets. A young girl in the foreground is smiling at the camera. Other children are visible in the background, also wearing helmets. The scene appears to be a fire safety drill or training exercise.

Children should be taught
survival skills **appropriate** to
their **age** and **needs**.

Driver Training and Testing

Effective driver testing is the best way to ensure that only safe, competent drivers are awarded a driver’s license. Good control and registration of driving schools and instructors is also highly beneficial in ensuring learners are given competent instruction (footnote 3).

Overview

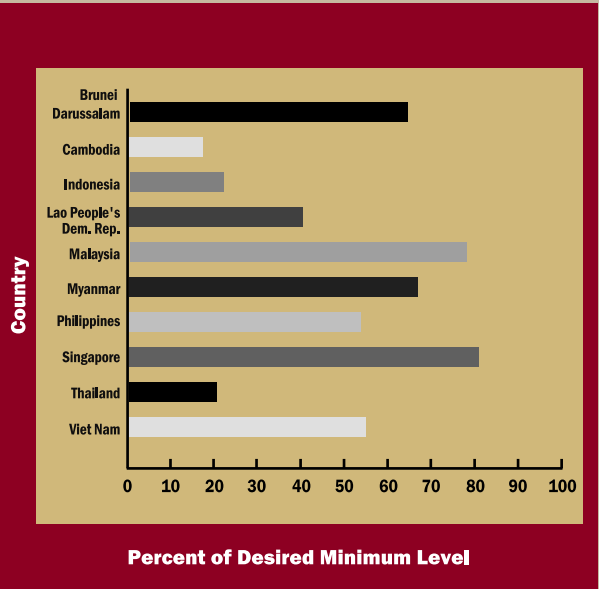
This is one of the more successful sectors, with six of the 10 countries scoring reasonable marks and others making good progress toward their particular desired minimum levels of activity. Much work still needs to be done, however, particularly in countries where motorcyclists dominate traffic and accidents.

In several countries, acquiring a driver’s license is still too easy. Many licenses are issued to drivers who have not passed a test. Moreover, in much of the region, underage drivers are riding motorcycles with negligible pressure from police, parents, schools, or authorities responsible for issuing licenses. In Cambodia, although over 80% of vehicles are motorcycles, motorcyclists are not yet required to pass a driving test. Consequently, almost all of those in the traffic stream have no knowledge of traffic rules and regulations.

Very few countries have an up-to-date highway code (i.e., road users guide) that is readily available and relevant to road users.

Some good work is already being undertaken, but room for improvement exists in all ASEAN countries (Figure 12).

Figure 12: Driver Training and Testing



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they could make improvements by having an updated road users guide available, controlling driving schools and instructors better, and making training and testing more safety related.

Most countries still need to improve the transparency and effectiveness of the testing and licensing system. The increased importance of first aid training within the driving test is appreciated by several countries, as this training provides a better understanding of the need for safe behavior and essential skills needed at the scene of an accident. The private sector has demonstrated the effectiveness of fleet training of drivers, particularly of oil tankers, in reducing the numbers and severity of accidents, and there could be lessons for others from that experience. Specific actions being undertaken in this sector at country level include those in Table 10.

Regional Supportive Action

Supporting actions will include centrally developing a model highway code and/or road users guide for adaptation to local needs by ASEAN countries; centralizing the training of defensive driving instructors from each country; and implementing defensive driving courses in each country to develop pools of local defensive driving instructors.

Table 10: Country-Level Actions for Driver Training and Testing

Country	Action
Brunei Darussalam	Design a new driving institute to ensure road safety aspects are fully addressed, and publish a new highway code.
Cambodia	Improve the driving test by increasing the number of multiple choice questions related to first aid skills, and provide a better test of driver knowledge of regulations and rules.
Indonesia	Analyze and evaluate licensing, testing, legislation, and infrastructure, which will lead to improvements in all sectors.
Lao People's Democratic Republic	Improve teaching aids; enforce current regulations; and promote first aid, initially for professional drivers.
Malaysia	Review the application age for motorcyclists and opportunities for provisional plates, and publish an improved highway code.
Myanmar	Permit authorized private driving schools to issue driver's licenses, and establish 40 additional driving centers.
Philippines	Produce and disseminate a new highway code and other teaching resources, review existing driver testing procedures, and introduce a points-based demerit system and stricter criteria for accrediting driving schools.
Singapore	Enhance training for various classes of drivers, including more defensive driving techniques.
Thailand	Enhance current training to include safe interaction with all types of vehicles, and include more defensive driving. In the future, physical responses and/or reactions should be checked prior to issuing licenses.
Viet Nam	Review, evaluate, and strengthen driver training testing and licensing, including the introduction of 10 new centers.

Source: Study estimates.

Road Safety Publicity Campaigns

Road accident data must be analyzed to identify the nature and characteristics of the problem and the road user targeted. Road safety publicity is an indispensable part of any nation’s road safety strategy and is most successful if used in conjunction with engineering, legislation, or enforcement (footnote 3).

Overview

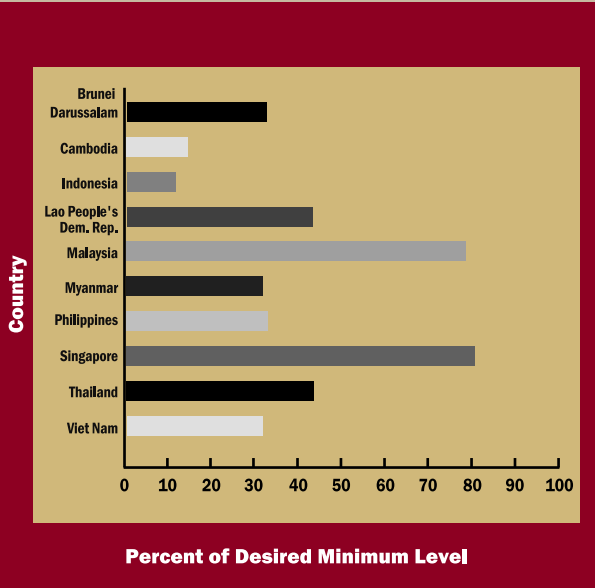
This is the most traditional road safety sector, and eight of the 10 countries have reasonable road safety publicity programs under way. Malaysia and Singapore led the way and demonstrated their excellent television videos at many country workshops. Cambodia and Indonesia have much to do in this field, but Handicap International has started to assist governments in Cambodia and the Lao People’s Democratic Republic.

Asia Injury Foundation, based in Hanoi, is a highly effective nongovernment organization raising awareness and focusing on various issues primarily related to young motorcyclists and helmet wearing through their Helmets for Kids campaign.

Cambodia, Lao People’s Democratic Republic, Malaysia, and Thailand all continue to have serious problems related to high accident rates during New Year holiday periods, but Malaysia seems to have managed (via a combination of publicity and other measures) to have largely overcome such problems, so lessons can be learned from its experience.

Malaysia and Singapore have good expertise to share, and scope exists for adapting effective campaigns from neighboring countries to tackle common problems (e.g., helmet wearing and motorcycle conspicuity) (Figure 13).

Figure 13: Road Safety Publicity Campaigns



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they could make improvements by better targeting their campaigns at high-risk groups, but few countries have the financial resources available to match the effectiveness of the Malaysia and Singapore initiatives. Many countries used the World Health Organization’s Road Safety Day on 7 April 2004 as an excellent opportunity to launch their new action plans and promote road safety to a wide audience of decision makers and the general public.

Most countries still need to improve the professionalism and effectiveness of their campaigns and campaign materials, and clearly much could be learned from private sector partners with experience in areas such as advertising. Specific actions being undertaken in this sector at the country level include those in Table 11.

Regional Supportive Action

Supporting actions will include developing central guidelines and sample posters and materials (e.g., on motorcycle safety); creating a road safety publicity special interest group via the AS-Net; centralizing training of publicity specialists; exchanging publicity material, campaign, and evaluation techniques; and dialoguing and pooling expertise and experience regularly.

Table 11: Country-Level Actions for Road Safety Publicity Campaigns

Country	Action
Brunei Darussalam	Use the World Health Organization's Road Safety Day to act as a focus for all partners to promote road safety and the new action plan, and review accident data to devise a publicity program.
Cambodia	Seek funding from the Ministry of Finance for an annual budget for publicity, and conduct nationwide campaigns aimed at pedestrians, cyclists, and motorcyclists.
Indonesia	Determine the target focus for road safety socialization and design campaigns, particularly for vulnerable road users.
Lao People's Democratic Republic	Hold joint activities on the World Health Organization's Road Safety Day, which will include radio and television spots and exhibitions mainly targeting young people and focusing on the need to wear helmets.
Malaysia	Allocate specific budgets for publicity and, in particular, initiatives in schools. Coordinate local and national campaigns.
Myanmar	Raise awareness of annual losses when launching the action plan, and develop national and local campaigns for New Year holidays.
Philippines	Create a technical working group to focus on road safety, take an inventory of existing publicity campaigns, and develop a publicity plan.
Singapore	Increase community publicity aimed at pedestrians and cyclists, negotiate additional concessions from media owners for road safety, and conduct research that is more detailed before planning campaigns.
Thailand	Use all types of media to reach target groups, particularly with regard to keeping headlights on and wearing helmets. Conduct child safety awareness campaigns and teach.
Viet Nam	Create a technical working group to focus on road safety publicity issues, and include private sector and nongovernment organizations.

Source: Study estimates.

Vehicle Roadworthiness and Safety Standards

Vehicle safety standards are necessary to ensure unsafe vehicles are not imported and to develop a safety culture among vehicle operators, owners, and users. Regular vehicle roadworthiness inspections must be backed by adequate roadside checks to ensure that the overall standard of vehicles is gradually raised (footnote 3).

Overview

Vehicle roadworthiness inspection is common in all countries, but the coverage and effectiveness varies widely. Brunei Darussalam, Malaysia, and Singapore (with good automated inspection systems) are the best, with Cambodia and Indonesia trailing far behind. Cambodia trails because very few vehicles used on the road are required to be inspected for roadworthiness, and Indonesia trails because of the huge geographical area to be covered.

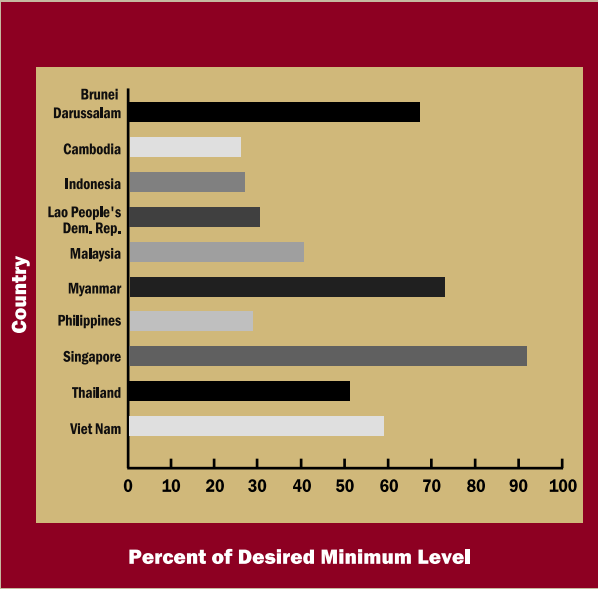
Several countries imported secondhand vehicles from neighboring countries, resulting in anomalies such as having the steering wheel on the opposite side, particularly in Cambodia and Myanmar, which significantly increases the risk of road accidents in those countries. In the case of Myanmar, the situation is exacerbated because of vehicles continuing to be manufactured in-country with steering wheels on the opposite side—a practice that needs to be discontinued as soon as possible.

With the ASEAN highway network developing, instances of temporary (visiting) traffic with steering wheels on the opposite side for the country being visited will occur. This is acceptable for short visits. However, all vehicles permanently based in a country should be required to comply with local requirements by having steering wheels converted or moved to the standard side for that country or risk being banned from further use on the roads.

Despite motorcycles being the dominant vehicle in many countries, they are often not subject to roadworthiness inspections, and many defective and dangerous motorcycles are used on roads across the region.

Brunei Darussalam, Malaysia, and Singapore appear strongest in ensuring roadworthiness (Figure 14). The private sector has invested in new stations, equipment, and other materials, and other countries should consider privatizing vehicle inspections (while retaining a strong regulatory control role), as this is an area conducive to privatization.

Figure 14: Vehicle Safety Standards



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize the importance of effective and thorough vehicle inspection, but several still have to rely on manual inspection in many of their rural areas. In most cases, motorcycles were not required to be inspected for roadworthiness, but many countries are now considering doing this.

Most countries still need to improve testing facilities and make the process more automatic and less time-consuming. Countries accept that regular roadworthiness inspections (at present often only required for commercial vehicles) need to be applied to all vehicles (including motorcycles) using public roads. Specific actions being undertaken in this sector at the country level include those in Table 12.

Regional Supportive Action

Supporting actions will include developing central guidelines on vehicle inspection, creating a vehicle inspection special interest group via the ASNet, centralizing the training of vehicle inspection instructors, implementing vehicle inspector training courses in each ASEAN country, conducting regular dialogue, and pooling expertise and experience.

