



ADB-ASEAN Regional Road Safety Program

Country Report:

CR 6



**Road Safety in
Myanmar**



Asian Development Bank–Association of Southeast Asian Nations Regional Road Safety Program

Country Report CR 6: Myanmar

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ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
RTAD	Road Transport Administration Department
FEC	foreign exchange certificate

NOTE

In this report, "\$" refers to US dollars.

CONTENTS

1	COUNTRY DESCRIPTION	1
1.1	General Information	1
1.2	Networking of Roads and Transport	1
1.3	Legal Frameworks	2
2	ROAD SAFETY: SITUATION AND ANALYSIS	3
2.1	Road Accidents Definition and Road Safety in the Myanmar Context	3
2.2	Reporting of Road Accidents and Source of Data	3
2.3	Trends in Vehicles, Population, and Road Accidents	3
2.4	Characteristics of Road Accidents	4
2.5	Road Safety Measures (Past and Present)	5
2.6	Analysis of Road Accidents and Impacts on Road Safety	5
3	GOVERNMENT AGENCIES CONCERNED WITH ROAD SAFETY AND RELATED RESPONSIBILITIES	7
3.1	Ministry of Transport	7
3.2	Ministry of Rail Transportation	7
3.3	Road Transport and Planning Department	7
3.4	Ministry of Home Affairs	7
3.5	City Development Committees	7
3.6	Public Works	8
3.7	Township Development Committee and Development Affairs Department	8
3.8	Army Corps of Engineers	8
4	CONSTRAINTS TO MEASURES TO ENSURE ROAD SAFETY	9
4.1	Legislative, Institutional, and Technical Aspects	9
4.2	Education Campaigns	10
4.3	Myanmar Cultural Settings	10
5	MEASURES AND PRACTICES UNDERTAKEN	11
5.1	Legislative, Institutional, and Technical Implementations	11
5.2	Controlling the Number of Automobiles and Other Related Issues	11
5.3	Forming Effective Agencies for Road Safety	12
5.4	Issuing Driver's Licenses	12
5.5	Evaluation of Automobile Insurance and Registration of Vehicles	13
6	RECOMMENDATIONS	14
6.1	Legislative, Institutional, and Technical	14
6.2	Options and Priorities for Improvement	14
6.3	High-Risk Road Users and the Effects of Safety Regulations	15
	APPENDIXES	17

1 COUNTRY DESCRIPTION

1.1 General Information

Myanmar is located in Southeast Asia and shares borders with Bangladesh (west, 271 kilometers [km]); People's Republic of China (north and northeast, 2,204 km); India (northwest, 1,338 km); Lao People's Democratic Republic (east, 238 km); and Thailand (south and southeast, 2,107 km). The country is strategically located between South Asia and Southeast Asia. It covers an area of 677,000 square km, ranging 936 km from east to west and 2,051 km from north to south. The country is divided into 14 administrative states and divisions.

The location and topography of the country generates a diversity of climatic conditions, and it has seasonal changes: summer, rainy, and winter seasons created by monsoon wind directions. The population of the country is 52 million, and the annual population growth rate is 2.02%. The country follows a market-oriented economic system. The extreme worsening of the economy in the late 1980s made the Government take urgent reform measures to cease the decline and bring about an immediate recovery. The short-term and long-term plans were formulated with special focus to enhance production, especially in the agriculture sector, and promote exports. The average annual growth rate is 7.5%. The main religions of the country are Buddhism (89.2%), Christianity (5%), Islam (3.8%), Hinduism (0.5%), Spiritualism (1.2%), and others (0.2%).

The average life expectancy is 57 years. Myanmar has 23.79 million women, and the population density is 198 people per square mile.

The capital city of Myanmar is Yangon, which has an estimated 6 million people. The municipal area of Yangon has 33 townships, including a central business

district, which is formed with seven townships.

1.2 Networking of Roads and Transport

In the past, most routes ran from north to south, with east-west links that were restricted by the range of hills situated in the area and major rivers, including ThanLwin, Ayeyarwady, Chindwin, and Sittaung. The main arterial roads, based on length, networking with centers of commerce, and networking with junctions, are shown in Table 1.

