



# **ADB-ASEAN Regional Road Safety Program**

**Country Report:**

**CR 7**



**Road Safety in  
the Philippines**

# **Asian Development Bank-Association of Southeast Asian Nations Regional Road Safety Program**

## **Country Report CR 7: Philippines**

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**ABBREVIATIONS**

DOH	Department of Health
DOTC	Department of Transportation and Communications
DPWH	Department of Public Works and Highways
IRSC	Interagency Road Safety Committee
LTFRB	Land Transportation Franchising and Regulatory Board
LTO	Land Transportation Office
MMARAS	Metro Manila Accident Reporting and Analysis System
MMDA	Metro Manila Development Authority
NRSC	National Road Safety Committee
PNP	Philippine National Police
SOPI	Safety Organization of the Philippines
TARAS	Traffic Accident Reporting and Analysis System
TMG	Traffic Management Group
UNICEF	United Nations Children’s Fund

**NOTE**

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

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# 1 INTRODUCTION

One undesirable reality that comes with development is an increase in traffic accidents related to increased motorization and infrastructure. Every year, worldwide, at least 1 million people get killed on roads, and 70% of these are from those countries that the World Bank classifies as low- or middle-income (Lamm et al. 1999). This scenario is apparently worse in developing countries, such as the Philippines, and may result from priorities being geared toward efforts for infrastructure development, improving mobility, and addressing the need for better public transportation systems. Conscious efforts to ensure road safety then take a backseat.

This report presents the current status of roads in the Philippines in an attempt to assess the degree of safety. Recommendations for improvement will be made thereafter for all sectors concerned.

As the importance of road safety is realized, as well as how tremendous losses from preventable phenomenon such as traffic accidents could be, this report assumes the problem is significant.

## 1.1 Country Description

The Philippines, a member of the Association of Southeast Asian Nations, is an archipelago consisting of more than 7,100 islands. It has a total land area of 300,000 square kilometers (km<sup>2</sup>). The Philippines has 79 provinces, 113 cities, and 1,496 towns and municipalities. Metro Manila is the seat of government and the primary center of business and trade. Other urban centers include the cities of Cebu, Davao, and Iloilo.

The population of the Philippines is about 80 million, with an annual growth

rate of 2.2%. Population density stands at 227 people per km<sup>2</sup>.

Metro Manila comprises 13 cities and 4 municipalities. Its land area is 636 km<sup>2</sup> and the population is 10.4 million. This implies that about 14.0% of the country's population is concentrated in only 0.3% of the country's land area. Metro Manila's population density is about 16,000 people per square kilometer, one of the highest in Southeast Asia. The population growth rate is about 3.0%, which is higher than the national average.

## 1.2 Road Transport Network

About 80% of domestic passenger traffic and 60% of freight traffic currently travels on roads, and 75% of government expenditures on transport infrastructure goes to the road system.

The Philippines has a total road length of about 161,000 km, with an average road density of 0.53 km/km<sup>2</sup> per square kilometer or 2.35 km per 1,000 people. There are about 11,500 bridges in the national network (measuring about 335,500 lineal meters), of which 1,700 bridges are temporary.

Metro Manila has a total road length of about 4,800 km. The major arterial roads form circumferential and radial patterns. Many roads have reached their capacity. Due to traffic congestion, the average travel speed is estimated to be as low as 14 km per hour.

The condition of roads in Metro Manila is generally good, while it is lower outside the metropolis. Philippine roads are mostly made of concrete pavement. Heavy and overloaded trucks often damage pavement. This is one factor that contributes to traffic accidents. Due to the long rainy season, floods occur throughout the Philippines. Flood waters resulting from inadequate drainage often damage the pavement.

### 1.3 Public Transportation

The mode of public transportation in Metro Manila is predominantly road-based, consisting largely of jeepneys and buses for primary and secondary routes and motorized tricycles and pedicabs for feeder routes. There are about 330 bus routes and 600 jeepney routes. These routes include those serving the adjoining areas of Metro Manila. Jeepneys cover more than 610 km of roads, while buses operate mainly on about 350 km of roads.

The inadequate provision of public transportation can be observed during rush hour, when commuters can be seen standing on roads while waiting for buses and jeepneys.

### 1.4 Traffic Control Devices

Traffic control devices, such as traffic signs and markings, have generally followed international standards since the Philippines signed the Vienna Convention in 1968. However, there are still many signs installed that do not conform to standard colors or shapes. The number of traffic signs installed is generally insufficient, and in highly urbanized areas these signs can hardly be recognized (much less read), as they compete with giant billboards in visibility and craftsmanship.