Table 12: Country-Level Actions for Vehicle Roadworthiness and Safety Standards

Country	Action
Brunei Darussalam	Review inspection periods and capacity of existing and proposed centers, and ensure that type testing meets best international standards.
Cambodia	Establish motor vehicle inspection regulations that should be in line with international and regional standards.
Indonesia	Evaluate and upgrade the vehicle test system, particularly for private vehicles and motorcycles, and equip centers that are still operating manually.
Lao People's Democratic Republic	Prohibit unsafe modifications at inspection centers, use the police, and arrange a study tour of Association of Southeast Asian countries.
Malaysia	Improve legislation to ensure testing at change of ownership and when vehicles are in serious accidents.
Myanmar	Retrain inspectors, acquire modern equipment for vehicle testing, and acquire workshop manuals for European and Japanese vehicles.
Philippines	Review and update legislation on roadworthy vehicles and include Metro Manila Development Authority, Philippine National Police, and other agencies concerned.
Singapore	Fine-tune regulations related to motorcycle headlights and rear and side markings on heavy vehicles and measures related to school buses.
Thailand	Revise some specifications for motorcycles, review the need to inspect motorcycles, and introduce biannual inspections for commercial vehicles.
Viet Nam	Implement public awareness campaigns, train staff members, and improve regulations.

Source: Study estimates.

Traffic Legislation

Traffic legislation provides the framework for traffic police and other enforcement authorities to ensure compliance with driving rules and regulations. Existing legislation should be reviewed, updated, and consolidated wherever possible (footnote 3).

Overview

All ASEAN countries have basic traffic legislation in place, but many need to bring laws and regulations up-to-date, to include the latest safety technologies, such as speed enforcement equipment and red light cameras, alcohol testing devices, and others. Unfortunately, some countries still lack adequate laws covering seat belt wearing, alcohol levels, and motorcycle helmet wearing.

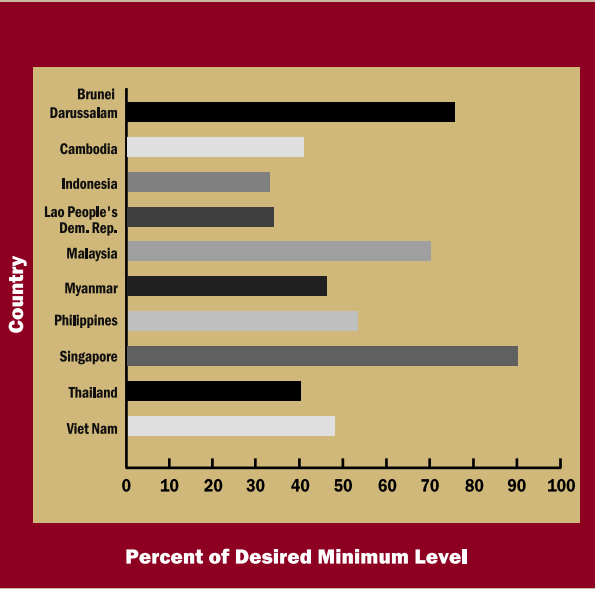
Traffic fine procedures and traffic courts still need significant development and improvement in several countries.

For traffic police to be able to perform their duties, an effective legal basis must exist for enforcement, traffic legislation must be updated to reflect modern traffic conditions, and fine and prosecution systems must effectively deter unsafe driver behavior.

Considerable scope exists for sharing information among ASEAN countries.

Those that already have legislation on safety helmet wearing, drinking and driving, and others can share such information with neighboring countries, so that these countries can develop similar modules and update their legislation. Significant improvements are required in many ASEAN countries (Figure 15).

Figure 15: Traffic Legislation



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they could make improvements to their traffic legislation and that this is a continuous process.

Most countries still need to update regulations to incorporate the latest road safety technologies, such as speed enforcement equipment, alcohol testing equipment, and others.

The ASNet can be very effective in providing examples of international and neighboring country legislation and regulations, to help speed up the task of drafting new laws in all countries. Specific actions being undertaken in this sector include those in Table 13.

Regional Supportive Action

Supporting actions will include centrally developing modules of road safety legislation (e.g., speeding, drinking and driving, and wearing helmets) for adaptation by countries; creating a traffic legislation special interest group via the ASNet; making available via the ASNet examples of traffic legislation from within the region and elsewhere; harmonizing, where feasible, rules and regulations (e.g., on drinking and driving, blood alcohol content limits); and organizing central training courses on traffic legislation development.

Table 13: Country-Level Actions for Traffic Legislation

Country	Action
Brunei Darussalam	Have the subcommittee agree to review rear seat belt legislation, and publish red light and speed camera legislation.
Cambodia	Seek adoption of a traffic law from the national assembly, and regularly review and update this law.
Indonesia	Improve legislation on seat belts, and convene a discussion forum of all stakeholders.
Lao People's Democratic Republic	Enact new regulations for fine rates and procedures, helmets, and motorcycle training and licensing, as well as for professional drivers and drinking and driving.
Malaysia	Establish traffic courts to speed up offender processing, and examine lowering the blood alcohol limit.
Myanmar	Review existing legislation to identify areas for improvement, and acquire examples from Association of Southeast Asian Nations member countries via the Association of Southeast Asian Nations Safety Network.
Philippines	Review and amend traffic legislation related to road safety, create a congressional liaison committee to promote the Traffic Safety Act, and create a national transportation safety board.
Singapore	Review legislation on issuing driver's licenses (e.g., legislation related to motorist age limits) in an effort to reduce accident rates.
Thailand	Review and amend traffic laws, establish a traffic court, and require motorcyclists to have a public vehicle license.
Viet Nam	Amend legislation on fine levels, transport inspection, and accident data availability.

Source: Study estimates.

Traffic Police and Law Enforcement

Traffic police must focus their attention on preventing road accidents. This is best done by having a well-trained, efficient organization that is adequately equipped with modern equipment and vehicles and by concentrating on moving offenses and unsafe driver behavior (footnote 3).

Overview

Although effective traffic policing requires devoting about 10% of total police resources to the task, most ASEAN countries currently devote much lower levels of resources (typically 3–5%). As a consequence, very few of the police forces in the region have sufficient numbers of traffic policing vehicles or the enforcement equipment required to do their job effectively.

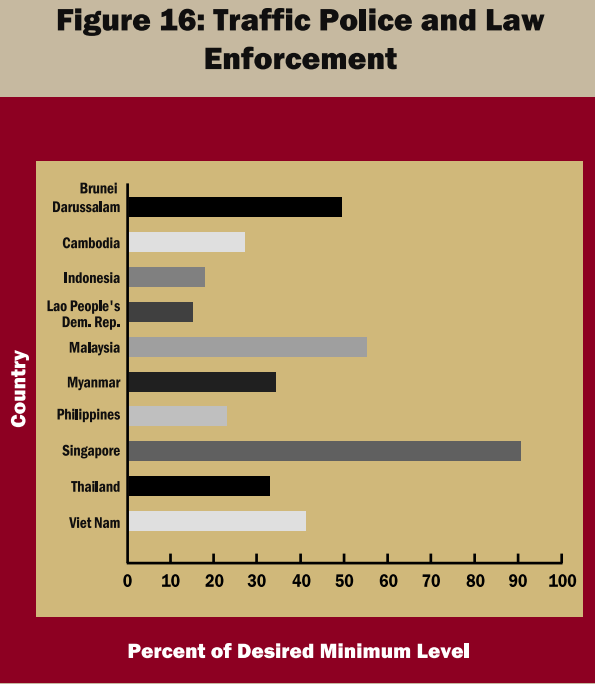
Enforcement varies significantly throughout the region, from the famously efficient police in Singapore to almost negligible formal enforcement in some countries. At the lower end, traffic fines are collected often in an informal or corrupt manner.

Singapore’s traffic police demonstrated in many workshops their techniques, which included very significant components of public relations road safety work. They work very closely with the private sector and children and clearly had an excellent image that was very different from the traffic police in many other countries in the region.

Good enforcement depends upon several factors, including equipment, training, and respect. Effective enforcement depends upon understanding accident patterns and targeting high-risk road users at the times and locations that accidents occur. Traffic police deployment and priorities should therefore be largely driven by the detailed analysis of accident data, but this is rarely done at present because of the very inadequate data systems that currently exist in most countries.

Brunei Darussalam, Malaysia, and Singapore were the strongest in this sector (Figure 16).

Effective traffic police enforcement is a fundamental requirement for safety improvement, but even where resources are limited much can be achieved by simply enforcing the wearing of helmets and seat belts. This does not require expensive equipment or special vehicles and can be done even with the very limited resources available to the least developed countries.



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they could make significant improvements by allocating more staff, more or better equipment, and more vehicles. Traffic police in Brunei Darussalam, Malaysia, and Singapore are significantly better resourced than others, and as a result are working effectively.

The remaining countries recognize that they need significant improvements in their activity levels and effectiveness and that a significant increase in resources for policing will be necessary, if the required level of enforcement is to be achieved. In the meantime, most countries agree to focus efforts on low-cost but extremely effective enforcement areas, such as enforcement of motorcycle helmet wearing. Specific actions being undertaken in this sector include those in Table 14.

Regional Supportive Action

Supporting actions will include creating a traffic policing special interest group via the ASNet, developing a traffic police enforcement train-the-trainer’s course, centralizing the training of traffic police enforcement trainers, holding traffic police enforcement training courses in each ASEAN country, and encouraging regular dialogue and exchange of experience and expertise.

Table 14: Country-Level Actions for Traffic Police and Law Enforcement

Country	Action
Brunei Darussalam	Review security needs, including protective clothing, and upgrade protective clothing, particularly for motorcycle police.
Cambodia	Train traffic police, and provide them with the necessary modern equipment and knowledge for effective law enforcement.
Indonesia	Review and improve enforcement procedures, including decriminalizing slight traffic violations, to simplify penalty procedures.
Lao People's Democratic Republic	Approve and immediately implement new fine rates. Continue to focus on helmet wearing to increase the rate to 40% in Vientiane.
Malaysia	Increase staff by 30%, review training, and upgrade where necessary. Procure additional vehicles and equipment.
Myanmar	Implement nationwide enforcement campaigns on helmet and seat belt wearing, with targets of 70% for both.
Philippines	Identify and prioritize problem areas and resource requirements, and develop an effective enforcement program.
Singapore	Develop and encourage targeted enforcement based on accident analysis, and use cameras for speeding and red light running.
Thailand	Focus on helmet and seat belt wearing and drinking and driving. Relate enforcement duty to accident analysis patterns. Procure more modern equipment and hire more traffic police.
Viet Nam	Improve training, and assess and procure modern vehicles and equipment.

Source: Study estimates.

**Traffic police must
focus their attention
on preventing road
accidents.**



Emergency Assistance to Traffic Victims

The key principle is to provide initial stabilization of the injured party during the golden hour (i.e., the first hour after injury). The general driving public should be made aware of simple actions that can be taken to save lives (footnote 3).

Overview

The likelihood of dying from a serious injury resulting from a traffic accident is much higher in ASEAN countries than in Europe or other more industrialized areas. Many people are dying needlessly, because of insufficient first aid at the scene, slow transport to a hospital, and unskilled medical help at the scene or at a hospital.

Within ASEAN countries, a wide disparity exists in the emergency services available. The wealthier countries of Brunei Darussalam, Malaysia, and Singapore invest significantly more resources than their neighbors and have effective systems, but most ASEAN countries rely on other drivers or the general public to render assistance to accident victims. Thailand is gradually developing a multilevel emergency medical services response system, involving various people and equipment (from volunteers to fully equipped emergency ambulances), but because of the size of the country this system is not yet available nationwide.

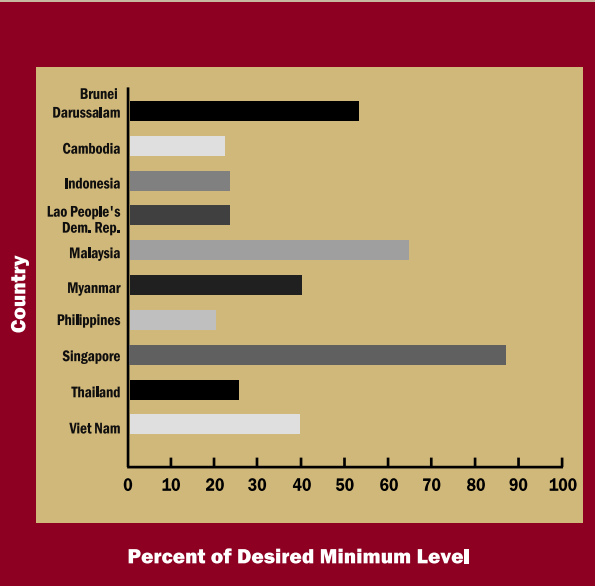
Hospital surveys in countries with large motorcycle fleets emphasize the tragic patterns of casualties. Hospital beds are filled with young males with head and leg injuries. This has resulted in the increased involvement of hospital directors and staff members in road safety initiatives, particularly those initiatives aimed at increasing helmet wearing.

Red Cross organizations are very active and effective in training the public and commercial drivers in several countries (e.g., Viet Nam) and could be helpful in providing first aid training to professional drivers across the ASEAN region.

Commercial drivers and eventually all drivers can easily be taught the very simple 4–5 actions to save or maintain the life of an accident victim and how to transport such victims. This could significantly influence the number of people that die in the golden hour.

In the longer term, countries need to gradually develop their emergency medical services systems to cover major road networks. The existing status of emergency assistance to road accident victims is in Figure 17.

Figure 17: Emergency Assistance To Road Accident Victims



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they could make improvements by increasing the numbers of ambulances available, but until that can be done they can develop a better first aid culture within populations, especially among commercial drivers, who are most frequently driving on the roads.

Most countries still rely on the public to arrange transport to hospitals for the majority of casualties. Hence, the training of commercial drivers would make access to basic first aid during the golden hour much more likely and thereby reduce the incidence of death or serious injury. Specific actions being undertaken in this sector include those in Table 15.

Regional Supportive Action

Supporting actions will include creating an emergency services special interest group via the AS-Net; centrally developing first aid training modules for professional drivers; centrally developing train-the-trainer courses in first aid and/or emergency services; encouraging and/or extending Red Cross first aid professional driver schemes (as done in Viet Nam) to other countries; and giving an annual lifesaver award in each country to a professional driver to encourage bus, taxi, and truck drivers to learn emergency first aid and display a lifesaver logo on vehicles.

