

Road Safety Guidelines

for the Asian and Pacific Region



ROAD SAFETY GUIDELINES

for the Asian and Pacific Region

Guidelines for Decision Makers on
Road Safety Policy

Asian Development Bank

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ACRONYMS

AASHTO	-	Association of American State Highways and Transportation Officials
ADB	-	Asian Development Bank
BAC	-	blood alcohol concentration
CARS	-	Conference on Asian Road Safety
CITA	-	Comite International Del Inspectorate Technique Automobile
DEE	-	disaggregated effectiveness evaluation
DRE	-	divisional road engineers
DRSC	-	divisional road safety committee
DSA	-	Driving Standards Agency (United Kingdom)
EC	-	European Community
FNTC	-	Fiji National Training Council
GDP	-	gross domestic product
GNP	-	gross national product
HGV	-	heavy goods vehicle
IIT	-	Indian Institute of Technology
Lao PDR	-	Lao People's Democratic Republic
JICA	-	Japan International Cooperation Agency
MAAP	-	Microcomputer Accident Analysis Package
MoE	-	Ministry of Education
MoT	-	Ministry of Transport
NAASRA	-	National Association of Australian State Road Authorities
NGO	-	nongovernment organization
NMV	-	nonmotorized vehicle
NRSC	-	National Road Safety Council
OC	-	officials' committee
ODA	-	Overseas Development Administration (United Kingdom)
OECD	-	Organisation for Economic Co-operation and Development
PAU	-	police accident unit
PDMCs	-	Pacific developing member countries (of ADB)
PMO	-	prime minister's office
PRC	-	People's Republic of China
PRSC	-	provisional road safety committee
PSV	-	public service vehicle
PWD	-	public works department
RAP	-	route action plan
REAAA	-	Road Engineering Association of Asia and Australasia
RETA	-	regional technical assistance
RoSPA	-	Royal Society for the Prevention of Accidents (United Kingdom)
RSE	-	road safety education
RSU	-	Road Safety Unit (Fiji)
RTA	-	road traffic accident
RTSA	-	Road Traffic Safety Association (Republic of Korea)
SATCC	-	Southern Africa Transport and Communications Commission
TAC	-	Transport Accident Corporation (Australia)
TM	-	traffic management
TPIP	-	third party insurance premiums
TRL	-	Transport Research Laboratory (United Kingdom)
UK	-	United Kingdom
UN/ESCAP	-	United Nations Economic and Social Commission for Asia and the Pacific
US	-	United States
VASCAR	-	Visual Average Speed Computer and Recorder
VRU	-	vulnerable road user
WHO	-	World Health Organization

MEASUREMENTS

km	-	kilometer
km/h	-	kilometer per hour
m	-	meter
mg	-	milligram
ml	-	milliliter
mm	-	millimeter
mph	-	mile per hour

CONVERSIONS

1 mile	=	1.6 km
1 mph	=	1.6 km/h
1 yard	=	0.91 m

1 UK pound = US\$1.6

ROAD SAFETY GUIDELINES

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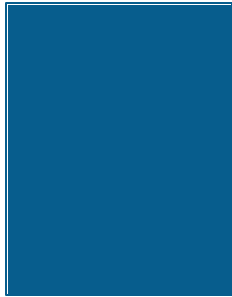
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EXECUTIVE SUMMARY

E



Asian Development Bank



1 INTRODUCTION

This Road Safety Guidelines for the Asian and Pacific Region has been developed as part of a regional technical assistance project (RETA 5620: Regional Initiatives in Road Safety) funded by the Asian Development Bank (ADB). The purpose of the Guidelines is to provide a source of reference and guidance to the region's senior decision makers with responsibility for road safety. The Executive Summary provides an overview of the problems and actions that need to be taken in each sector to address road safety issues effectively in the Asian and Pacific region. This publication has been designed as a series of self-contained documents that can be extracted for discussion and distribution.

2 TRENDS AND PROSPECTS

Although only a small proportion of the world's total motor vehicle fleet and total network is in the Asian and Pacific region, 235,000 road deaths occur annually, which is almost half of the 500,000 road deaths that occur annually worldwide. The number of people injured or crippled through road accidents in the region is difficult to quantify because of underreporting, but it is certainly of the order of 3 million to 4 million each year. Road accident deaths are commonly the second largest cause of deaths for the core age

groups (ages 5-44 years) in many countries and the problem is now considered by the World Health Organization (WHO) to be of epidemic proportions. Road accidents cost countries between 1 percent and 3 percent of annual gross domestic product (GDP). Annual losses due to road accidents are now a serious economic drain and problem for many developing countries. In developing countries of the region alone, such losses total at least US\$20 billion a year and much of these costs are incurred as foreign exchange losses because vehicles, medicines, and spare parts are often imported. These recurring annual losses (which are greater than the total annual lending to the region by the World Bank and ADB combined) undoubtedly inhibit the social and economic development of the region.

Many countries are experiencing annual vehicle fleet growth rates of about 16 percent or 17 percent; for example, People's Republic of China (PRC) (18 percent), India (17 percent), Malaysia (15 percent), and Viet Nam (18 percent). This is equivalent to the doubling of motorized vehicle fleets in five years, trebling in eight years, and quadrupling in 12 years. This factor, allied to the high proportion of two- and three-wheeled motorized vehicles and the relatively young age of the majority of the population, contributes to the serious road safety prob-

Plate 1:
Bicycle versus
truck in Hanoi,
Viet Nam.