Table 1: Road Network

Arterial Road	Distance
Yangon-Pyay-Myingyan motor road	455 miles
Yangon-Taungoo-Meikhtilar-Mandalay	431 miles
Yangon-Bago-Mawlamyang-Dawei-Myeik road	540 miles
Yangon -Taungote-Ann-Siitway road	570 miles
Yangon- Monywa road	515 miles
Mandalay-Sagaing-Monywa-Khemti-Pansaung road	1,015 miles
Pathein-Monywa road	450 miles

Source: Public Works.

Before 1988, east-west connections between main north-south corridors were used for traffic and transport, and the main river Ayeyarwady was bridged at only one point (in Sagaing). The extended overpass bridges in seven places are Bala Minhtin (Myitkyina), Anawrahta (Chauk), Ayeyarwady (Magway), Nawadei (Pyay), Bo MyatHtun (Nyaung don), Ayeyarwady (Maubin), and Ayeyarwady (Deidayei). These serve as crossing points and links to remote places and centers that save considerable travel time and narrow the gap between the states and divisions.

Moreover, the roads over the main rivers have been extended, and east and west courses are now being linked by the newly

built bridges. The Monywa and ChaungU bridge (on the Chindwin River); the Kunlone, Tarsan, Paan, and Mawlamyaing bridge (on the Than Lwin River); and the Shwe kyin-Madauk bridge (on the Sittaung River) are extending their networks among the regions. Myanmar has over 20,000 miles of classified road and 3,500 miles of unclassified tracks at present. Public Works has classified the roads as union roads, main roads, and secondary roads. Public Works is also responsible for all bridges on the union, main, and secondary networks (Table A2).

The Government's road transport enterprise has operational functions related to the following services:

- (i) road freight services organized through its branches,
- (ii) passenger services on main urban routes and several interurban highway routes and urban and suburban services in Mandalay and Mawlamyaing,
- (iii) taxi services in Yangon city, and
- (iv) services of maintenance workshops and service provision to government organizations.

The majority of vehicles on the main interurban routes are old. To cover rising costs and maximize revenue, private enterprises and operators also tend to upgrade vehicles to carry greater loads. The registered vehicle fleet is one of the factors analyzed for road safety. Mode of transport is also taken into account. These results may, however, affect passenger perception of availability and low fares of competing transport modes, particularly rail.

The trips made by passengers using roads can be classified as for (i) work (private, business, trading, and government duty); (ii) social visits; and (iii) shopping. Alternate transport options, convenience, and charges are the basic factors behind reducing or promoting frequency of travel. For Yangon only, mode of public

transportation is buses, and more than 3.5 million passengers use them daily.

1.3 Legal Frameworks

Road transport and traffic operations are regulated with the following rules and laws, which have been formulated since 1915:

- (i) The Burma Motor Vehicles Rules (1915),
- (ii) The Burma Hired Motor Vehicles Rules (1935),
- (iii) The Motor Vehicles International Circulation Rules (1933),
- (iv) Motor Vehicle Law (1964), and
- (v) Motor Vehicle Law (1989).

To enforce relevant regulations, obligations in the acts for road users and empowerment of the authority mentioned in respective acts and laws have been revoked and the laws replaced in the past.

Law enforcement units and rules and regulations concerned with road safety deal with (i) registration of vehicle running condition, (ii) compulsory third party insurance, (iii) issuing driver's licenses, and (iv) control of vehicles on roads.

Road users and administrators have to ensure that duties and obligations mentioned in rules are in line with acts. This also calls for driver understanding of the rules and regulations issued. All types of road users and drivers have to be familiar with and understand road signs, signals, markings, road rules, and how to drive. They must be aware of speed limits, vehicle lighting, and compulsory equipment (especially that needed at night), and they have to know the procedures that must be taken in the event of an accident.

2 ROAD SAFETY: SITUATION AND ANALYSIS

2.1 Road Accident Definition and Road Safety in the Myanmar Context

In Myanmar, it is generally accepted that a road accident is one that involves at least one vehicle within the road environment and results in the damage of property and/or injury to a road user. There is no accurate road accident definition, but the definition offered was taken into account when drafting the laws enacted.

The term road safety refers to road users being free from any conflict on roads by using better in-vehicle protection devices and proper road networks and through improved traffic engineering.

In general, road accidents are classified into two categories: fatal and injury. However, for this road safety report, the Asian Development Bank requires road accidents to be classified by severity into four categories: fatal, serious injury, slight injury, and property damage only.