Table 15: Country-Level Actions for Emergency Assistance to Traffic Victims

Country	Action
Brunei Darussalam	Review existing emergency medical and rescue services and develop a plan for integration. All traffic police and fire service personnel will be trained in first aid.
Cambodia	Provide more ambulances and training. Extend first aid training, particularly to motorcyclists.
Indonesia	Develop a call center, and evaluate and improve emergency response services and public first aid capabilities.
Lao People's Democratic Republic	Create a working group to review current emergency services in Vientiane, and draft a sustainable policy.
Malaysia	Establish an action group to produce a first aid manual for the public, with the help of the private sector, perhaps.
Myanmar	Extend first aid training to professional drivers, and prepare a training manual for emergency and rescue services.
Philippines	Produce a first aid guide for road users, and strengthen the rescue capabilities of local government units.
Singapore	Develop a comprehensive trauma injury management system, and coordinate the efforts of traffic police, paramedics, and emergency personnel, to minimize danger to themselves and other road users.
Thailand	Establish an accident control and command center, to provide efficient assistance, and improve first aid training of the public. Implement an emergency medical services system nationwide within 1 year.
Viet Nam	Have the Red Cross coordinate a working group to review the capabilities of emergency agencies and pilot projects initiated in Hanoi and Ho Chi Minh City.

Source: Study estimates.



**Effective
emergency
medical
services are
crucial to
saving lives.**

Road Safety Research and Costing

Road safety research has proven beneficial in documenting the road accident problem and has provided the means to develop and evaluate countermeasures. It has contributed greatly to accident reduction in industrialized countries. Such research is usually best carried out by specialist researchers of universities or road safety institutes (footnote 3).

Overview

Indonesia, Malaysia, and Singapore have invested in road safety research, but the remaining countries do not prioritize or have many activities at present in this sector. One of the reasons for domestic consultants in each country being tasked with reviewing road safety and estimating accident costs was an effort to stimulate such research.

On a global basis, the countries with the best road safety records (Australia, Netherlands, Sweden, United Kingdom, and United States) have the best road safety research centers. Effective research enables the problem to be properly understood and suitable countermeasures to be derived.

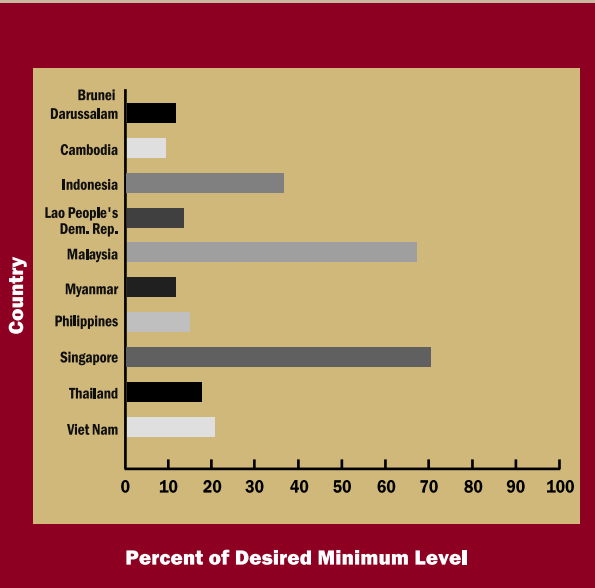
All countries received training in the use of the ASNet at the Swedish International Development Cooperation Agency-sponsored Internet learning and research facility. This will continue as a very effective tool for all future research and collaboration and for exchanges of information between road safety professionals in ASEAN countries.

Regular research on the scale characteristics and costs of road safety-related problems (now known to be costing the ASEAN region at least \$15 billion per year [2.23% of the region's gross domestic product]) should encourage the more rational allocation of resources by ASEAN governments and increase expenditure on road safety. A strong research capability in road safety is essential if the problem is to be properly understood in each country and effective safety improvements are to be derived.

Effective research can only be carried out if access to good comprehensive accident data exists, so police and other data must be made available and not treated as confidential.

Accident researchers must also be given access to data from hospitals and health ministries, to get a more complete picture of the time scale, nature, and costs of the problem. Figure 18 shows the current progress in the sector.

Figure 18: Road Safety Research and Costing



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they need to improve the quality and analysis of their accident data to enable better design of road safety interventions. Valuations of the estimated annual costs of road accidents also provided a means to convince decision makers of the need to invest in road safety to reduce such losses.

Most countries still need to improve their accident databases to allow good research to be carried out, but hospital surveys were providing effective supplementary databases in several countries (Cambodia and Lao People's Democratic Republic) and providing a more complete picture of the problem.

All countries will in the future regularly update the accident cost estimates and make the annual losses widely known to key decision makers, media outlets, and stakeholders, so that appropriate priority and investment given to road safety. Specific actions being undertaken in this sector include those in Table 16.

Regional Supportive Action

Supporting actions will include creating a road safety research special interest group via the ASNet, encouraging sharing and/or exchange of road safety research results and collaborative research across the region on motorcyclist and vulnerable road user safety, creating a road safety research database on the ASNet, organizing central training courses for road safety researchers, and assisting each country in developing a framework for road safety research and a prioritized road safety research program.

Table 16: Country-Level Actions for Road Safety Research and Costing

Country	Action
Brunei Darussalam	Include traffic research in the new Institute of Policy Studies within the University of Brunei.
Cambodia	Seek funds for establishing a road safety research institute, including funds for staffing, training, and equipping.
Indonesia	Review existing research; improve collaboration between universities and other research institutions; and increase funding, using the private sector.
Lao People's Democratic Republic	Review available research results and capability, and identify needs and future programs. Initiate two hospital-based surveys.
Malaysia	Extensively promote postgraduate road safety courses at Universiti Putra Malaysia.
Myanmar	Establish a road safety research committee under the national road safety council, and formulate a comprehensive research program.
Philippines	Review existing research and future needs, identify key problem areas and/or priorities, and formulate a research agenda.
Singapore	Identify research sectors, and form a dedicated research body with a strategic plan for research and development in road safety.
Thailand	Develop further the Thailand Accident Research Center at the Asian Institute of Technology, and develop a research program.
Viet Nam	Review existing research, and identify key problem areas (vulnerable groups, black spot analysis, and others).

Source: Study estimates.



Multiple collisions can occur on highways.

Cooperation and Collaboration

Many people can contribute to better road safety—governments, civil society, and the business community. But what each can do is so much less than what all can do by working together in partnership.

Marcus Grant, Global Road Safety Partnership chair

Overview

Singapore was again the strongest in cooperation and collaboration, as evidenced by how the traffic police in Singapore work very closely with the private sector.

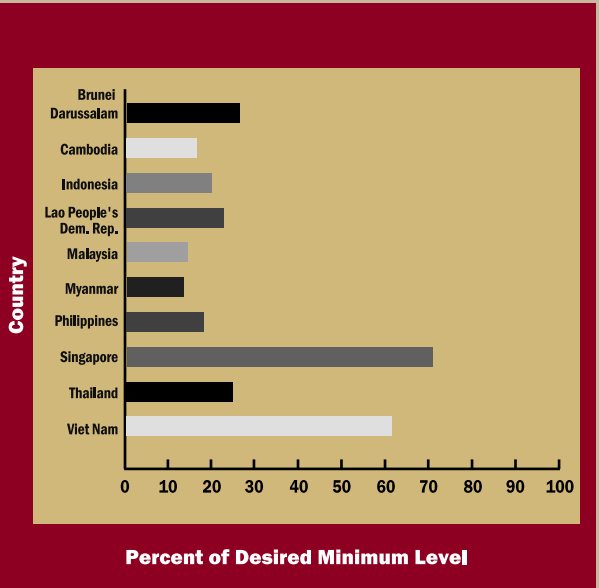
Viet Nam was found to be the second most successful in developing links with the private and community sectors, and much of the credit has to go to the Asia Injury Foundation, which is in Hanoi. This United States nongovernment organization works in partnership with the NRSC and is mainly funded by the oil industry (British Petroleum and Shell) and motorcycle manufacturers.

Viet Nam is also a focal country within the Global Road Safety Partnership (GRSP), as is Thailand, where the private sector is very active in GRSP Thailand. Indonesia and Lao People’s Democratic Republic are seeking to join GRSP. So the value of partnership and, in particular, the role the private sector can play are becoming more recognized and appreciated across the ASEAN region.

Cooperation is needed between central governments and local governments, and in most countries this is very weak at present for road safety issues. Cooperation is also needed among governments, private sectors, and nongovernment organizations, and, as shown, this is now beginning to happen in some ASEAN countries. The third area of potentially useful cooperation is among professionals in individual ASEAN countries, and in the past this has been minimal in road safety. However, with the implementation of the ADB-ASEAN Regional Road Safety Program and the establishment of the ASNet networking and knowledge sharing facility, this is now steadily improving and will improve significantly over the duration of the action plan.

With the commitment of ASEAN transport ministers shown via the Phnom Penh Ministerial Declaration, ASEAN may hopefully establish a multidisciplinary road safety working group to coordinate and drive road safety forward in the 10 ASEAN countries (Figure 19).

Figure 19: Private Sector and Community Involvement



Source: Study estimates.

Country-Level Action

All ASEAN countries recognize that they could make significant improvements to the effectiveness of their road safety programs by increasing the involvement of the private and community sectors.

However, some governments still need to improve their willingness to share responsibilities with the private sector and some still had legislation discouraging this. All countries will try to improve cooperation between central governments and local governments, among governments and private sectors and nongovernment organizations, and among individual ASEAN countries. Specific actions being undertaken in this sector at the country level are those in Table 17.

Regional Supportive Action

Supporting actions will include creating private sector and nongovernment organization special interest groups; encouraging and/or facilitating exchanges and/or cooperation between nongovernment organizations across ASEAN; encouraging and/or facilitating exchanges and/or cooperation among private sector organizations (e.g., oil companies and transport operators); encouraging development of local GRSP committees and holding annual GRSP seminars; organizing annual ASEAN road safety conferences where government officials, nongovernment organizations, and private sector representatives can meet to exchange experiences on road safety; and establishing an ASEAN multisector road safety working group to drive safety forward.

Table 17: Country-Level Action for Cooperation and Collaboration

Country	Action
Brunei Darussalam	Have a working group review community and private sector involvement, and invite the private sector to sponsor publication of an action plan.
Cambodia	Establish legislative measures to encourage development partner countries, private sectors, nongovernment organizations, and other stakeholders to provide financial support.
Indonesia	Develop a road safety network of government, private sector, and community organizations.
Lao People's Democratic Republic	Encourage private sector and nongovernment organizations to become members of the national road safety council and aim to double private sector sponsorship.
Malaysia	Ensure that dialogue between the cabinet committee on road safety and potential partners results in the Road Safety Friends Program.
Myanmar	Include private sector and community representatives in the new national road safety council and in implementing the action plan.
Philippines	Reactivate the national road safety council and include membership from the private sector and nongovernment organizations and stakeholders.
Singapore	Initiate a senior officials committee that will include public, private sector, and community interests.
Thailand	Continue development of Global Road Safety Partnership Thailand and partnership approach.
Viet Nam	Compile a list of potential partners, create private sector and/or nongovernment organization forum, and work together to implement a plan.

Source: Study estimates.



Appendixes

- Appendix 1** Phnom Penh Ministerial Declaration on Association of Southeast Asian Nations Road Safety
- Appendix 2** Monitoring and Evaluation: National and Regional Action Plans
- Appendix 3** Regional Road Safety Action Plan
- Appendix 4** Association of Southeast Asian Nations Regional Road Safety Initiative
- Appendix 5** Domestic Consultants and Academics Participating in the Asian Development Bank-Association of Southeast Asian Nations Road Safety Project
- Appendix 6** Association of Southeast Asian Nations Safety Network



PHNOM PENH MINISTERIAL DECLARATION ON ASSOCIATION OF SOUTHEAST ASIAN NATIONS ROAD SAFETY

We, the Association of Southeast Asian Nations (ASEAN) transport ministers, gathered in Phnom Penh, Cambodia, on 23 November 2004 for the Tenth ASEAN Transport Ministers Meeting (ATM)

- (i) **express** great concern that the lack of road safety in the ASEAN region has reached alarming proportions, with over 75,000 deaths and 4.7 million injuries occurring annually, which cause very serious physical, psychological, and material harm to the victims and their families, as well as huge economic losses of over \$15 billion (2.23% of annual gross domestic product) each year to the ASEAN region as a whole;
- (ii) **are conscious** that failing to take effective actions or maintaining business-as-usual activities will result in 385,000 further deaths, 24 million further injuries, and \$88 billion in further economic losses over the next 5 years;
- (iii) **welcome** United Nations General Assembly Resolution 58/9 (of 5 November 2003) on the global road safety crisis and World Health Assembly Resolution 57.10 (of 22 May 2004) on road safety and health;
- (iv) **are mindful** of our collective responsibility to provide a safe travel environment to ASEAN road users;
- (v) **emphasize** the importance of concerted multisector collaboration and partnerships among different ministries and departments, private and business sectors, various communities, and civil societies in individual member countries and across the ASEAN region;
- (vi) **recognize** that effective actions to improve road safety and promote safe travel in the ASEAN region require strong political commitment at the national and regional levels;
- (vii) **are building** on the great strides resulting from the Asian Development Bank-ASEAN Regional Road Safety Project, particularly on the national road safety priorities plans and the regional road safety action plan; and
- (viii) **are determined** to promote in our individual member countries comprehensive, coordinated, and integrated road safety policies and programs, in addition to the regional action plan, and provide the necessary financial resources and international support to enable effective and sustainable implementation to achieve target reductions in deaths and injuries.