Traffic signals are commonly installed at major intersections in many cities and towns in the Philippines, although the number is still inadequate. Often, these signals do not have exclusive display phases for pedestrians. In Metro Manila, there is a growing concern regarding the safety of pedestrians, due to Metro Manila Development Authority (MMDA) scheme of closing intersections and placing the control of traffic signals by U-turn slots. The uninterrupted flow of traffic affords pedestrians practically no opportunity to cross roads. Without traffic signals controlling traffic flow at intersections, driving has become more

risky, because of frequent swerving and weaving. There is an urgent need to evaluate the effectiveness of the scheme that has the sole purpose of improving speed along arterials without considering safety.

### 1.5 Pedestrian Sidewalks

Sidewalks are in relatively good condition. However, many obstructions can be found on sidewalks, including illegal vendors, electrical posts, and police outpost. (MMDA's efforts to clear sidewalks of vendors and other obstructions should be commended and must continue.) With sidewalks occupied, pedestrians have to walk on roads. There are only a few overhead pedestrian bridges, even in Metro Manila, and where these are constructed only a few are being used. Pedestrians still prefer to risk their lives and limbs by crossing roads at grade level. Small children and elderly people always have been vulnerable to traffic hazards, and pedestrian bridges are not easily used by elderly and disabled people.

### 1.6 Vehicle Registration

The registration of vehicles in the Philippines is handled by the Land Transportation Office (LTO), a line agency of the Department of Transportation and Communications (DOTC). Table 1 shows the number of registered motor vehicles in the Philippines in 2002. Utility vehicles or jeepneys have a share of 37%. The number of motorcycles has increased tremendously in the last 3 years and reached 1.5 million in 2002. However, this number accounts for motorcycles for private use and tricycles for public transport use.

**Table 1: Total Registration of Motor Vehicles (2002)**

Type	Number	%
Automobiles	749,553	18.00
Utility Vehicles	1,554,619	37.34
Sport Utility Vehicles	97,695	2.35
Trucks	257,774	6.19
Buses	33,915	0.81
Motorcycles and Tricycles	1,470,383	35.31
<b>Total</b>	<b>4,163,939</b>	<b>100.00</b>

Source: Land Transportation Office.

A significant number of vehicles are registered in Metro Manila (about 40% of the nation's total).

Motor vehicles are classified as follows.

**Private.** Motor vehicles owned by private individuals or companies that are not intended to be used for hire.

**For Hire.** Motor vehicles authorized to be used as public vehicles by virtue of a franchise granted by the Land Transportation Franchising and Regulatory Board (LTFRB).

**Official or Government.** Motor vehicles owned by the Philippine Government.

**Diplomatic.** Motor vehicles owned by a foreign government or by diplomatic officials in the Philippines.

### 1.7 Insurance

Motor vehicle owners are required to obtain insurance covering third-party liability. The minimum insurance to be paid to victims of fatal traffic accidents is ₱ 50,000.

The Insurance Surety Association of the Philippines, under the Office of the Insurance Commissioner, accredits 112 insurance companies nationwide. This

association regulates the proliferation of unreliable insurance companies.

### 1.8 Driver's License

The issuing procedure for a driver's license is provided for under Republic Act 4136. LTO has the full responsibility for issuance of driver's licenses.

There are three types of driver's licenses: student driver's permit, nonprofessional driver's license, and professional driver's license. These types of licenses are examined in the following paragraphs.

**Student Driver's Permit.** The applicant must be at least 16 years of age and must be physically and mentally fit to operate a motor vehicle. He or she must be able to read and write in Pilipino or English.

**Nonprofessional Driver's License.** New applicants must be at least 17 years of age and must be holders of valid student permits that are at least 1 month old. Applicants must be physically and mentally fit to operate motor vehicles and must not be drug users or alcoholics.

**Professional Driver's License.** New applicants must be at least 18 years of age and must submit a valid nonprofessional driver's license or a valid student driver's permit that is at least 5 months old. Applicant must not be drug users or alcoholics.

The requirement of having a medical examination and drug test was introduced only very recently. Other driver's license requirements, including examinations, are examined in the following paragraphs.