2.2 Reporting of Road Accidents and Source of Data

Statistics on road accidents are collected by the traffic control branches of the Myanmar Police Force, under the Ministry of Home Affairs. The Road Transport Administration Department (RTAD) has access to the primary data from original accident reports and prepares summary analyses of trends, annual reports, and recommendations for future plans of action. Road accident statistics collected from the states and divisions are shown in Table A3 and Figure A1.

All road accidents are required to be reported by motor vehicle controls, but only fatal cases and serious personal injury cases are almost always reported. As for minor accidents, there is a tendency for private deals and compensation to be made, and such cases go unreported.

The accident reporting system is the combined work of the Myanmar Police Force (local police forces in states and divisions) and, for Yangon City, the Traffic Control Police Force, which takes charge and responds first when accidents occur. Information recorded by police officers in charge, along with the serious casualties, are then forwarded to the nearest hospitals. This is followed by necessary treatment or action, and a report is submitted to the Ministry of Home Affairs. For accident data analysis, information on road accidents is sent to RTAD. RTAD, as the national coordinating agency, presents the data at the Traffic Rules Enforcement Supervisory Committee monthly meetings and to the Ministry of Rail Transportation three times a year. The Health Department, Myanmar Police Force, and RTAD pool the data received to work toward reducing road accidents and promote further cooperation in making strategic plans of actions.

2.3 Trends in Vehicles, Population, and Road Accidents

In Myanmar, vehicle ownership and population are directly related. The ratio of registered vehicles to 1,000 people is seen to have risen during the past few years, although importing automobiles is restricted (Table 2). Also, vehicles are concentrated in the two divisions where Yangon and Mandalay are situated (Table A7 and Figure A4).

Table 2: Vehicle Ownership
(registered vehicles)

Year	Population	Vehicle	Vehicles per 1,000 People
1999	49,133,000	423,958	8.63
2000	50,125,000	438,834	8.75
2001	51,138,000	445,167	8.70
2002	52,196,000	461,692	8.85
2003	52,433,978	476,350	9.08

Source: Road Transport Administration Department.

Reported road traffic accident statistics (tables A4–A7 and figures A2–A5) reveal that although the total number of motor vehicles is not very high in Myanmar (8–9 vehicles per 1,000 people) there are about 1,200 traffic fatalities per year, and if compared to the country’s population, the fatality rate of traffic accidents is more than 2 per 100,000 people, and with the registered vehicle list, it is about 100 per 10,000 vehicles per year. Since there are some military vehicles that do not need to be registered and a motorcycles not being registered, those unregistered vehicles total approximately 105,000 and can be added to the 2003 figure. However, even though the 2003 figure is underreported, Myanmar still has one of the highest fatality rates of all Association of Southeast Asian Nations (ASEAN) countries (Figure A4).

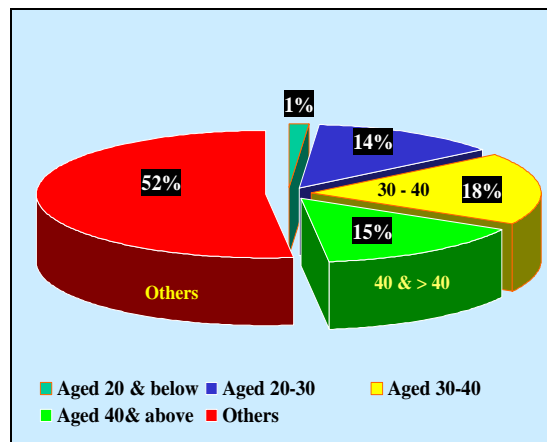
2.4 Characteristics of Road Accidents

For Yangon, data collected by RTAD show that most road accident cases are attributed to driver error. Still, the low level of traffic safety awareness of pedestrians is to be taken into account. Road accidents caused by drivers are responsible for enormous losses to society, and these drivers need road safety education (Figure A3).

The ages of drivers and related factors, such as driving experience, physical and mental fitness, proper issuance of driver’s

licenses, and proper driver education are also to be taken into account (Figure 1).