We hereby declare and commit ourselves to

- (i) **assuming** a key leadership role in pooling the information and resources available, to increase knowledge of the causes, circumstances, and consequences of road accidents and develop countermeasures and support the actions and initiatives developed within the ASEAN Regional Road Safety Strategy and Action Plan (2005–2010);
- (ii) **promoting** the gradual harmonization and/or amendment of key road safety regulations to eventually provide ASEAN citizens with a single and uniform framework of values and rules (e.g., driving while intoxicated limits, driving hours and rest times of professional drivers, etc.);
- (iii) **raising** the safety standards on ASEAN roads; identifying the most dangerous sections on the ASEAN road networks; and implementing systematic programs for accident prevention (e.g., hazardous location safety audits on new or rehabilitated roads) and accident reduction (e.g., hazardous location improvements) aimed at raising the safety levels for pedestrians and other vulnerable road users;
- (iv) **promoting** greater awareness and steady enforcement of traffic rules and regulations that have the greatest effect in reducing the number and severity of road accidents, including those pertaining to setting speed limits, preventing drinking and driving, preventing alcohol and drug use, and encouraging safety helmet wearing and safety belt use;
- (v) **implementing** measures to improve and strengthen protection measures benefiting vulnerable users and at-risk users, with special reference to motorcyclists, pedestrians, and cyclists;
- (vi) **implementing** measures to improve the safety level of vehicles by disseminating the results of the ongoing research on vehicle safety and promoting new technologies for road safety, such as speed limitation devices, seat belt reminders, and others, and ensuring that all vehicles, including motorcycles, pass periodic roadworthiness inspections;
- (vii) **ensuring** that all road users, including vulnerable road users (pedestrians, cyclists, and motorcyclists), are provided with relevant information on safer use of roads and that motorcycle riders are required to undergo compulsory practical training on safe riding techniques and survival skills before they are allowed to use public roads;
- (viii) **fostering** the development of a new culture of road safety among citizens, especially among young adults and children;
- (ix) **encouraging** collaborative research and best practices for the prevention of road accidents and mitigation of their consequences;
- (x) **maintaining** and strengthening efforts to raise awareness of the magnitude of road accidents and the need to prevent these;
- (xi) **encouraging** partnerships and cooperation among public administrations, private and business sectors, and community or citizen associations, collaborating on collective priorities and actions, and bringing road safety awareness to the general public's attention; and
- (xii) **establishing** the ASEAN Road Safety Network, which will focus on knowledge sharing and disseminating good practices and help develop a body of road safety practitioners that will continue to develop, promote, and implement road safety plans and programs in the ASEAN region.

In pursuance thereof, we hereby agree to

- (i) **adopt** the ASEAN Regional Road Safety Strategy and Action Plan (2005–2010);
- (ii) **establish** in each ASEAN member country a multisector body, to coordinate and manage the implementation of a national road safety action plan;
- (iii) **establish** the ASEAN Multisector Road Safety Working Group, to coordinate and oversee the implementation of the ASEAN Regional Road Safety Strategy and Action Plan (2005–2010);
- (iv) **institute** a system for the effective monitoring of the implementation of the national road safety plans and the regional road safety action plan;
- (v) **seek** international support and technical assistance from the Asian Development Bank, ASEAN dialogue partners, international development partner community, other related international and regional organizations, global and regional road safety partnership organizations, private and business organizations, and civil society in the development and implementation of regional programs, projects, and activities; and
- (vi) **direct** our senior officials to implement this declaration, establish an ASEAN multisector road safety working group, and report progress on the implementation of national road safety priorities plans and the regional road safety action plan, with the assistance of the ASEAN Secretariat. Progress reports of implementation shall be submitted for further action at the annual ATM.

Adopted in Phnom Penh, Cambodia, on 23 November 2004.

Table A1: Background on Road Safety and Related Statistics

Country	Year	Gross National Product (\$ million)	Population ('000)	Registered Motor Vehicles (No.)	Motorcycles (percent of total vehicles)	Vehicles (per 1,000 people)	Police-Reported		Estimated ^a		Annual Losses	
							Deaths	Injuries	Deaths	Injuries	\$ Million	Percent of Annual Gross Domestic Product
Brunei Darussalam	2003	6,500	358	244,727	3.00	684	28	645	28	1,273	65	1.00
Cambodia	2003	4,000	13,487	447,428	75.20	33	824	6,329	1,017	20,340	116	3.21
Indonesia	2003	208,000	234,893	24,995,000	75.20	106	8,761	13,941	30,464	2,550,000	6,032	2.91
Lao PDR	2003	2,000	5,921	278,384	80.10	47	415	6,231	581	18,693	47	2.70
Malaysia	2003	102,000	23,092	12,868,930	48.20	557	6,282	46,420	6,282	46,420	2,400	2.40
Myanmar ^b	2003	5,445	42,510	945,058	68.00	11	1,308	9,299	1,308	45,780	200	3.00
Philippines	2003	80,400	84,620	4,292,000	37.70	51	995	6,793	9,000	493,970	1,900	2.60
Singapore	2003	91,400	4,608	711,043	19.00	154	211	7,975	211	9,072	457	0.50
Thailand	2003	136,400	64,265	25,100,000	70.90	391	13,116	69,313	13,116	1,529,034	3,000	2.10
Viet Nam	2003	38,000	81,624	12,054,000	94.40	148	11,319	20,400	13,186	30,999	885	2.45
TOTAL		674,145	555,378	81,924,645	69.70	147	43,259	187,343	75,193	4,745,578	15,102	2.23

PDR = People’s Democratic Republic.
No. = number.
^a Estimated after making adjustments, where information was available from surveys or health statistics or international experience. Data remaining unchanged from Police-Reported do not necessarily indicate that police data are complete. This could mean that making a correction is not yet possible.
^b Surveys completed after the consultancy report identified an additional 465,783 unregistered motorcycles in Myanmar, which almost doubled the registered vehicle fleet (from 479,275 to 945,058) and increased the motorcycle percentage (from almost 37% to 68%).
Source: Study estimates.

Monitoring Implementation of National Action Plans

To ensure successful safety improvement in each country, it is important to closely monitor each safety action plan during implementation. Since action plans involve collaboration among various partners and across several agencies that must take charge of actions in their areas of responsibility, any monitoring system should enable the performance of each partner and each sector to be assessed. Moreover, action plans should be managed so that quick remedial action can be taken as needed to keep plans on schedule.

A developmental objective was agreed for each sector, and specific actions were identified that, if implemented successfully, will lead to achieving that objective in each country. The national action plans will be monitored with assistance from the Asian Development Bank (ADB)-Association of Southeast Asian Nations (ASEAN) Regional Road Safety Program, and suitable monitoring frameworks will be discussed and installed in each country, once each action plan is finalized. Those responsible for implementing an action plan will be trained in performance management techniques and software. Implementation progress will be monitored and reported quarterly (via the national road safety council or other coordinating body, as appropriate) to the main stakeholders in each country, and an annual progress report will be produced by the national road safety council or coordinating body for wider dissemination to the media and general public.

The monitoring framework and performance indicators will be discussed and/or agreed with those responsible for implementation in each country, and those individuals and domestic consultants (from the ASEAN Safety Network [ASNet] focal point) will be given training in monitoring methodology and software, so that they can monitor implementation themselves, with the support of domestic consultants. The particular

monitoring system likely to be used in the next phase of the ADB-ASEAN Regional Road Safety Program monitors progress toward achieving agreed objectives and outcomes.

Since the regional plan and regional targets will be based on an amalgamation of the 10 individual country plans and on selected additional areas for regional cooperation and/or collaboration, progress in each ASEAN member country should be reported to the ASEAN Secretariat at 3-month intervals and reported and/or discussed via the road safety working group at 6-month intervals, via the biannual senior transport officials meetings, and discussed and/or reviewed annually at the ASEAN transport ministers meetings.

Country ASNet focal points will be contracted to assist governments in carrying out quarterly monitoring, and they will electronically send copies of the quarterly monitoring results from each country to the regional ASNet focal point, where the results will be consolidated and amalgamated to give an overview of progress in each country and the consolidated progress across the ASEAN region as a whole. The regional ASNet focal point staff members will be trained and contracted to provide regular monitoring of the country and regional action plans on behalf of the ASEAN Secretariat.

Monitoring of Association of Southeast Asian Nations Regional Road Safety Strategy and Action Plan

The regional strategy is based on assisting the 10 ASEAN countries in achieving successful implementation of their individual country-specific action plans by implementing supportive regional activities and initiatives aimed at institutional strengthening and capacity building. These regional actions are designed to significantly enhance the capability of ASEAN professionals and institutions to address road safety issues more effectively and develop local capacity to manage implementation of action plans.

The quarterly progress in implementing individual country plans will be amalgamated to give an overview of quarterly progress across the region. In addition, the regional initiatives to be implemented at the ASEAN level will be monitored separately, so that their quarterly progress toward the desired impact can also be ascertained and interventions made, if things are not progressing as desired.

The monitoring frameworks for the country and separate regional initiatives can also be amalgamated, to give an overall assessment of the progress of safety action plans across the region.

Monitoring is expected to be undertaken by the ASEAN Secretariat, with periodic technical assistance from the next phase of the ADB-ASEAN Regional Road Safety Program. Quarterly monitoring reports will be prepared, and they will compare actual progress in each sector with

planned (scheduled) progress for that period. These reports will also identify areas of poor performance, so that action can be taken to bring those areas back on schedule.

The results of the monitoring at the country and regional levels will be presented to relevant working groups (e.g., road safety working groups) and discussed at biannual senior transport officials meetings and annual ASEAN transport ministers meetings.

Regrouping into Topic Areas (e.g., Safer Roads and Safer Vehicles)

When the monitoring frameworks are devised, they can be established to have topic areas, such as safer roads, safer vehicles, and safer road users (Box). This is done by simply creating relevant groupings of sectors or any other group desired by individual countries or the ASEAN Secretariat.

Examples of Topic Areas

Safer Road Users
Road Safety Education of Children
Driver Training and/or Testing
Road Safety Publicity Campaigns

Safer Roads
Safe Planning and Design of Roads
Hazardous Locations Improvement

Safer Vehicles
Vehicle Safety Standards and/or Roadworthiness

Safer Systems
Accident Data Systems
Traffic Police Enforcement
Traffic Legislation
Emergency Assistance to Victims

Safety Management
Coordination and Management of Road Safety
Road Safety Funding
Road Safety Research and Costing
Partnerships and Collaboration

Thus, the country plans and the regional plan can be monitored with this structure, if desired.

Source: Study estimates.

Tables A3.1–A3.6 examine various aspects of the regional road safety action plan.

Table A3.1: Analysis and Understanding

Objective	Actions	Outputs and Outcomes	Target Date	Partners
Implement more complete and effective accident and casualty data collection, storage, and analysis	<ul style="list-style-type: none">• Agree and apply standard definitions for death and injury in the region• Agree on core items to be collected in all countries• Encourage and facilitate improvements and computerization of police accident data systems• Supplement police data with medical and/or hospital injury data to get a more accurate picture of the true scale of problems	<ul style="list-style-type: none">• Standard definitions• Core items agreed and included• Improved and more effective system in each country• Health injury surveillance system in each country	December 2006	Asian Development Bank (ADB), governments, and World Health Organization
			December 2006	
			December 2006	
			December 2006	
Conduct better analysis and research of casualty data to understand the true scale, nature, characteristics, and costs of road safety-related problems in individual countries and in the region as a whole	<ul style="list-style-type: none">• Encourage production of consolidated annual accident statistic reports that combine health and police data to give an overview• Encourage and/or initiate national and regional collaborative research on road safety issues• Coordinate and/or facilitate exchanges of research and knowledge	<ul style="list-style-type: none">• Comprehensive annual report in each country• National research programs• Regional research programs• Extended use and penetration of Association of Southeast Asian Nations (ASEAN) Safety Network (ASNet)	December 2006	ADB, governments, universities, and research institutes
			December 2006	
			December 2006	
			December 2006	

Source: Study estimates.

Table A3.2: Advocacy and Awareness

Objective	Actions	Outputs and Outcomes	Target Date	Partners
Raise awareness among regional decision makers of the scale and costs of problems and encourage them to take action and invest in road safety	<ul style="list-style-type: none">• Target policy makers and decision makers to invest in road safety• Disseminate information at regional, national, and local levels• Place road safety on the agenda of senior transport official meetings and Association of South East Asian Nations (ASEAN) transport ministers meetings	<ul style="list-style-type: none">• Political commitment at highest levels• Increased government investment in road safety to cover line ministry activities and responsibilities• ASEAN ministerial declaration• Regular reporting and discussion of safety issues• Multidisciplinary road safety working group established	December 2006	Asian Development Bank (ADB) and ASEAN governments
			December 2006	
			November 2004	
			June 2006	
Raise awareness of importance of road safety among regional dialogue partners and development partner community, and seek increased resources	<ul style="list-style-type: none">• Target multilateral and bilateral development partners, national government dialogue partners, etc., in the region	<ul style="list-style-type: none">• Significant increase in road safety components within development projects• Increased development partner support for road safety activity• Increased bilateral exchanges and support	December 2006	ADB, dialogue partners, bilaterals, and multilaterals
			December 2006	
			December 2008	
Raise stakeholder awareness of importance of road safety and commitment	<ul style="list-style-type: none">• Make ASEAN media and general population aware• Facilitate involvement of private sector and nongovernment organizations in addressing road safety issues	<ul style="list-style-type: none">• ASEAN road safety charter• Exchanges, collaboration, and participation of nongovernment organization on safety issues are encouraged• Exchanges, collaboration, and participation of private sector organizations are encouraged• Increased public demand for road safety	December 2006	Public sector, private sector, and nongovernment organizations
			December 2006	
			December 2006	
			December 2007	
Raise profile of road safety and road safety professionals	<ul style="list-style-type: none">• Establish annual awards to recognize outstanding achievements in road safety	<ul style="list-style-type: none">• Presentation of Outstanding Safety Contribution: ASEAN Region (OSCAR) is established	December 2006	

Source: Study estimates.