**Driver's License Requirements.** Holders of student driver's permit are allowed only to operate motor vehicles when accompanied by licensed drivers who are liable for any damage caused by

student drivers operating motor vehicles. A student driver's permit is good for only 1 year, while nonprofessional and professional driver's licenses are valid for 3 years, expiring on license holders' birth months. License holders are required to renew their licenses before the expiration dates.

**Written and Practical Examinations.**

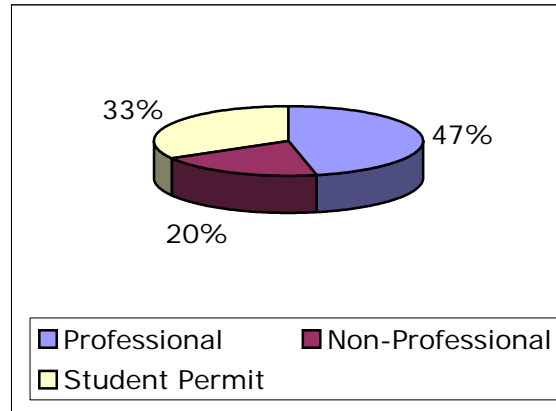
Applicants for nonprofessional and professional driver's licenses are required to pass written and practical examinations.

A written examination is given to gauge each applicant's knowledge of applicable rules and regulations, which are based on the Traffic Code; safe driving; and basic mechanics of motor vehicles. The written test for a nonprofessional driver's license has 40 questions, and candidates must be able to answer at least 30 questions correctly. In the case of a professional driver's license, 60 questions are given, and applicants must be able to get at least 45 correct answers.

The practical examination is given to test each candidate's ability to park a vehicle properly, start on slope, etc.

The total number of professional licenses, nonprofessional licenses, and student permits issued in 2002 was about 2.9 million. The breakdown is shown in Figure 1.

**Figure 1: Driver's Licenses and Permits (2002)**



Source: Philippines data.

**1.9 Driver Apprehension**

There seems to be an increasing trend in the number of drivers apprehended (Table 2). This could be attributed to the concerted efforts of different agencies (LTO, MMDA, and Philippine National Police [PNP]-Traffic Management Group [TMG]) in apprehending violators over the past few years.

**Table 2: Number of Apprehended Drivers**

Year	Total
1999	480,122
2000	475,626
2001	570,748
2002	612,477

Source: Philippines data.

As for apprehension types, most of these are fines for violating traffic rules and regulations (Table 3).

**Table 3: Types of Driver Apprehension**

Type	Number	%
Fined	594,126	92.89
Suspended License	345	0.05
Revoked License	4,447	0.70
Impounded Vehicle	5,771	0.90
Others	34,933	5.46
<b>Total</b>	<b>639,622</b>	<b>100.00</b>

Source: Philippines data.

### 1.10 Driving Schools

Driving schools and driving instructors must be accredited by LTO. In 1980, the then Ministry of Transportation and Communications issued an order covering the rules and regulations governing the supervision and control of driving schools. Standard requirements are set forth for driving sites, school buildings, classrooms, library facilities, motor vehicles, instructors, and courses of instruction.

At present, there are about 170 LTO-accredited driving schools operating all over the country.

### 1.11 Traffic Enforcement

Traffic laws are enforced by TMG (the traffic division of each police district) and LTO. In 1978, Presidential Decree No. 1605 was issued to centralize traffic enforcement matters in Metro Manila, and the Metro Manila Commission (now MMDA) was given responsibility for enforcement in this area.

TMG, being a national support unit of PNP, has traffic management offices scattered in different regions and provinces nationwide. In selected areas or provinces, especially in highly urbanized cities and municipalities, TMG has traffic management teams that are capable of performing TMG functions in

their areas. In Metro Manila, the National Capital Regional Traffic Management Office is complemented by some TMG operational support units that are based in the area. In coordination and cooperation with MMDA (in Metro Manila) and local police units (in different regions), TMG has at its disposal traffic enforcement units. Each regional traffic management office can dispatch personnel to strategic choke points and major thoroughfares to conduct traffic direction and control to ensure the smooth flow of traffic. In Metro Manila, TMG and MMDA assist each other with the responsibility of traffic management, especially during when ongoing infrastructure projects have caused heavy congestion. Alongside this function, the personnel of TMG perform the following tasks: traffic accident investigation, traffic safety education (through seminars and conferences), and traffic engineering studies.

With the changes in traffic schemes presently being undertaken by MMDA, confusion is rampant among motorists. This leads to increased incidence of accidents. Road blocks are flimsy, inconsistent, dangerous, and mostly unannounced.