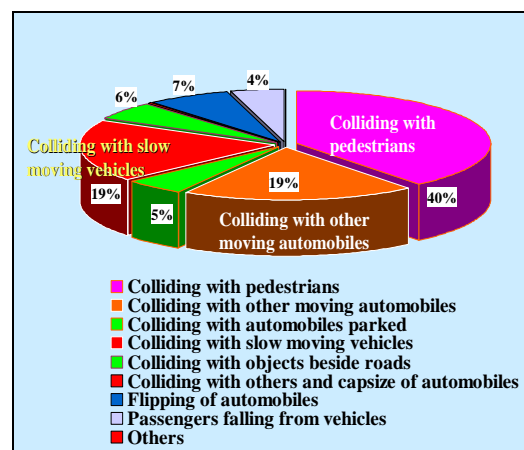
Figure 1: Age Distribution of Drivers in Road Accidents in Yangon (2002)



Source: Road Transport Administration Department.

To consider target road users, attention should be placed more on pedestrians and slow moving vehicles, which according to statistics are the road users mostly involved in road accidents (Figure 2).

Figure 2: Categorizing Road Accidents (2003)



Source: Road Transport Administration Department.

2.5 Road Safety Measures (past and present)

To complete the public transport system, several measures have been undertaken since early 1905, when the system was started by a private company. In 1954, only a total of 254,950 commuters used roads, and there were 1,557 buses. Freight movements and passenger services have been carried out in accordance with existing laws, and the inventory list of road accidents and other related road transport data has been relatively unsystematic and not harmonious with other key departments. It is noted that due to the expansion of the Yangon area and its rapid population growth, the transportation modes have been enhanced and extended. The Circular railway service in Yangon, introduced on 1 May 1959, greatly supported the city's transport system.

The state-run bus lines, operated since 1963, coped with the needs of commuters. However, state budget constraints limited operation and maintenance of traffic lines, and new Circular railway service locomotives could not fully meet adequate public transport requirements. According to records, in some years during the 1970s, there was a sharp drop in the Circular railway service, due to frequent breakdowns of push-pull diesel train sets. The technology challenges in road networking have become one of the causes of road safety breakdowns. A comprehensive bus system is essential to reach all corners of Yangon as a basic form of public transport, but bus service still has limitations. The capacity of buses and the growth of the urban population is not balanced. Some buses have to carry beyond their limits at the expense of lives, reliability, and comfort. The short-distance and faster automobiles, such as Hilux, Dyna, and other light trucks, take parallel transporting loads on the same routes and are becoming more demanding and more hazardous because of overloading (Table A5).

At present, urban road transportation and road safety measures undertaken have become more cooperative and collaborative. All classified roads and unclassified tracks have been maintained and upgraded by the state and private sector groups. Construction and maintenance of road structure works are being undertaken by the Public Works, under the Ministry of Construction, as well as development committees in Yangon and Mandalay, Development Affairs Department, Directorate of Military Engineers, and local contractors from the private sector. Further, networking between the departments makes the roads run interstate and interdivision. They are also arteries of national overland communication.

Transport-related departments are shown in Table A1.

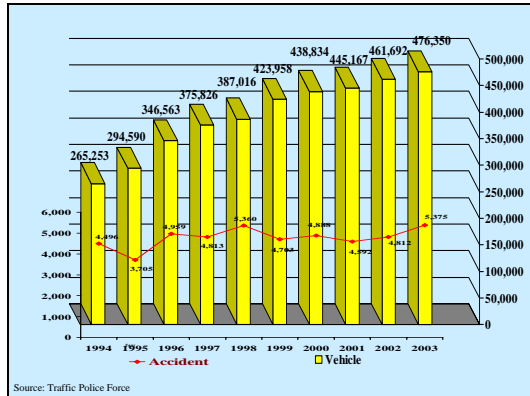
2.6 Analysis on Road Accidents and Impacts on Road Safety

One of the initiatives undertaken by the state to reduce road accidents is to establish committees concerned with traffic and road safety. In line with this, the State Traffic and Road Disciplinary Supervisory Committee and the Divisional Traffic and Road Disciplinary Supervisory Committee were established. Traffic Police representatives act as committee secretaries. Traffic Police personnel, Auxiliary Fire Brigade personnel, and Red Cross Society members are included in these committees.