Table A3.3: Institution Building

Objective	Actions	Outputs and Outcomes	Target Date	Partners
Offer assistance and/or ongoing guidance for Association of Southeast Asian Nations (ASEAN) countries during implementation of road safety undertakings	<ul style="list-style-type: none">Regularize schedule of advisory inputs and/or guidance to assist individual countries in implementing their road safety action planMonitor road safety action plan implementation	<ul style="list-style-type: none">Guidance and/or help, as required, to overcome problemsEffective implementationReductions in casualtiesRegular progress reports on degree of progress, by sector in all countries and the region as a whole	June 2006 December 2008 December 2008 June 2008	Asian Development Bank (ADB) and governments
Develop road safety champions	<ul style="list-style-type: none">Run special courses under ASEAN technical cooperation programs (e.g., courses in Malaysia and Singapore)Implement secondments and practical training	<ul style="list-style-type: none">About 6–8 road safety champions (one from each key sector) systematically trained, nurtured, and developed to form a core group for each countryEighty road safety champions active in the regionASEAN technical assistance program contributing to improvement of road safety	December 2006 December 2006 December 2006	ADB, Malaysia, Singapore, and governments
Develop road safety professionals in government and private sector	<ul style="list-style-type: none">Develop courses and workshops in 14 sectorsCentrally run courses and workshops in 14 sectors in the regionAssist in running local courses and workshops in each countryEncourage formation of special interest safety groups on Association of Southeast Asian Nations Safety Network (ASNet), so sector specialists can share and develop expertiseDevelop domestic consultants as road safety resources for governments	<ul style="list-style-type: none">Fourteen training courses and workshops developedFourteen training courses and workshops implemented (approximately 280 safety professionals trained across the region)Courses and workshops implemented in each country in 14 sectorsAbout 12–14 special interest safety groups active on ASNetDomestic consultants active in providing safety-related services in all ASEAN countries	September 2006 December 2006 December 2008 December 2006 December 2006	ADB, governments, bilateral donors, and multilateral lenders

Table A3.3 continued

Objective	Actions	Outputs and Outcomes	Target Date	Partners
<ul style="list-style-type: none">Centrally develop tools, models, techniques, and guidance to assist countries in implementing their road safety action plans	<ul style="list-style-type: none">Compile on the ASNet a central database of road safety-related legislation, documents, etc.Identify best practice modules for legislation, guidelines, etc., within the ASEAN regionDevelop modules of legislation for adaptation and application on items such as drinking and driving legislation, wearing helmets, wearing seat belts, and using specialized equipmentDevelop guidance on computerized road accident data systems	<ul style="list-style-type: none">The ASNet providing a useful source and database of information helping implementationASNet special interest groups providing a pool of experts in each sector to help define priorities and needs in each sectorBasic modules available in all key areas for adaptation and/or application to reduce development timeLegislation across ASEAN countries updated in most urgent areas (e.g., wearing helmets and drinking and driving)Adequate support information available to enable safety professionals to implement their country road safety action plans	December 2006 December 2006 June 2006 December 2007 December 2006	ADB, governments, bilateral donors, multilateral lenders, Global Road Safety Partnership (GRSP), and private sector
<ul style="list-style-type: none">Implement demonstration road safety projects in key sectors to enhance practical training and implement improvements	<ul style="list-style-type: none">Incorporate demonstration projects into loans and aid-funded development projects	<ul style="list-style-type: none">Demonstration projects being implemented in each sectorDemonstration projects being used for training local safety professionals	December 2006 June 2007	
<ul style="list-style-type: none">Stimulate development of road safety-related centers of excellence	<ul style="list-style-type: none">Identify potential centers of excellence and assist these in developing courses and workshops in key road safety sectorsRun training courses and workshops at centers of excellence	<ul style="list-style-type: none">Centers of excellence established and recognized as regional resourcesCenters of excellence capable of running training courses and workshops to meet ASEAN road safety needs	December 2006 December 2007	

Source: Study estimates.

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Table A3.4: Cooperation

Objective	Actions	Outputs and Outcomes	Target Date	Partners
Increase cooperation within countries and across the Association of Southeast Asian Nations (ASEAN) region to share best practices	<ul style="list-style-type: none">Encourage Malaysia to establish and/or expand technical cooperation to assist other ASEAN members in road safetyEncourage Singapore to continue its road and safety activities via the technical cooperation fund in the next phase of the Asian Development Bank (ADB)-ASEAN regional programHave several countries host courses	Malaysia hosting and subsidizing the road safety champion program development courses	December 2006	ADB, ASEAN, Malaysia, Singapore, and other countries
		Singapore hosting and subsidizing the costs of courses and workshops in some sectors	December 2006	
		Several ASEAN countries hosting courses in sectors where they have strengths	December 2006	
Increase cooperation with dialogue partners and bilateral and multilateral funding organizations to finance and implement the next phase of the ADB-ASEAN Regional Road Safety Program	<ul style="list-style-type: none">Work with the World Health Organization to get health ministries more involved in injury prevention and establishing traffic injury surveillance systems to supplement police dataHave ASEAN dialogue partners, development partners, ADB, and other multilateral funding agencies cooperate to finance the proposed regional road safety action plan under the next phase of the ADB-ASEAN Regional Road Safety Program	Ministry of health and/or World Health Organization injury surveillance systems operating in each ASEAN country	December 2006	ADB, ASEAN, donors, multilaterals, and bilaterals
		Regional road safety action plan fully funded	December 2006	
		Regional road safety action plan fully implemented	December 2008	

Source: Study estimates.

Table A3.5: Collaboration

Objective	Actions	Outputs and Outcomes	Target Date	Partners
Ensure effective collaboration and joint work across government departments in all technical sectors of road safety	<ul style="list-style-type: none">Develop a pool of 6–8 multidiscipline road safety champions in each Association of Southeast Asian Nations (ASEAN) member countryPromote a multisector and multidisciplinary approach to road safety by establishing an ASEAN road safety working group	Core multidisciplinary group actively collaborating in each country to implement road safety action plan	December 2006	Asian Development Bank (ADB), ASEAN, and ASEAN countries
		Comprehensive holistic approach being applied in each country	December 2006	
Ensure effective collaboration and joint work between central governments and local governments on road safety issues	<ul style="list-style-type: none">Centrally prepare guidance on establishing national and local government centrally road safety organizational structuresOffer country-specific advice on developing appropriate collaboration mechanisms and organizational structures	Suitable national and local road safety organization structure in place	June 2006	ASEAN central governments and local governments
		Effective implementation of national road safety action plan	December 2008	
		ASNet in use by local government safety professionals for networking and sharing safety experience	December 2006	
Ensure effective collaboration between governments and safety professionals across the region, to share knowledge and best practices and expertise	<ul style="list-style-type: none">Create 14 special interest groups of safety professionals on ASNetEncourage and/or facilitate annual meetings of ASNet special interest groups at annual safety conferences	Safety professionals in easy regular contact, through ASNet, with fellow professionals in their safety sector to share knowledge and expertise	December 2006	ADB, ASEAN, and Swedish International Development Cooperation Agency
		Annual sector-specific working group meetings at annual ASEAN road safety conferences	December 2006	
Ensure effective collaboration between nongovernment organizations and communities across the region, to develop advocacy, expertise on road safety, and media mobilization skills	<ul style="list-style-type: none">Facilitate exchanges and/or secondments between nongovernment organizations in the region, to develop skillsFacilitate exchanges and/or secondments between regional nongovernment organizations and other safety-oriented nongovernment organizations from outside ASEAN	At least one nongovernment organization actively involved in road safety issues in each country	December 2006	ADB, ASEAN, Global Road Safety Partnership (GRSP), and nongovernment organizations
		Increasing media and public pressure to address road safety-related problems	December 2006	
		Transfer of nongovernment organization advocacy and pressure skills on safety issues to ASEAN-based nongovernment organizations	December 2006	

Source: Study estimates.

continued on next page

Table A3.5 continued

Objective	Actions	Outputs and Outcomes	Target Date	Partners
Ensure effective collaboration between private sector organizations and the transport industry, to share knowledge and/or expertise on safety issues	<ul style="list-style-type: none">Develop a regional transport industry initiative on safer fleet managementEncourage and/or facilitate the formation of GRSP groups in each ASEAN country, to work with governments to improve road safety	<ul style="list-style-type: none">Fleet management skills from oil industry transferred to bus, taxi, and freight operator organizationsActive private sector participation in implementing the regional action planGRSP group established in each ASEAN country	December 2006 December 2006 December 2008	ADB, GRSP, private sector, oil companies, and fleet operators
Ensure effective collaboration of private sector and nongovernment organizations with governments in implementing road safety initiatives and improvements in national road safety action plans	<ul style="list-style-type: none">Encourage a partnership approach in road safety plan implementationEncourage and/or facilitate nongovernment organization and community activityEncourage and/or facilitate private sector activity	<ul style="list-style-type: none">Private sector and nongovernment organizations represented on national road safety council or other body managing implementation of the action planPrivate sector, nongovernment organizations, and/or communities proactively initiating and active in road safety	December 2006 December 2008	ADB, GRSP, nongovernment organizations, and communities
Ensure effective collaboration and knowledge sharing with other regions and countries with particular expertise in road safety issues	<ul style="list-style-type: none">Hold annual ASEAN road safety conference and/or workshop to exchange ideas and experiencesEncourage development and extension of ASNet safety database and networking tool for accessing international safety expertise and safety information	<ul style="list-style-type: none">Regular meetings and/or exchanges of information between safety professionalsThe ASNet in widespread use across the regionInternational safety information readily accessible to ASEAN safety professionals	December 2006 December 2006 December 2006	ADB, donors, GRSP, and multilaterals
Ensure effective collaboration with ADB, ASEAN, bilateral development partners, and multilateral lenders, to enhance road safety in the ASEAN region	<ul style="list-style-type: none">Establish a multisector ASEAN road safety working groupInclude road safety in discussions with all potential development and dialogue partners	<ul style="list-style-type: none">A multidisciplinary ASEAN working group specifically focused on improving road safetyAn effective steering committee for next phase of ADB-ASEAN Regional Road Safety ProgramBilateral and multilateral support to ASEAN in road safety	December 2006 December 2006 December 2006	ADB, ASEAN, donors, GRSP, and multilaterals

Table A3.6: Coordination

Objective	Actions	Outputs and Outcomes	Target Date	Partners
Coordinate regional road safety initiatives	<ul style="list-style-type: none">Liaise and/or cooperate with Asian Development Bank (ADB) and other development partners involved in the next phase of the ADB-Association of Southeast Asian Nations (ASEAN) Regional Road Safety Program	<ul style="list-style-type: none">Regional activities supporting in-country activitiesIn-country action plans being implemented successfullyADB-ASEAN Regional Road Safety Program an effective catalyst for safety activity in the region	December 2008 December 2008 December 2008	ADB, bilateral donors, and governments
Monitor implementation progress of individual country-specific road safety action plans and their cumulative effect across the region	<ul style="list-style-type: none">Consolidate quarterly progress reports from 10 ASEAN countries into a single quarterly progress report for the regionReport progress via ASEAN working groups, senior transport officials meetings, and ASEAN transport ministers meetings	<ul style="list-style-type: none">Overview of progress in each sector, in each country, and for the region as a wholeEarly identification of potential problems and delays so action can be taken, as appropriateMore successful implementation of individual country road safety action plans in all 10 countriesSenior decision-maker awareness of progress in individual countries	June 2006 June 2006 December 2008 June 2006	ADB and governments
Monitor implementation of regional road safety action plan	<ul style="list-style-type: none">Assess and/or monitor quarterly progress in implementing regional initiativesReport progress regularly via ASEAN working groups, senior transport officials meetings, and ASEAN transport ministers meetings	<ul style="list-style-type: none">Overview of progress on all aspects of regional strategy and its implementation via the regional action planSenior decision makers aware of safety development across ASEANInstitutional strengthening and capacity building on safety issues across ASEAN countriesSenior decision makers aware of progress in individual countries	June 2006 June 2006 December 2008 June 2006	ADB, ASEAN Secretariat, and governments

Source: Study estimates.

Introduction and Background

Road accidents are a growing worldwide problem and now result in over 1 million deaths and over 23 million injuries per year. Moreover, around 85% of these deaths now occur in developing countries. The problem is particularly urgent in Asian Development Bank (ADB) developing member countries, as the Asia and Pacific region already contributes 44% of reported global road deaths, although it only has around 14% of the world's motorized vehicle fleet.¹

Whereas more industrialized countries have in recent decades steadily and systematically reduced the numbers and severity of road accidents by implementing coordinated multisector remedial programs, the problems continue to grow in the developing world. This is particularly so in the Association of Southeast Asian Nations (ASEAN) region, where the problem has now become urgent and the numbers of deaths and injuries continue to grow rapidly. The high proportion of two- and three-wheeled vehicles in the vehicle fleets of many ASEAN countries (e.g., Viet Nam [95%], Lao People's Democratic Republic [80%], Cambodia [75%], Indonesia [75%], Thailand [71%], and Malaysia [48%]); mix of traffic; underdeveloped infrastructure and institutions; and further rapid motorization in recent years are all adding to the growing problem. Most of the recent vehicle growth in motorcycles further exacerbates an already dangerous traffic environment (e.g., in Viet Nam, motorcycles increased by 29% in 2001, and this added a 37% increase to road deaths in that year). The situation clearly will continue to deteriorate even further, unless urgent action is taken to assist ASEAN countries in addressing this problem more effectively.