### 1.12 Legislative Framework

This section discusses some of the legislation pertinent to road safety.

**Republic Act No. 4136**, otherwise known as the Land Transportation and Traffic Code, provides for the system of registration of motor vehicles, accessories of vehicles, and road traffic rules and regulations.

**Commonwealth Act No. 146**, otherwise known as the Public Service Act, rests on the regulatory body (LTFRB) the power to compel any public service provider to furnish safe, adequate, and proper service as regards the manner of furnishing the same as

well as the maintenance of necessary materials and equipment.

**Executive Order No. 125** reorganized the then Ministry of Transportation and Communications into a department and defined its powers and functions, including the establishment of LTO as the sector agency responsible for implementing and carrying out policies, rules, and regulations governing the land transportation system of the country.

**Executive Order No. 202** created LTFRB with the main function of regulating the land transport industry pursuant to the Public Service Act.

**Republic Act No. 6975** established the Department of Interior and Local Government, PNP, under TMG, and reorganized as the traffic enforcement arm covering national roads.

## 2 ASSESSMENT OF ROAD SAFETY

The state of road safety of a country or region is normally gauged by the frequency of accidents. Key indicators are number of accidents (fatal, injury, or property damage) and accident rates. Table 4 shows the distribution of accidents in the country. Most accidents (72.44%) occurred in Metro Manila, which is also called the National Capital Region. In terms of rates per population, Metro Manila still has the highest rates, followed by Region 10 (Northern Mindanao). However, in terms of rates per registered vehicle, Region 10 has the highest, followed by Metro Manila. The level of accuracy of reporting traffic accidents varies from region to region.

### 2.1 Accident Definition

The Philippines defines a fatal accident as one in which a death occurs at the scene. Serious injury and slight injury accidents are defined by the amount of damage and the required recovery time of the injured. However, there is no exact definition of the seriousness of injuries. Property damage only accidents are defined as those that involve vehicles colliding with publicly or privately owned structures, equipment, and facilities located near roads. Property damage only accidents also include collisions of vehicles with other vehicles that do not result in physical injuries to drivers, passengers, or pedestrians.

**Table 4: Distribution of Accidents by Region**

Region	Accidents (1999)	%	Population ('000) as of May 2000	Accidents per 100,000 People	Vehicle Registration (1999)	Accidents per 10,000 Vehicles Registered
NCR	10,595	72.44	10,492	100.98	1,271,227	83.34
CAR	299	2.04	1,352	22.12	45,004	66.44
1 Ilocos Region	27	0.18	4,174	0.65	177,129	1.52
2 Cagayan Valley	55	0.38	2,756	2.00	112,660	4.88
3 Central Luzon	328	2.24	7,797	4.21	415,090	7.90
4 Southern Tagalog	91	0.62	11,321	0.80	458,621	1.98
5 Bicol Region	672	4.59	4,629	14.52	92,315	72.79
6 Western Visayas	101	0.69	6,147	1.64	190,461	5.30
7 Central Visayas	267	1.83	5,404	4.94	277,509	9.62
8 Eastern Visayas	252	1.72	3,589	7.02	65,305	38.59
9 Western Mindanao	429	2.93	3,045	14.09	83,783	51.20
10 Northern Mindanao	690	4.72	2,276	30.32	79,206	87.11
11 Southern Mindanao	118	0.81	2,601	4.54	170,132	6.94
12 Central Mindanao	433	2.96	2,494	17.36	61,466	70.45
13 ARMM	268	1.83	2,076	12.91	33,824	79.23
<b>Total</b>	<b>14,625</b>	<b>27.56</b>	<b>70,153</b>	<b>20.85</b>	<b>3,533,732</b>	<b>41.39</b>

ARMM = Autonomous Region of Muslim Mindanao, CAR = Cordillera Autonomous Region, NCR = National Capital Region.

Sources: Traffic Management Group (number of accidents) and National Statistics Office (population and vehicle registration).

### 2.2 Road Accident Reporting

There are no specific steps in accident reporting in Metro Manila. In many cases, accidents reported to hospitals were brought to medicolegal departments of hospitals by local police that were at accident scenes. In the absence of local police, reporting accidents from hospitals to police headquarters and to PNP is seldom done.

The Traffic Enforcement Unit is composed of 3–5 investigators working

round the clock in shifts. Each accident case has a corresponding investigator from each reporting police station all over Metro Manila. It is a common practice for each investigator to be responsible for keeping the records of the accidents that he or she investigated, regardless of the type of accident.