With urbanization, the Traffic Police and others concerned with safe and secure traffic flow are needed more in cities, especially Yangon and Mandalay. More traffic knowledge, awareness of law and order, and cooperation among road users are essential for road safety. For data on Yangon, the deaths attributed to traffic accidents are available for 1990–2003. Moreover, the systematic record on road accidents and the most common sites where accidents take place are identified

and precautions are drawn, where necessary. Taking into account this kind of research is advisable, and such measures should be extended countrywide. Figure 3 examines accidents versus vehicles nationwide, and Figure 4 examines road accident locations

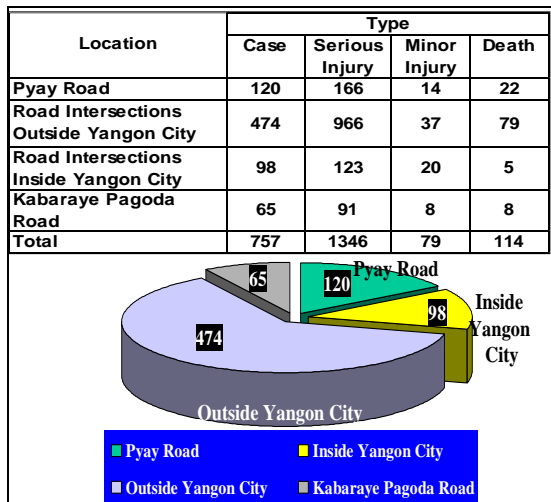
Figure 3: Accidents versus Vehicles in Myanmar (1994–2003)



in urban areas, and the rise in the daily use of roads. The inadequate number of vehicles in the public transport sector and standardized public transport buses and automobiles under a proper traffic management system are still basic requirements. Moreover, cooperation and coordination among relevant public sector departments and collaborative measures are to be promoted, and assessments should be annually.

To assess the current status of road safety in Myanmar and further improve road safety, existing traffic signals, road lighting systems, traffic safety materials, and the information system should be analyzed. This calls for sound and applicable research and surveys.

Figure 4: Road Accident Locations and Types (2002)



Insufficient infrastructure safety may be a constraint in carrying out the national action plan and the objectives of the departments concerned. The main factors are the increase in population, especially

3 GOVERNMENT AGENCIES CONCERNED WITH ROAD SAFETY AND RELATED RESPONSIBILITIES

3.1 Ministry of Transport

The Ministry of Transport was recognized in 1992, and it is made up of the Department of Civil Aviation, Department of Marine Administration, Department of Transport, Department of Waterways, Inland Water Transport, Institute of Marine Technology, Myanmar Airways, Myanmar Dockyards, Myanmar Port Authority, and Myanmar Five Star Line.

3.2 Ministry of Rail Transportation

The Central Institute of Transport and Communications, Directorate of Road Transport, Myanmar Railways, and Transport Planning Department, are under the Ministry of Rail Transportation. Rail transportation services began with the opening of the Yangon-Pyay railroad on 1 May 1877. Myanmar's railroad stretches about 2,850.08 miles.

3.3 Road Transport and Planning Department

The duties and responsibilities of the Road Transport Department, under the Ministry of Transport, are freight transportation service by the Freight Department, passenger transportation service for intercity transportation and intracity transportation, taxi service and repair, and maintenance service. It has more than 20 branches in states and divisions, to carry out the transportation of local goods and export items. Moreover, it is concerned with the registration of motor vehicles and the issuance of driver's licenses. It also administers the provisions of the Motor Vehicles Act of 1964, the Motor Vehicles Rules of 1989, and other

standing orders. Eight traffic control branches of the Ministry of Home Affairs act as enforcement agencies. These are Administration, Budgets and Accounting, Driving Licensing, Legislation and Information, Statistics and Commercial Licensing, Traffic Engineering, Vehicle Inspection Engineering, and Vehicle Registration Department.

3.4 Ministry of Home Affairs

The Ministry of Home Affairs is the focal ministry for state stability, community peace and tranquility, and law and order prevalence. There is networking among departments under the ministry, including the General Administration Department, Myanmar Police Force, Prison Department, and Special Investigation Department. The Myanmar Police Force plays a vital role for the restoration of law and order. Myanmar police enforce road traffic and transport and announce safety regulations. It has its network in all states and divisions, substates and subdivisions, districts, townships, subtownships, towns, quarters, and village groups.