In 2003, estimates indicate that in the region 75,000 deaths occurred and over 4.7 million people were crippled or injured on ASEAN roads and that road accidents cost the region about \$15 billion in that year, which was more than the total development assistance received by the region from all development partners combined in that year. These recurring economic losses, resulting from road accidents, undoubtedly inhibit the economic and social development of the region. Road accidents in the region can also have disproportionately high adverse effects on lower income groups, as pedestrians and cycle and/or

motorcycle riders are the most frequent victims and casualties. In many cases where the main breadwinner is killed or disabled, road accidents can contribute significantly to perpetuating or even increasing poverty and can have other adverse social impacts on families.²

The ADB-approved regional technical assistance on road safety in the ASEAN region has highlighted that the problem is more serious than even official statistics would suggest. Police statistics in many countries are underreporting the numbers killed and injured and, where information is available from health authorities, the numbers of deaths and especially injuries are often far higher than official police statistics. Estimates indicate that in the last 5 years approximately 310,000 people died and 20 million were injured, and the ASEAN region lost more than \$52 billion through property damage, medical costs, and lost productivity. If things continue as they are, there will be a further 385,000 deaths, 24 million injuries, and an economic loss of \$88 billion in the next 5 years. Sadly, many of these casualties are young people and those most economically active, who are the future of the region. Such human and economic losses need to be reduced.

Association of Southeast Asian Nations Regional Road Safety Program (First Phase Achievements)

This program was undertaken at the request of the ASEAN ministers of transport, who recognized the rapid growth of the problem. The undertaking was aimed at quantifying the scale and characteristics of the problem; assisting the individual ASEAN member countries and the region in developing appropriate road safety strategies and action plans; developing safety research capability in each country; and commencing the establishment of the Internet-based ASEAN Safety Network (ASNet), to enable safety professionals across ASEAN to collaborate, discuss, and share best practices.

The first phase of this program is now nearly completed and was successful in all its major objectives. The main achievements to date follow.

- (i) **Country reports.** These are available for each of the 10 ASEAN member countries; reports recorded the key agencies involved and their responsibilities in road safety and provided an overview of the road safety situation, characteristics, and trends in each country (prepared by domestic consultants and/or researchers).
- (ii) **Costing reports.** These are available for each of the 10 ASEAN member countries; the reports provide estimates of under-reporting of accident data, place a monetary valuation on economic losses arising from deaths and injuries, and estimate annual losses to the national economy (prepared by domestic consultants and/or researchers).
- (iii) **Researchers (local) in 10 countries.** These individuals have confidence, knowledge, and ability to repeat and update research reports independently in future years.
- (iv) **Ten multisector national road safety action plans.** One plan for each country was developed, in most cases, via national workshops with the assistance of 90–100 safety professionals from key agencies with road safety responsibilities. These reports were also created with the assistance of private sector and nongovernment organizations. The plans focus on improvement of safety for vulnerable road users (especially pedestrians and motorcyclists), who form the vast bulk of deaths and injuries in the ASEAN region.
- (v) **Annual Regional Road Safety Workshop.** The first workshop was held, and 130 government, private sector, and nongovernment organization participants shared knowledge, experiences, and best practices and helped develop a regional road safety strategy and action plan covering all 10 countries.
- (vi) **ADB-ASEAN Regional Road Safety Strategy and Action Plan.** This was developed for regional activities and initiatives, to support and complement in-country activities being implemented by national action plans.

- (vii) **Development and establishment of the ASNet.** A distance-learning communications and/or collaboration and knowledge database system was especially designed to assist ASEAN road safety professionals who will implement national road safety action plans.
- (viii) **Introduction to basic Internet and ASNet training for over 200 safety professionals.** Around 20 professionals per country used the ASNet for exchanges of information, collaboration, and virtual meetings and as a knowledge database to help them implement their national road safety action plans.
- (ix) **Designation and/or training of ASNet country focal points.** One focal point was designated in each country to register and train others on how to use the ASNet and how to be an in-country source of information and advice on road safety issues for each country.
- (x) **Designation and/or training of ASNet regional focal point.** The focal point was designated at the Asian Institute of Technology in Bangkok, Thailand, which can be developed later to coordinate the activities of all ASNet focal points.
- (xi) **Issuance of a ministerial declaration on road safety.** The declaration was endorsed by ASEAN senior transport officials and adopted by ASEAN transport ministers at their November 2004 meeting.

Association of Southeast Asian Nations Regional Road Safety Program (Second Phase: Association of Southeast Asian Nations Regional Road Safety Initiative)

The ASEAN Regional Road Strategy and Action Plan, developed as part of the first phase, includes activities that will be carried out at the regional level to support and complement activities being carried out in-country by national road safety action plans. The establishment of a multisector road safety working group (RSWG) to coordinate the activities of the 10 countries and increased contacts and/or collaboration between safety professionals may occur and be financed by the countries themselves as they be-

¹ Jacobs, G., A. Aeron-Thomas, and A. Astrop. 2000. *Estimating Global Road Fatalities: Transport Research Laboratory Report 445*. Crowthorne, Berkshire: Transport Research Laboratory.

² Ghee, C., D. Silcock, A. Astrop, and G.D. Jacobs. 1997. *Socioeconomic Aspects of Road Accidents in Developing Countries, Transport Research Laboratory Report 247*. Crowthorne, Berkshire: Transport Research Laboratory.

come aware of the advantages and benefits of such collaboration. Other important activities, although crucial to regional success, may not be capable of being funded locally and will require external assistance. This requires the preparation of a second phase to the ASEAN Regional Road Safety Program. The second phase is outlined in the following paragraphs as the ASEAN Regional Road Safety Initiative.

The purpose and focus of this regional initiative is to build on the successes of the first phase and further develop the technical and institutional capacity of the countries to address their safety problems more effectively. It will be specifically designed to support and complement the in-country activities under the national action plans and develop local expertise and knowledge and appropriate systems to help countries achieve effective implementation of their action plans.

Specifying in detail all activities that will be included is not possible, as funding has not yet been secured to finance the whole initiative. Potential sources of funding are being identified, and discussions are being held with development partners who may wish to participate in the ASEAN Regional Road Safety Initiative. The main areas to be addressed; the probable activities that will be included, if adequate funds are forthcoming; and the sorts of assistance required from partners are outlined in the following paragraphs. Conversely, if additional funds become available, these activities could be expanded in depth or width to match the funds available.

The primary areas of focus in the ASEAN Regional Road Safety Initiative will include the following.

Facilitate Effective Implementation of Country and Regional Action Plans. This will require provision of ongoing advice and support to implementing agencies at regional and local levels, coordination of development partner efforts and assistance, and training of implementing agencies in performance management, to ensure effective implementation of plans to achieve desired impacts and outcomes. The vast bulk of technical support for action plan implementation will be done at the country level, through the ASNet country focal points, but some activity will also be required at the regional level. Regional activities will occur where comparative advantages exist from a regional perspective and/or in economies of scale, networking, or knowledge exchange, or where, as with the ASNet regional focal point, the progress reports from individual countries are being consolidated to produce an

assessment of regional progress for transmission to the ASEAN Secretariat. The primary focus of regional and local support activities will be to assist implementing agencies and their personnel in achieving effective implementation of their national action plans. In the process, the ASEAN Regional Road Safety Initiative will develop domestic consultants and academics in each country as sources of safety expertise. There will also be other local specialists deployed to share their expertise and contribute to training courses and workshops across the region, as required. International development partners will also be consulted to see if they can provide a pool of person-months of international experts for short-term inputs, to assist in preparing or delivering some training courses and developing guidelines or documents, as needed.

Raise Awareness and Advocacy on Road Safety. This will require the development of in-country road safety champions in key ministries in each country, so they can coordinate activities to support each other and promote road safety in their countries. It also requires holding an annual regional road safety conference and/or workshop to bring road safety professionals together from all 10 countries to exchange experiences and recognize excellence in safety activities through the presentation of national and regional awards for road safety schemes. Such events can be used to raise media and development partner awareness of safety issues and concerns in the ASEAN region.

Institutionalize the ASNet. The first phase introduced around 200 safety professionals in 10 countries to the ASNet and its main features and identified potential ASNet country focal points. The next phase of development will require strengthening and institutionalizing such country focal points, so that they can become invaluable resources and premier national points of reference on safety issues that can be used to assist agencies and safety professionals in implementing national road safety action plans. This requires expanding and developing the ASNet knowledge database, equipping ASNet focal points at the country and regional levels, and developing adequate revenue streams to help them become sustainable and self-financing beyond this project. This necessitates that ASNet country focal points have adequate servers, adequate computers, and broadband Internet connection for 3 years, as well as revenue streams through domestic consultancy services and through the organization and delivery of local training courses or workshops, so they can maintain a core staff to manage and

operate ASNet country focal points to carry out the primary task of extending knowledge and use of the ASNet to key professionals and organizations who can assist in improving safety in their countries.

Build Capacity and Strengthen Institutions. This part of the initiative will focus on developing skills and expertise of key groups of safety professionals in the ASEAN region, so that they can implement their sectors of the national road safety action plan more effectively. It will seek to encourage the more developed countries of the region to provide technical assistance to other ASEAN countries by partly financing centralized training courses and workshops at locations in their countries. It will involve running train-the-trainer courses or workshops centrally at four or five designated centers of excellence in the more developed countries and possible follow-up courses and workshops in individual countries to help centrally trained trainers (who will each be given a complete set of training materials) run local courses to train others in their sector. For example, a safety audit course may be organized centrally to train 20 people (two safety auditors from each country). Later, after they have gained experience by doing three or four safety audits in their own countries, local safety audit courses or workshops might be organized in these countries at local ASNet country focal points to train other local engineers in safety audit techniques. The centrally trained safety auditors would participate as lecturers, along with local country focal point staff members, with perhaps some inputs from a visiting lecturer from the center of excellence. The centralized regional annual courses would be supported for 3 years to develop a corps of specialists and trainers for each country and would in due course be complemented by regular local courses, as they gradually become established in each country to develop local safety professionals for each sector. These courses offer opportunities to establish regional locations for more cost-effective training of potential safety trainers, where road and traffic conditions are similar to their home countries, instead of having to send personnel to Australia, Europe, or United States for such specialist training. They also offer opportunities for domestic consultants from local universities, commercial companies, and from ASNet country focal points to develop local income streams from organizing and delivering training on safety issues while at the same time providing affordable specialist training for safety professionals within each country. If funds permit,

centralized courses and workshops are envisaged to be devised for 10–12 topic areas, to cover the most urgent needs of safety professionals across the region.

Involve the Private Sector and Non-government Organizations. Among the deficiencies in existing safety practices in the region identified during the action plan development workshops in each country were the very limited efforts of governments to engage and involve private sector and nongovernment organizations in official efforts to improve road safety. With one or two notable exceptions (Singapore police and Global Road Safety Partnership Thailand), few countries were yet harnessing the potential of the private sector and nongovernment organizations as instruments to help improve road safety. This has now been addressed in the national and regional action plans, and this will improve in the future, but other specific initiatives can be included in regional activities to harness the expertise and potential of the private sector. This regional initiative proposes three areas of activity to develop private sector and nongovernment organization activity for the benefit of road safety.

- (i) **Development of local nongovernment safety networking and expertise.** Nongovernment organization activity in the ASEAN region is sparse at present. Although a few local nongovernment organizations are already active in safety (Handicap International in Cambodia and Lao People's Democratic Republic; Asia Injury in Viet Nam; Don't Drink Drive Association in Thailand; and Pelangi, which is beginning to take an interest in Indonesia) few others are doing any serious work in this sector. Having nongovernment organizations actively lobbying for road safety in each country is beneficial, as this raises public, media, and political awareness and pressure for improvement of road safety. This project would identify and develop potential nongovernment organizations in each ASEAN country, and these could take an increased interest in road safety issues; help and encourage existing active nongovernment organizations to spread their activities to neighboring countries; and facilitate and encourage exchanges and study visits between nongovernment organizations within the region, so that the less active organizations can learn from the active ones. This project

would also bring to the region speakers from successful international nongovernment agencies (e.g., Association for Safe International Road Travel, Brake, Mothers Against Drunk Driving, Road Peace, and others) with extensive safety issues experience and solid reputations to provide practical guidance on tactics regarding getting media publicity, as well as ideas on how to mobilize public opinion and influence governments. Some speakers could perhaps be brought to a special stand-alone workshop for nongovernment organizations or perhaps to a 1-day parallel nongovernment organization session within the annual regional road safety conference.

- (ii) **Private sector transport industry initiative on defensive driving for professional drivers.** The oil industry has one of the best safety records in any industry and has extensive experience in training its professional drivers in defensive driving techniques and brake and clutch control for improved fuel economy and reduced wear and tear, and that knowledge might be transferable to other professional drivers. In ASEAN countries, some large transport operator organizations (e.g., some in Indonesia with 100,000 or more vehicles owned by their members) cover taxi, bus, and truck operators. Opportunities exist to try to use such organizations as the channel to reach hundreds of thousands of professional drivers. However, because many transport operators in these associations are small businesses with only two or three vehicles each, it will be difficult to sell them on the benefits of road safety training alone. If, however, a training course was endorsed by and possibly subsidized by their trade association, and if this course taught drivers about clutch and brake control techniques that reduce wear and tear and maintenance costs, techniques to improve fuel economy and defensive driving to reduce and minimize road accidents, and perhaps even basic first aid, this might be attractive to them. If such training could be shown to reduce their maintenance and operating costs by 10–15% (which oil company experience suggests is certainly possible), there would be direct financial incentives for

operators to send their drivers for such training. This project would be aimed at getting leading oil industry representatives with excellent reputations and proven interest in safety to work with representatives of transport operator organizations from ASEAN countries to devise suitable short courses that could be delivered to taxi drivers, truck drivers, and bus drivers across ASEAN. The transport operator organizations could then be asked to endorse such courses and organize a transport industry training board or other mechanism within each country and get trainers trained in each association to deliver these courses to their members. If successful, these courses will not only reach millions of professional drivers across the ASEAN region, to make them safer drivers, but also improve the financial viability of small transport operators, hopefully providing them with more funds (some of which might be spent on better vehicle maintenance). These courses also help create a more professional system of training for the transport industry in each country.