TMG used to hold all cases of traffic accidents within Metro Manila but when the Traffic Enforcement Group was formed, both groups were involved in reporting and recording traffic accidents. Although the Traffic Enforcement Group is supposed to be responsible for reporting traffic accidents, and TMG's function is supposed to involve managing anticarnapping and antihijacking campaigns, the functions of the two are still not clear as far as traffic accident reporting is concerned.

Hospitals are usually the first to be involved with traffic accident victims. The police are then informed by a call from a hospital. At present, the practice of recordkeeping in hospitals varies a lot. Most hospitals are doing this manually. The Department of Health (DOH) intends to promote an integrated hospital information system that will be designed to computerize medical records.

Several government projects on road safety funded by international organizations are ongoing. One relevant project is the Department of Public Works and Highways (DPWH) Sixth Road Project (C08 Road Infrastructure Safety Project). One of the expected outputs of this Asian Development Bank-funded project is the development of a handbook on accident cost estimation and updating. Almost simultaneously, another Asian Development Bank-funded project, implemented through MMDA and the Department of Environment and Natural Resources, entitled Metro Manila Air Quality Improvement Project, has a major component on road safety. It is

interesting to note that both projects have developed traffic accident database and analysis systems. The Traffic Accident Reporting and Analysis System (TARAS) is housed at DPWH. TARAS is composed of computer software and associated procedures for recording and analyzing road accidents in the Philippines. The Metro Manila Accident Reporting and Analysis System (MMARAS) is the computer software being used by MMDA. MMARAS is intended for recording and analyzing road accidents in Metro Manila. Although the proponents of the two projects may assert that it is best to have two separate systems, as they have different objectives to meet, in the end, what matters most is whether the two systems can give the overall picture of traffic safety in the Philippines. In the case of MMARAS, only fatal and serious injury accidents are considered for reporting and analysis. This leaves the traffic investigation reports on minor injury accidents and property damage only accidents on the shelves of different police districts in Metro Manila. If integration of the two systems is not possible, at least coordination of tasks between the two agencies concerned is absolutely necessary.

### **2.3 Present Situation**

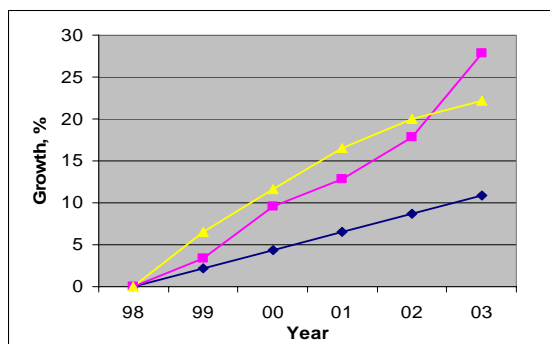
Most developed countries have been successful in reducing accident rates, but the rates remain unchecked in many developing countries. Relative to other countries, the Philippines' accident rate of about 6.0 fatalities per 10,000 vehicles appears to show a better image of road safety conditions in the country. However, this could be misleading, considering the high incidence of severe accidents that were reported in newspapers. What needs to be determined is if all accidents are accounted for, if the system of recording accidents is acceptable, if accident records are being compiled for the proper reasons, if data are kept correctly, and if data are readily

available to traffic engineers and planners responsible for analysis and improving transportation infrastructure. The existence of these issues reflects the low priority given to road safety.

When the Philippines situation is compared with those of other Association of Southeast Asian Nations countries, statistics may be deceiving and tend to make the Philippines complacent about its situation. In reality, there are great discrepancies between statistics and the actual situation.

Figure 2 shows the trends of some socioeconomic indicators of the country. The population stands at about 80 million and is growing at a rate of 2.2% annually. The gross domestic product is also increasing, at about 5.5% annually, while the number of vehicles is fast increasing, at the rate of 4.4%

**Figure 2: Growth of Population, Gross Domestic Product, and Vehicle Registration**

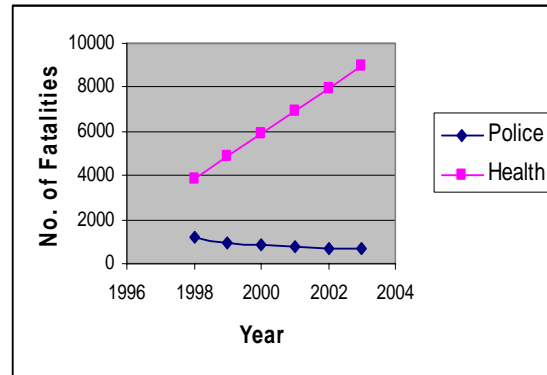


Source: Philippines data.