3.5 City Development Committees

There are two city development committees: one in Yangon and another in Mandalay. These two committees have ministerial status, and they administer the duties of city planning, land administration, population policies, public building construction and maintenance, squatter resettlement, parking and traffic circulation, parks and gardens, tax charging for maintenance, green and clean projects, street lighting, water supply, waste removal, public health, markets and toll-free markets, and fire prevention. City development committee banks are established for domestic and foreign loans. They are self-financing institutions, and all taxes for the maintenance and existence of buildings are charged. The Engineering Department, which is one of the branches under the structure, takes responsibility of road and bridge works and has a network with

municipal engineers in each township. In short, the committees are known as the Yangon City Development Committee and the Mandalay City Development Committee. The Yangon committee is older than Mandalay's, which was established in 1992.

3.6 Public Works

Public Works is under the Ministry of Construction and is a state-owned construction enterprise responsible for the administration of all national roads and union highways in Myanmar. The government funds this enterprise for undertaking construction, maintenance, and management to reinforce these roads, as well as bridges. The plans of action on road networks are carried out in accordance with the national plan.

The departments under Public Works are Control of Road Budget, Road Planning, Road Research, and Road Statistics. Road safety is the main concern of the Road Design and Road Research departments. Therefore, measures related to road safety, protection, and prevention that are designed to result in safe operations while undertaking projects are given high priority.

3.7 Township Development Committee and Development Affairs Department

Under the Ministry of Progress of Border Areas and National Races and Development Affairs, township development committees are responsible for coordinating and supervising the construction and maintenance of local urban and rural township roads throughout the country. Some townships are under the jurisdiction of the Yangon City Development Committee and the Mandalay City Development Committee. Township development committees are self-supporting bodies that have authority to levy local taxes and charges, subject to ministerial approval of rates.

3.8 Army Corps of Engineers

The Army Corps of Engineers is under the Ministry of Progress of Border Areas and National Races and Development Affairs and is concerned with road projects related to border area development.

The road networking and other plans of action assigned for the development of special regions and project areas are designed by this department.

4 CONSTRAINTS TO MEASURES TO ENSURE ROAD SAFETY

4.1. Legislative, Institutional, and Technical Aspects

The Burma Motor Vehicles Act of 1964 was amended in 1989, and the Motor Vehicles Rules of 1989 was also enforced. Drafting legislation and regulations on road transport and traffic matters is the responsibility of the Road Transportation Administration Department. This department also publishes handouts and booklets for road users. Promoting awareness and effectively charging those who break existing traffic laws should be given priority. Acts and laws need to be in line with the increasing urban growth rate. Laws should be transparent, and their related effects must be taught to all high-risk groups and road users.

Road safety calls for trained personnel and assisting units to be fully equipped. Constructing standardized roads, using efficient and effective methods, and completing activities in a required minimum amount of time are all part of this. Annual reports on road safety should not only be inventory lists of records. These should also include recommendations that should be put into action for safer and balanced transportation facilities and network roads. The traffic system also needs to be planned systematically for vehicle road and pedestrian networks. Vehicle and pedestrian flows, which are originally integrated, should be separated to ensure safety, efficiency, and convenience for both. The new extended satellite towns surrounding the capital city and the modes of transport for them are to be considered systematically and effectively.

Since railways, as a means of transit, play one of the important factors in the structure of the transportation network

plan, it has to be a mass carrier of passengers. To have smoother access, be more convenient, and provide other required minimum needs, promoting mass passenger monorail network is important. The Circular train system in Yangon, the capital of Myanmar, should pay more attention to the flow of people using it during peak hours as an economical and safer transportation system. The adoption of new lines (including the idea of an underground line) must be considered, and existing manual on train operation provided for the links connecting to the city center, to conserve road space and maintain the city's beauty.

The role of traffic police is also important in providing safety for road users. Police control of traffic lights and assistance to pedestrians are essential, especially in urban areas. Urban town planning development projects should focus on controlling construction, sites, and public facilities as a whole, aiming at the reasonable and sound use of land by using a building jointly; updating urban functions by securing open spaces, such as plazas and parks; improving public facilities, such as roads and good quality urban housing; and improving disaster prevention by making the city fire resistant and free from noise.