- (iii) **Motorcycle manufacturers' initiative.** The ASEAN region, with its high numbers of motorcycles in the vehicle fleets of many of its countries, is a huge market for motorcycle manufacturers. With some 6 million or so motorcycles sold in the region each year, ASEAN countries will continue to face growing road safety-related problems, while manufacturers continue profiting from this lucrative market for their products. This project is aimed at mobilizing motorcycle manufacturers and distributors to assist ASEAN governments in reducing the negative impact of their activities. The motorcycle manufacturers and distributors associations will be asked to meet with ADB and representatives of the 10 ASEAN governments (perhaps the proposed ASEAN RSWG) to discuss what could be done to improve the situation. This could include initiatives to be uniformly adopted (preferably voluntarily, but if necessary by regulation) by all manufacturers and distributors across the ASEAN region, such as (a) two good standard safety helmets to be given away with every motorcycle sold; (b) 1 full day of defensive riding and

motorcycle use compulsory training provided and required before a motorcycle is released to a motorcycle purchaser (governments can require training certificates to be presented before motorcycles can be registered at departments of transport); (c) all motorcycle manufacturers to make wearing safety helmets attractive by providing helmets that are color coordinated with motorcycles or that have stylish designs to make them fashion items; and (d) all motorcycle advertisements to reduce emphasis on speed and promote safety and benefits of helmets.

ADB will initiate the dialogue with motorcycle industry representatives and act as facilitator in this process, to bring the parties together and help negotiate an acceptable solution to meeting the objectives of the regional road safety strategy and action plan.

Private Sector Safety Sponsorships

There will be numerous opportunities for safety sponsorships in the ASEAN Regional Road Safety Initiative, for those interested in such possibilities or activities, including the following.



Mixed traffic increases risk for vulnerable road users.

Regional Safety Newsletter. This will be initially produced every 6 months. Later, it will be produced quarterly. The newsletter will be in full color and about eight pages long and will provide an overview of safety activities across the region. Each country will provide a short update on activities and a progress report on new guidelines or documents produced. The newsletter will also have information on ASNet activities, with each ASNet country focal point reporting on its activities since the last update. The newsletter will provide advance information on forthcoming safety training courses and workshops across the region, safety publications, recently available research, and new documents or resources on the ASNet. The newsletter will become the definitive overview of road safety in the ASEAN region. It will be compiled at the ASNet regional focal point, placed on the ASNet for download, and distributed electronically to each ASNet country focal point. Although available electronically, it will also be printed (at least 500 color copies) by each country focal point for distribution (perhaps in local languages) as paper copies to senior officials in key ministries and organizations involved in implementing aspects of the national road safety action plan. Sponsors (whose logo can be displayed along with acknowledgment of sponsorship) will be sought to fund the printing of color copies for distribution to key senior officials in each country. The newsletter will provide a high level of exposure of sponsors to the most senior decision makers in 10 countries at marginal cost.

Outstanding Safety Contribution: Association of Southeast Asian Nations Region (OSCAR) Awards. To raise the profile of road safety, encourage innovation, and recognize and raise media and public awareness of excellence in road safety, the ASEAN Road Safety Initiative would like to instigate the presentation of OSCAR awards for excellence and innovation or success in each country for four categories of organization:

- (i) central government or national organization,
- (ii) local government (provincial or municipal),
- (iii) private sector organization, and
- (iv) nongovernment organizations.

The awards would comprise a trophy, onto which the winner’s name would be inscribed, and the winner would hold the trophy for a year, until the trophy is passed on to the following year’s winner. The winners could also be given a certificate

or smaller trophy (to be kept permanently). Winners would be selected by a panel of senior safety specialists and prominent people in each country, and the award could perhaps be given at some national safety conference or other high-profile annual event.

The winners from each country would then be eligible for entry into the regional awards, and after review of the submissions (5-minute [maximum] PowerPoint or video presentations) by an international panel, the best in each of the four categories would be selected and the awards presented during the formal dinner at the annual regional road safety conference. Sponsors will be sought for the purchase and periodic renewal of these national and regional awards and the minimal costs of organizing the review panels and inscriptions of winners.

Safety Training Materials, Publications, and Education Materials. With the expected heavy emphasis on training courses and workshops to develop safety professionals at country and regional levels, there will be various opportunities for those interested in sponsorship. Each course and workshop will have training materials and publications, and there will also be educational materials that could benefit from sponsorship. From a sponsor’s point of view, they would get their logo onto long-lasting documents in their areas of special interest, which would increase visibility.

Association of Southeast Asian Nations Regional Road Safety Initiative

The initiative is outlined in the following table.

Table A4: Action Plan for the Association of Southeast Asian Nations Regional Road Safety Initiative		
Activity Proposed in this Sector	Type of Assistance Sought	Potential Funding Source or Partner
Facilitate Effective Implementation of Action Plans Provide ongoing advice and support at the local level to government ministries and their staff members responsible for implementing national road safety action plans. Include some regional activities that support and complement activities at the national level.	<ul style="list-style-type: none">Funds from the Asian Development Bank (ADB) or others for project team and domestic consultantsFrom 6 to 12 person-months per year of technical assistance from development partners, so the project team can draw on specialist safety expertise, as neededSwedish International Development Cooperation Agency funding, to develop Association of Southeast Asian Nations (ASEAN) Safety Network (ASNet) country focal points	ADB, ASEAN countries, ASEAN Secretariat, Japan International Cooperation Agency, Swedish International Development Cooperation Agency, World Bank, donors, and private sector organizations
Coordinate development partner efforts and activities by ensuring access for two or three people from each country to relevant training courses being held under other projects in any part of the region, and make regional courses accessible to other development partner projects.	<ul style="list-style-type: none">Willingness of development partners and countries to make training courses accessible to others	
Support facilitating meetings and activities of the road safety working group (RSWG) and other special interest groups (at a regional conference).	<ul style="list-style-type: none">Sponsorship of RSWG, nongovernment organizations, or others attending the annual conferenceSponsorship of the annual conference or aspects thereof (e.g., formal dinner)	
Provide assistance, training, and systems to permit performance management by those responsible for coordinating implementation of national road safety action plans. This will include local assistance in each country, to perform quarterly monitoring and reporting of implementation progress and regional assistance and to consolidate quarterly country progress reports and provide regional progress reports to the ASEAN Secretariat.	<ul style="list-style-type: none">Funds from ADB or others for training and domestic consultants	
Raise Awareness and Advocacy of Road Safety Encourage and inspire five or six senior government officials in each ASEAN country to become road safety champions (one in each of the five or six key ministries), develop the skills of these individuals, and help them form small core mutual support groups that work together to drive and promote a road safety agenda in each country. (Train two per year per country through regional courses, so at the end of 3 years six champions are in each country.)	<ul style="list-style-type: none">Technical cooperation funding from more developed ASEAN countries, to support a center of excellence and cover costs of running courses annually for 3 years (approximately \$75,000 per year)	ADB, ASEAN countries, Global Road Safety Partnership, Japan International Cooperation Agency, and private sector donors
Hold an annual regional road safety conference (with around 150 participants) to bring multisector country delegations (about eight people per country) and private sector and nongovernment organizations together for a 3-day conference to discuss safety issues and share best practices. Days before and after the conference, or even within the conference, can be used as convenient opportunities for RSWG, nongovernment organization, ASNet, and other sector-specific special interest group meetings and development partner coordination meetings.	<ul style="list-style-type: none">Sponsorship to cover all or some costs (approximately \$150,000 per conference X 3 years)Sponsorship of elements (i.e., formal dinner, printing, and selected participants, [e.g., nongovernment organizations])	

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Table A4 continued

Activity Proposed in this Sector	Type of Assistance Sought	Potential Funding Source or Partner
Present Outstanding Safety Contribution: ASEAN Region (OSCAR) awards at a regional conference. The best four national award-winning schemes (central government, local government, private sector, nongovernment organization) are nominated by each country and brought to the conference as 5-minute videos or slide shows and voted on. Winners in each category are announced at the regional conference, and trophies are presented to winners. The country and organization names will be inscribed on the trophy, which will be held for 1 year.	<ul style="list-style-type: none">• Sponsor for one-off cost to make the national OSCAR awards in 10 countries (\$80,000)• Sponsor for one-off cost to make the regional OSCAR awards (\$20,000)• Sponsor for annual cost of national OSCAR awards (\$4,000 per country per year)• Sponsor for annual cost of regional OSCAR awards (\$10,000 per year)	
Centrally prepare model articles and templates on safety issues and send these to countries for adaptation and use in local media, to raise the profile of road safety.	<ul style="list-style-type: none">• Journalist assistance in developing and placing four media-attractive road safety articles per year (\$60,000)	
Raise awareness among development partners to encourage inclusion of road safety components, wherever feasible, into development partner-funded infrastructure, health, or education projects. Governments are to request such components.	<ul style="list-style-type: none">• Inclusion of safety components in all road, health, and education projects• Use of training budgets in existing or proposed projects for local training courses	
ASEAN Safety Network Development Country Focal Points. These are to be equipped and resourced to be able to carry out their required tasks of extending knowledge and competence in the use of the ASNet to preagreed numbers of other universities, key central government ministries, provincial and municipal governments, nongovernment organizations, and private sector organizations so that all parties are able to access the ASNet and its networking and knowledge database. This requires each country focal point to be equipped with a server, server software, workstations (three or four), Internet service (broadband of at least 500 kilobytes per second) for 3 years and to be given opportunities for revenue earning through intermittent domestic consultancy (monitoring of national action plan and the organization and delivery of local training courses). Each country focal point is to establish a country ASNet users group and regularly consult with this group to ensure services and information provided by the ASNet country focal point remain relevant to the needs of users. Leaders of country focal points need to be members of a regional ASNet users group, to provide feedback to ensure the ASNet regional focal point and ASNet international focal point continue to provide the information, content, and knowledge database needed to meet their needs and those of their countries. Initial establishment costs and annual running costs will be required in 10 countries.	<ul style="list-style-type: none">• Support for computer equipment and Internet and server software, to establish ASNet country focal points in 10 countries (approximately \$22,000 per country focal point in the first year and \$10,000 per country focal point per year thereafter, for an additional 2 years)• Support for domestic consultancy inputs for general advice and development and delivery of in-country training courses• Use of training funds in existing projects to finance local training	ADB, ASEAN countries, Global Road Safety Partnership, Japan International Cooperation Agency, private sector, Swedish International Development Cooperation Agency, and others

Table A4 continued

Activity Proposed in this Sector	Type of Assistance Sought	Potential Funding Source or Partner
Regional Focal Point. This is expected to be established at the new safety center at the Asian Institute of Technology in Bangkok, Thailand. The regional focal point will be equipped with a server and server software and partial funding for 3 years to hire part-time or full-time staff members to manage the ASNet regional focal point website, coordinate country focal points, and maintain and develop the regional knowledge database and produce and distribute the 6-month ASEAN safety newsletter. Income will be provided by appointing the regional focal point staff members as domestic consultant members of the project team and training its staff to coordinate monitoring of the action plans and consolidate the data to produce a quarterly monitoring report for the ASEAN Secretariat. Additional income streams will be generated for the regional focal point by designating it to be one of the regional centers of excellence and involving regional focal point staff in developing and delivering regional training courses and workshops. The leader of the regional focal point, apart from chairing the country focal point users group, will be a member of the international focal point content steering group.	<ul style="list-style-type: none">• Support for computer equipment and Internet and server software to establish the ASNet regional focal point at the Asian Institute of Technology• Approximately \$30,000 in the first year and \$15,000 per year for an additional 2 years• Support for domestic consultancy inputs for regional monitoring and development and/or delivery of training courses and workshops from role as center of excellence	
International Focal Point. This will remain at the University of Linköping, Sweden, where the ASNet management team is based. The role will be to manage the whole network and develop and expand the knowledge database to meet the needs of safety professionals implementing the action plans in the ASEAN region and the needs of the regional focal point and country focal points. The international focal point will continue to provide training and support, as necessary, to maximize ASNet usefulness and utilization and will develop regular virtual meetings and collaborative projects among the countries. They will participate in a steering group to periodically review and agree on the content of the knowledge database and keep it updated and relevant to the needs of the users.	<ul style="list-style-type: none">• Support for ASNet international focal point and staff inputs to manage knowledge database and sustain the regional focal point and 10 country focal points (\$108,000 per year for 3 years)	ADB, ASEAN countries, Global Road Safety Partnership, Japan International Cooperation Agency, Swedish International Development Cooperation Agency, private sector, and others
ASNet Users Group. This will include representatives of country focal points and be chaired by the regional focal point. The group will meet periodically to discuss and review the adequacy of the ASNet knowledge database and the effectiveness of ASNet's networking facilities and make requests for improvement, as necessary.	<ul style="list-style-type: none">• Funding to facilitate ASNet users group meetings and discussions (\$20,000 per year)	