Given the growth rates in all factors, which increase the potential for road accidents, and based on the experience of most developing countries with similar trends, it is highly likely that casualties on roads should also increase over the years. However, this increase is not reflected in reported road traffic accident statistics collected and collated by PNP. On the contrary, the trend in road

accident deaths appears to be decreasing, as shown in Figure 3.

**Figure 3: Number of Fatalities on Roads**



Source: Philippines data.

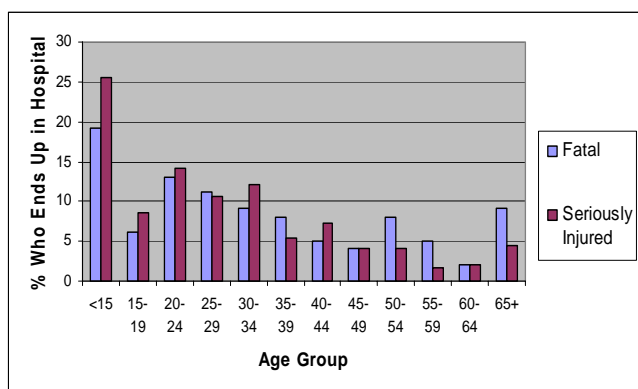
It is recognized by all (including PNP) that because of the different agencies involved and different jurisdictions, underreporting of traffic accidents by police is a serious problem. An efficient road accident data system is simply not yet available in the Philippines. Moreover, hospital records are not reconciled with those of the police. Within the same period, the estimates of deaths due to vehicular accidents based on statistics from the health sector are also shown in Figure 3. Up to 1998, the health sector compiled statistics on deaths attributed to road traffic accidents (data are available for 1970, 1980, 1990, and 1998). The Philippine National Injury Survey, a United Nations Children’s Fund (UNICEF)-funded study, was conducted in 2003. This study revealed the seriousness of underreporting of traffic accidents in the country. Based on the study, about 9,000 fatalities could be attributed to road traffic accidents in 2003 (Lim-Quizon et al. 2004). As a cause of injury morbidity, road traffic accidents ranked number one over other causes (falls, injured or struck by objects, burns, animal bites, etc.). In terms of fatalities, the leading cause was infectious diseases (49%), followed by noncommunicable diseases (17%) and

injuries (11%). However, as far as deaths due to injuries are concerned, road traffic accidents ranked as the number one leading cause (20%), followed by gunshots (17%) and stabbings (14%).

For the same year (2003), the police reported only about 900 fatalities. The problem of underreporting is expected to be more serious for other types of accidents, namely injuries and property damage only accidents.

Based on the study of traffic accident victims using hospital data in 2001, very young people (below 15 years of age) would fall under the most vulnerable age group (Figure 4). This age group represents 36% of the country's total population. The number of fatalities for young people in general (15–39 years of age) is also high, and more than 70% of victims are male.

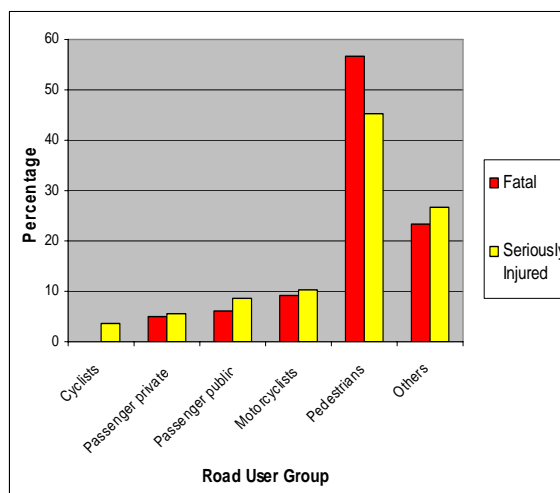
**Figure 4: Casualties by Age Group**



Source: Philippines data.

Figure 5 clearly shows that the most vulnerable road user group is pedestrians. About 25% and 40% of all pedestrians killed or seriously injured, respectively, are under 15 years of age.

**Figure 5: Vulnerable Road User Groups**



Source: Philippines data.