The assessments of effectiveness, research, and development of each part of road safety undertakings and respect given to traffic laws should be reviewed thoroughly and systematically. Measures undertaken should protect the general public, especially those individuals who are vulnerable, handicapped, or disadvantaged. The actions taken and the charges should be fair. Procedures and appropriate institutional arrangements should be designed to protect road users and the general public from the negative impacts of road use, especially the risk of traffic accidents and environmental damage. In this regard, the application and implementation of efficient methods, proper networking among related

institutions, and arrangements maintaining the cost-effective standards of infrastructure play a vital role.

There is still a need for harmony between pedestrians and vehicles on community main roads. This atmosphere, in accordance with the aspect of good humanity, and landscape elements need to be harmonized with driveways. In the future, busy roads and city centers must be provided with car parking buildings and bicycle parking. Bus stops would be provided to avoid merging flow with taxis and private automobiles. Shelters for pedestrians and guide systems for parking need to be provided.

Although vehicle weight and dimension limits are specified in the Motor Vehicle Rules of 1989, issues still exist because of lack of awareness. There should be more systematic controls related to measuring vehicle weight and dimension, especially at road checkpoints on highways.

4.2 Education Campaigns

Education campaigns on road safety have been carried out occasionally by RTAD in states and divisions (tables A9 and A10).

4.3 Myanmar Cultural Settings

Road safety in Myanmar's cultural setting is always given priority, as being safe and sound. The attitude toward road safety is intentionally one of the community aspects, and they try to do so. They are not fully aware of the impacts of a disorderly transport system. Not all accidents are reported since parties concerned try to comprise and avoid legal actions. The majority of minor road accidents are therefore very rarely reported when comprises are made. People injured during road accidents are always attractively compensated. But irresponsible behavior can still be found in some cases, due to lack of knowledge and experience.

5 MEASURES AND PRACTICES UNDERTAKEN

5.1 Legislative, Institutional, and Technical Implementations

The penal code was imposed in May 1861. As the highest percentage of crimes committed daily in Myanmar are crimes relating to penal law, the trials are prosecuted from township criminal courts to the Supreme Court or high courts of justice, depending on the case. Various crimes committed are traffic accidents, which are also included in daily violations.

The penal code categorized four sections regarding motor vehicle accidents:

- (i) Section 279 (rash driving or riding on a public way),
- (ii) Section 337 (causing injury by an act endangering lives or the personal safety of others),
- (iii) Section 338 (causing grievous injury by an act endangering lives or the personal safety of others), and
- (iv) Section 304A (causing death by rash driving or negligence).

It is noted that for the rash driving and negligence, rash driving happens on any public way in a manner that endangers human life or that is likely to cause injury to other person. The punishment for rash driving and negligence is imprisonment for a term that may extend to a certain period or a fine that may extend to its definition.

The Central Institute of Transport and Communications, located in Meikhtilar, Upper Myanmar, is the main center for training used by Road Transport and the Road Transport Administration Department. While the institute focuses mainly on basic trades and clerical skills and conducting refresher courses, it still

needs to offer more courses related to planning and management.

The six divisions (under the training wings of the institute) taking charge of training and education related to transport and communications are the Automobile Division (training), Communication Division (training), Railways Division (training), Technical Division (workshop training), Training Division (training aids), and Training Division (training-related manuals and text).

One of the core departments in road safety networking is the Public Works, whose head office is in Yangon. It has three levels of branches: state and division level, township level, and district level. The officials concerned are not only responsible for roads and bridges but also for airfield construction and maintenance. Under it, there are eight different sections carrying out planning, design, and finance for roads and bridges, computer-related services, research, and soil testing and statistics. Quality control services and construction of major roads, reinforcements, and monitoring systems are also under its control. Updated and upgraded hardware and software should be provided for large networking of Public Works. In-country training under Public Works is done by the Thuwunna Central Training Centre in Yangon. It also has branches in Insein and Mandalay and provides courses in engineering, building, accounting, housing, clerical skills, and storekeeping. Public Works is mainly responsible for union, main, and secondary roads, but it also assists international highways passing through the country, including the Asian Highway, ASEAN Highway, and Greater Mekong Highway.

5.2 Controlling the Number of Automobiles and Other Related Issues

To solve traffic problems, measures reducing the number of private automobile users effectively control the