Plate 2:
Road safety
education in
school.

lems being experienced in much of the region. Whereas the number of deaths and injuries have been reducing steadily in developed countries, the number of deaths in Asian and Pacific countries is rising at alarming rates. Between 1981 and 1993, the number of road accident deaths increased in the region by 95 percent, whereas total population increased by only 24 percent. This means that there was a significant increase in personal risk of death in a road accident.

Vulnerable road users (VRUs) (pedestrians, motorcyclists, and nonmotorized vehicles [NMVs]) are particularly at risk and in many countries of the region, they constitute the highest proportion of those killed or injured. They require particular attention in the developing of countermeasures and improvements.

For the last 10-year period (1984-1993), official police statistics show that more than 2 million people were killed and more than 17 million were injured or disabled in road accidents in the region. Many of these casualties will have received crippling injuries that will handicap them for the rest of their lives, imposing ongoing financial burdens on their families and their communities. So far, the problem has been largely unrecognized within the individual countries. Insufficient efforts and attention are given to the improvement of road safety in the region, even though road accidents impose a heavy burden on the medical and hospital resources of many countries. What is even more worrying is that a significant amount of underreporting occurs in many countries and many casualties are not

included in official statistics. Thus the scale of the problem is even worse than the "official" statistics show.

Opportunities and scope exist for avoiding future problems by incorporating procedures, controls, and improvements in many sectors related to road safety. Failure to take action will condemn millions of people in the region to unnecessary death or injury. The necessary information to take action is available in this document and should be used to improve safety in the region.

3 COORDINATED ROAD SAFETY PLANS AND INTERVENTIONS

Experience in both the more industrialized countries and developing countries has demonstrated that the most effective way of reducing accidents is by adopting an integrated approach; that is, by safety action plans that are coordinated within and across all the different sectors (or government departments) that can influence Asian and Pacific countries. They are at different stages of development with respect to road safety awareness and activity, so different interventions need to be undertaken depending upon the particular circumstances within each country. Three distinct stages can be identified in the development of safety within a country. The types of activities and interventions possible and necessary at each stage are outlined below:

Stage 1: Raising Awareness

In most cases there will be a need to improve the national road accident database and the importance of this must be stressed to police authorities. The database should be capable of identifying the scale and nature of safety problems so that appropriate information about recent trends, road users at risk, hazardous locations, etc., can be imparted to those concerned, particularly to organizations in a position to make improvements.

Stage 2: Prioritized Road Safety Action Plans

During this stage the relevant authorities will need to develop an overall strategy identifying the most urgent remedial actions required



Plate 3: Police spot checks on drinking and driving.

and strengthening the key organizations that need to be involved. This will inevitably require special funding for the implementation of demonstration and pilot projects. External technical assistance is also likely to be needed (if specialist expertise is lacking within a country) and training for relevant personnel. At this stage, partial funding can often be obtained via overseas aid or through the international development banks.

The timescale for this important stage should be about three years and the main focus should be on strengthening relevant organizations with road safety responsibilities, implementation of the most urgent improvements, and the development of a five-year program. Specific interventions that can be implemented in each sector of road safety are presented in the Road Safety Guidelines and have been summarized in the following sections.

Stage 3: Five-year Road Safety Programs

This stage should aim to consolidate the activities already initiated in the earlier stages by the implementation of a realistic five-year program via a series of one-year plans. The significant investment required for this stage is normally met by the government of the country. Experience from the more industrialized countries indicates that improving safety can be enhanced by setting casualty reduction targets and ensuring that relevant authorities are accountable for

achieving them. However, developing countries should take care when setting such targets. They should not blindly adopt targets similar to those stated in the industrialized countries, where the road network may well be developed and vehicle ownership levels stabilizing as they approach saturation level. Setting realistic targets in developing countries is often more complex because of the rapid motorization being experienced in these countries that itself will tend to result in increasing numbers of deaths and injuries each year. Consequently, developing countries are advised to use targets related to numbers of lives saved from different interventions, rather than targets related to reductions in total deaths or casualties. Reductions in total deaths or casualties are unlikely to occur during periods of very rapid motorization in developing countries.

It is strongly recommended that all safety action plans are properly monitored to ensure institutional impact and that developmental objectives are achieved as well as cost-effective implementation of specific countermeasures. Published evaluations are valuable in providing information about relative effectiveness of schemes and aiding decisions about the types of schemes to be implemented.

Priority actions that should be considered by all countries include:

1. initiate an independent review of road safety and organize a national seminar to present and discuss the findings;
2. establish a national road safety council (NRSC) with adequate technical and financial resources to coordinate road safety nationwide and develop a road safety action plan; and
3. include a road safety component in all relevant road improvement projects and also explore whether any unutilized loan funds on existing projects could be redirected to safety.

4 ROAD SAFETY SECTORS

The specific actions and interventions that can be undertaken in each sector of road safety are summarized in the following pages.

Road Safety Guidelines for the Asian and Pacific Region

The guidelines cover 14 individual sectors affecting road safety, with four introductory chapters and four appendices. Information is presented in a series of freestanding documents that can be extracted for distribution and discussion.

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