Next to the pedestrian group, motorcyclists are a growing concern. Over the last 3 years, the number of motorcycles grew by 40% per annum.

Among the causes of traffic accidents, police cited driver error, speeding, and overtaking as major causes (Table 5).

**Table 5: Causes of Traffic Accidents (2003)**

Cause	Number	Frequency (%)
Driver Error	4,222	25.72
Drunk Driving	94	0.57
Mechanical Defects	2,003	12.20
Speeding	2,908	17.71
Using Cellular Phones	47	0.29
Road Defects	783	4.77
Hit and Run	673	4.10
Overtaking	2,042	12.44
Turning	1,543	9.40
Overloading	1,174	7.15
Self Accidents	806	4.91
Others	123	0.75
<b>Total</b>	<b>16,418</b>	<b>100.00</b>

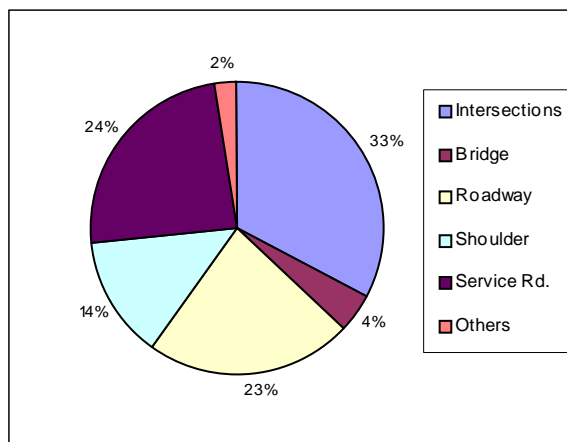
Source: Philippines data.

**2.4 Road Environment**

**Accidents at Intersections.**

Intersections or junctions are normally the points of conflict in the country’s transportation system. The available data (TMG 2000) show that about one third of accidents occurred at intersections (Figure 6). This pattern is also generally observed in other countries. However, local studies on the occurrence of accidents at intersections are very scarce.

**Figure 6: Distribution of Accidents by Location (2000)**



Source: Philippines data.

Table 6 shows the number of accidents involving fatalities in 2000. Again the share of intersections is substantial (36%).

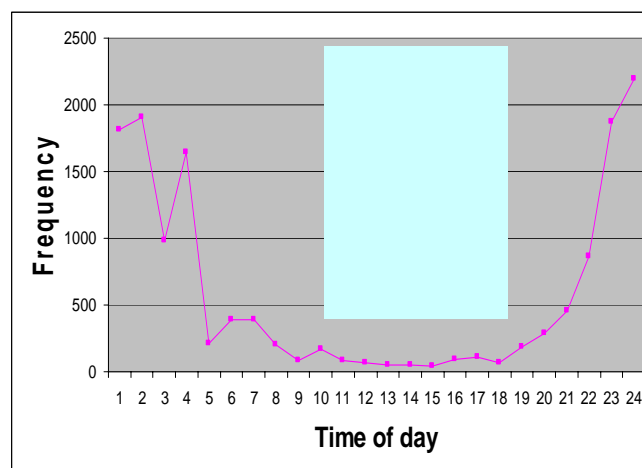
**Table 6: Fatal Accidents by Location (2000)**

Location	Fatal Accidents	%
Intersections	698	35.78
Bridges	89	4.56
Roadways	432	22.14
Shoulders	308	15.79
Service Roads	412	21.12
Others	12	0.62
<b>Total</b>	<b>1,951</b>	<b>100.00</b>

Source: Traffic Management Group.

**Accidents by Time of Day.** A very alarming piece of information on traffic accidents is that most of these occurred at night, as shown in Figure 7. There may be other contributing factors, but the major ones could be (i) inadequacy of street lighting, (ii) lack of warning devices, and (iii) complete disregard of traffic signals during late night or early morning hours. The driver factor again plays a big part, as falling asleep, using blinding headlights, drinking and driving, reduced visibility due to smoke-belchers, and night blindness among malnourished drivers all become issues.

**Figure 7: Distribution of Accidents by Time of Day (2000)**



Source: Philippines data.

**2.5 Summary**

The seemingly low number of casualties officially reported has made authorities complacent about the road traffic safety situation. However, with the availability of new studies (such as the recently completed UNICEF study), the road accident problem has been confirmed and was found to have reached an alarming level. In a separate report entitled *The Cost of Traffic Accidents in the Philippines* (Asian Development Bank 2005), the estimation of the number of casualties (deaths and serious and slight

injuries) and the computation of the national cost are discussed thoroughly. Based on this report, the number of casualties is shown in Table 7.