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Table A4 continued

Activity Proposed in this Sector	Type of Assistance Sought	Potential Funding Source or Partner
ASNet Steering Group. This will include representatives of the international focal point, regional focal point, and other key organizations with interests or special knowledge of road safety matters and that can provide links to other information or knowledge networks. These invited organizations will be ADB; Global Road Safety Partnership; Swedish International Development Cooperation Agency; World Bank; and others, perhaps from prominent road safety research organizations, such as Transport Research Laboratory (United Kingdom) and ARRB Group (Australia).	<ul style="list-style-type: none">Funding support to facilitate ASNet steering group meetings (\$40,000 per year)Participation of key organizations and willingness to allow access and links to their knowledge databases	ADB, ASEAN countries, Global Road Safety Partnership, Japan International Cooperation Agency, private sector, and others
Capacity Building and Institutional Strengthening Regional Center of Excellence. Four or five locations will be selected in the region as potential centers of excellence where regional training can be conducted. These will either be academic centers, in Asian Institute of Technology (Thailand) and Universiti Putra Malaysia (Malaysia), or countries, such as Brunei Darussalam and Singapore, that could finance courses to be held in their countries or, if necessary elsewhere (e.g., in Singapore training centers in Cambodia, Lao People's Democratic Republic, Myanmar, and Viet Nam), where road networks, driver behavior, and high percentages of motorcyclists may provide more appropriate venues for such tactical training. If the large World Bank-funded road safety project in Viet Nam results in the establishment of specialized safety training facilities or specialist courses, it may offer training opportunities for other ASEAN countries.	<ul style="list-style-type: none">Technical cooperation from the more developed ASEAN countries to fund the use of their experts and use of their training facilities, where available, or to finance and sponsor delegates' course attendanceAccess to any training facility and courses to be established in Viet Nam under a forthcoming large safety program	
Centralized Training Courses and Workshops. These train-the-trainer courses and workshops are to be developed and delivered by centers of excellence, each running around four courses per year for 3 years. Costs include development of course materials and replication of materials for use in local training courses by centrally trained trainers.	<ul style="list-style-type: none">Approximately \$300,000 per center per year (\$75,000 per regional course or workshop X four courses per year at each center), which will possibly be fully or partially funded by technical cooperationSome trainees funded by training budgets in existing aid projects	
In-Country Training Courses and Workshops. These will be organized by and held at the ASNet country focal point. They will cover 8–10 topic areas and be organized and presented by country focal point staff, centrally trained specialists, and possibly other local specialists and trainers from the centralized regional courses.	<ul style="list-style-type: none">Local funding or funding by training budgets of existing or proposed development partner-funded projects (approximately \$10,000 per course X five or six courses per year X 10 countries)	
Developing Domestic Consultants for the ASEAN Region. Domestic consultants will be involved in developing and presenting courses at the country focal point, with the centrally trained specialists using training materials from the central training courses.	<ul style="list-style-type: none">Funding for domestic consultants included in budget	

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Table A4 continued

Activity Proposed in this Sector	Type of Assistance Sought	Potential Funding Source or Partner
Developing Performance Management Capacity. Those government staff members responsible for coordinating and managing national action plans implementation, and domestic consultants from country focal points and the regional focal point who will assist in monitoring action plans will undergo training on impact indicator development and methods to be used for performance management and for reporting progress.	<ul style="list-style-type: none">Funds for two special workshops at centers of excellence, initially, plus annual central and in-country courses and support	ADB, ASEAN countries, Global Road Safety Partnership, Japan International Cooperation Agency, private sector donors, oil companies, and transport operator associations Motorcycle manufacturers and distributors
Private Sector and Nongovernment Organization Involvement Development of Nongovernment Organization Safety Networking and Expertise. Encourage and facilitate exchange visits among ASEAN-based nongovernment organizations and visiting speakers from international nongovernment organizations concerned with safety.	<ul style="list-style-type: none">Development partner, Global Road Safety Partnership, or sponsorship support to fund exchanges and study tours (\$50,000 per year for local exchanges and \$50,000 per year for visitors and speakers from international nongovernment organizations concerned)	
Private Sector Transport Industry Initiatives on Defensive Driving. Develop (with the help of oil companies) special training courses for professional taxi, bus, and truck drivers, in cooperation with transport operator associations in each country.	<ul style="list-style-type: none">Oil company specialists to develop and deliver trainingTransport operators associations subsidizing local training to encourage member operators to have their drivers trained	
Motorcycle Manufacturers Initiative to Improve Motorcyclist Safety. Hold dialogues with motorcycle manufacturers and distributors to agree on safer practices throughout the region.	<ul style="list-style-type: none">Manufacturers and distributors funding (fully or partially) the cost of providing two good helmets and a 1-day safe riding training course with every motorcycle sold	
General Sponsorship Opportunities. These range from a regional road safety newsletter (10 countries X 500 copies per quarter) and OSCAR awards (manufacturing cost plus annual costs) to training and education materials for workshops.	<ul style="list-style-type: none">Sponsorships and donations (\$50,000 per year, total for ASEAN, and \$100,000 initial cost plus \$50,000 per year [dollar amount is variable but roughly \$5,000 per workshop])	

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Table A4 continued

Activity Proposed in this Sector	Type of Assistance Sought	Potential Funding Source or Partner
<p>Illustrative Possible Demonstration Projects (others to be devised once available funding is quantified)</p> <p>Motorcycle Safety Campaign. Since motorcycle safety is a serious problem in most ASEAN countries, a campaign involving posters, television spots, and video could be devised by a marketing specialist as a generic campaign, and copies could be provided for each country to adapt by adding local images or film footage to localize the campaign for each audience. A single campaign could be used 10 times.</p>	<ul style="list-style-type: none">Sponsorship and funding to hire marketing specialists to develop the campaign or provide in-house or marketing specialists to develop the campaign	ADB, ASEAN countries, Global Road Safety Partnership, Japan International Cooperation Agency, and private sector donors
<p>First Aid Training of Professional Drivers by Red Cross and Red Crescent. The project undertaken in Viet Nam to train professional drivers on the basics of first aid could be replicated in other ASEAN countries, so that taxi, bus, and truck drivers in every country become a resource to help casualties during the important first hour after an accident.</p>	<ul style="list-style-type: none">Sponsorship or donor funding to expand the Viet Nam Red Cross project to six other ASEAN countries (\$100,000 per country per year)	
<p>Safety Audits and Safety Improvements on Selected Roads. Since many roads in the region have inadequate safety features and facilities, it might be good to do a demonstration project spanning several countries, so road safety specialists can see the benefits of safety audits and safety engineering and have an opportunity to apply their training to practical problems. Given that the least developed countries of the region are in the Greater Mekong Subregion (GMS), a project on the GMS international routes may provide opportunities to introduce consistency in approaches and harmonization in safety treatments over that network. This could include safety audits and safety treatments along the major GMS routes or even the main ASEAN network.</p>	<ul style="list-style-type: none">Donor support for a GMS road project to carry out safety audits and introduce consistency of facilities and safety treatmentsDemonstration projects on some or all ASEAN major networks (total of \$500,000 per year)	
<p>Centrally Produced Modules and Good Practice Reviews. Much experience and information are available from within the region and from other parts of the world where countries have already faced and overcome problems similar to those currently being faced in the ASEAN region. It should therefore be possible to prepare, centrally, best practice reviews and guidelines and modules on common problems for local adaptation and make these available to implementers in individual ASEAN countries. Typical areas where such modules and guidance might be developed include accident data systems, safety management structures, safety funding, and others.</p>	<ul style="list-style-type: none">Donor support (funds and technical expertise) to review and develop modules and good practice guidelines in most important sectors (\$30,000 per module X 3)About \$6 million per year in technical assistance from donors and partners, so the project team can draw on specialist safety expertise, as needed	
<p>Other Demonstration Projects. Those trained centrally at the proposed centers of excellence will be introduced to new skills and techniques. It would be extremely useful if some resources could be available for them to implement demonstration projects on their return to introduce new activities in their countries.</p>	<ul style="list-style-type: none">Donor support (funds and possibly technical expertise) to implement demonstration projects in individual countries as a follow-up to centralized training.	



Domestic Consultants and Academics

In creating this document, a deliberate effort was made to involve local academics and researchers as domestic consultants, to extend their interest and expertise in road safety research and develop their skills and their university departments as possible local resources (for possible research or consultancy services) to help governments in the downstream implementation of road safety action plans. The Association of Southeast Asian Nations (ASEAN) Safety Network (ASNet) focal points were also generally located at the same universities or research institutes and used the same personnel, to concentrate this expertise and knowledge. Universities were selected because of their teaching and research role and because the materials on the ASNet database could also be useful to students and lecturers and may encourage them to take a greater interest in road safety issues.

Where a suitable university or research institute was not available, domestic consultants were recruited from domestic consultancy companies, expecting that such companies, for commercial reasons, would want to develop their expertise on road safety issues and safety research, to be able to offer such services to governments in due course. This also would leave behind a potential resource for governments to draw upon, as needed.

The domestic consultants, whether academics or from commercial firms, were required to produce two reports: (i) a country report giving an overview of road safety activities and the key agencies involved and (ii) a costing report estimating the numbers of deaths and injuries; placing valuation on costs of deaths, injuries, and damage only accidents; and estimating the economic losses incurred annually in each country.

The work of the domestic consultants in each country in estimating underreporting and economic losses was invaluable and, in some cases, the first time such work had ever been done on a

particular country. Such estimates will be refined in future years, as more accurate data become available, but the estimates provided an initial idea of the human and economic losses sustained annually by the region.

The Asian Development Bank and the Association of Southeast Asian Nations would like to thank each of the domestic consultants who contributed to the completion of this document by preparing the country and costing reports. These provided the information (on underreporting, deaths, and injuries and economic losses in each country) that was consolidated to produce regional estimates.

The names of the domestic consultancy team leaders and their e-mail contact details are given in the following table. For convenience, the contact details of the Asian Development Bank project team are also included in the table.

Table A.5: Contact Details

Country	Name	E-Mail Address
Brunei Darussalam	R. Bush	cphcrobert@hotmail.com
Cambodia	S. Mithonarath	sawacam@online.comkh or narath2001@hotmail.com
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Malaysia	K. Mani	drkulan@eng.upm.edu.my
Myanmar	K. Zaw	iey@mptmail.net.mm or kzaw@ytgeco-edu.gov.mm
Philippines	R. Sigua	rsigua@mozcom.com or rdsigua@yahoo.com
Singapore	H.C. Chin	cvech@nus.edu.sg or engchc@nus.edu.sg
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International Project Team		
	A. Ross	aross@adb.org or alanross999@aol.com
	M. Goodge	mjgoodge@hotmail.com or goodge@laotel.com

As part of the Asian Development Bank (ADB)-Association of Southeast Asian Nations (ASEAN) Regional Road Safety Program, strengthening regional cooperation through sharing best practices, harmonizing road safety activities, and developing regional strategies and approaches on issues of common interest to all countries (e.g., motorcycle safety) were necessary.

To facilitate improved communications and knowledge sharing and best practice solutions, ADB invited the Swedish International Development Cooperation Agency to participate in the ADB-ASEAN Regional Road Safety Program by financing development of an Internet-based regional road safety network to be called the ASEAN Safety Network (ASNet). This is designed with the support of electronic-learning experts from Linköping University, Sweden, to facilitate the sharing of experience and development of countermeasure activities to support the traffic safety programs being devised in each ASEAN country.

The proposed ASNet electronic-learning system will consist of a **distance learning system** (which allows users to access road safety databases, road safety research, and road safety teaching materials and statistics) and a **networking system** (which permits users to communicate online, work in groups, and share information and documents). These resources can also (with help of the electronic-learning system consultants) be used to produce new training materials that can be tailor-made for each country concerned, in its own language. This will enable trainers even at local levels to have access to good training and educational material and/or documentation on safety issues. The ASNet will also consist of a **dissemination system** that will include a Web-based newsletter that will be produced regularly and focus on the ADB-ASEAN program, with inputs and/or contributions from the 10 individual countries. The newsletter will show the progress in implementing national road safety action plans and sharing documents and good practices.

The ASNet electronic-learning system will be used as a networking tool for technology transfer within ASEAN countries, and has already commenced on the establishment of a regional focal point at the Asian Institute of Technology. Individual country focal points were also established in each of the 10 ASEAN countries. Between 20 and 25 local professionals in each country (over 200 altogether) were introduced to the ASNet and shown how to access its information. In the future, as more safety documents and materials are uploaded into the ASNet database, this will become the main channel for local safety professionals to get access to safety information, statistics, and research from within the region and from the worldwide road safety community. Safety professionals will be working and/or collaborating with colleagues from neighboring countries to devise effective road safety countermeasures, and there will be much more collaboration and information sharing across the ASEAN region, to encourage longer term sustainability and sources of funding ASNet focal points. These focal points will be developed as venues for delivering national and regional training courses and workshops, and domestic consultants will provide a source of local advice and assistance for countries as they implement their national road safety action plans.

For more information, contact Charles Melhuish (cmelhuish@adb.org), Alan Ross (alanross999@aol.com), or Kenneth Asp (kenas@itn.liu.se).

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About the Asian Development Bank

The Asian Development Bank (ADB)’s work is aimed at improving the welfare of the people of the Asia and Pacific region, particularly for the 1.9 billion who live on less than \$2 a day. Despite the success stories, Asia and the Pacific remains home to two thirds of the world’s poor.

ADB is a multilateral development finance institution owned by 63 members, 45 from the region and 18 from other parts of the globe. ADB’s vision is a region free of poverty. Its mission is to help its developing member countries reduce poverty and improve their quality of life.

ADB’s main instruments in providing help to its developing member countries are policy dialogues, loans, technical assistance, grants, guarantees, and equity investments. ADB’s annual lending volume is typically about \$6 billion, with technical assistance provided usually totaling about \$180 million a year.

ADB’s headquarters is in Manila. It has 26 offices around the world. The organization has more than 2,000 employees from over 50 countries.