**Table 7: Number of Casualties per Year**

<b>Casualty Type</b>	<b>Number</b>
Deaths	9,000
Seriously Injured	144,000
Slightly Injured	630,000
<b>Total</b>	<b>783,000</b>

Source: Asian Development Bank data.

The estimated cost of these accidents amounts to approximately \$1.9 billion per year (approximately 2.6% of the country's annual gross domestic product).

### 3 RESPONSES TO ROAD SAFETY

#### 3.1 The Interagency Road Safety Committee and National Road Safety Committee

In response to increasing concerns regarding road accidents nationwide, and cognizant of the need to coordinate efforts of government agencies concerned and the private sector, Administrative Order No. 222 was issued in May 1992, creating the Interagency Road Safety Committee (IRSC). IRSC is chaired by the secretary of DPWH and comprises top officials from the Department of Education, Culture and Sports; Department of Interior and Local Government; Department of National Defense; DOH, DOTC, and Safety Organization of the Philippines, Inc. (SOPI). Technical support and advice are provided to IRSC by a technical working group that comprises representatives of key planning and operation units of member agencies. Since 1996, DOTC has been given the responsibility of coordinating all road safety activities in the country and was asked to chair the National Road Safety Committee (NRSC), in effect replacing IRSC. Unfortunately, NRSC has not met for many years.

#### 3.2 Agencies and Institutions Involved in Road Safety

DPWH is primarily responsible for planning, designing, and operating roads and roadside facilities. In pursuing these functions, DPWH requires data on road-related factors of accidents, such as locations, road conditions, and presence of road safety facilities. The ongoing 6<sup>th</sup> Asian Development Bank Road Project (Road Safety Component), which is being carried out by DPWH, covers major activities that are expected to boost road safety programs in the country. These are

- (i) Encouraging interagency institutional arrangements, including all aspects of IRSC, to ensure improved interagency cooperation, taking into account the road safety provision of RA 8794;
- (ii) conducting an organizational review, including the identification of deficiencies, existing legislation, and DPWH limitations;
- (iii) promoting road safety in the overall planning process;
- (iv) publishing road safety manuals;
- (v) developing a traffic accident recording and analysis system;
- (vi) adopting safety audits;
- (vii) improving hazardous locations; and
- (viii) developing key performance indicators and monitoring systems.

DOTC is the primary government agency dealing with the road transport industry, particularly planning and policy aspects. DOTC heads the NRSC. NRSC is supposed to ensure the timely and responsive implementation of transportation safety-related policies and programs. As far as road safety is concerned, a plan covering six aspects has been developed. The six aspects are education, engineering, enforcement, enactment of laws, economics, and emergency services.

PNP-TMG and local police have emerged as the Government's main traffic law enforcement units. TMG, besides being involved in safety education programs, is responsible for keeping accident data.

LTO is in charge of licensing drivers, registering motor vehicles, and enforcing transportation and traffic laws. Recently, when the drug test for drivers became

mandatory, LTO was given the task of accrediting drug testing laboratories all over the country. This is in line with the agency's target that no driver's license shall be issued to drug addicts and/or dependents. LTO is carrying out a driver education program, with the assistance of Technical Education and Skills Development Authority and in coordination with the Civil Service Commission, to educate drivers on traffic rules and regulations, as well as to develop proper skills and behavior while driving. As a form of outreach program, LTO visits schools, bus companies, and organizations (private and public) to conduct lectures on road safety that enhance awareness of the issues. The ongoing countrywide Motor Vehicle Inspection System/Smoke Emission Testing Project tests motor vehicles for emission and safety standards. Target results of the program are improved air quality, reduced number of accidents, reduced fuel consumption, and reduced number of air quality-related health problems.

LTFRB is a quasi-judicial agency mandated to rationalize, regulate, and supervise motorized land-based public transport services.

MMDA has jurisdiction over the delivery of basic urban services in Metro Manila, including land use planning and zoning, traffic management, public safety, urban development and renewal, and sanitation and waste management. It performs planning, monitoring, and coordinating functions for services that have metrowide impact and transcend the political boundaries of the 13 cities and 4 towns of Metro Manila. Specifically, it is responsible for coordinating and regulating implementation of all programs and projects concerning traffic management. MMDA is tasked with administering a single ticketing system and fixing, imposing and collecting fines and penalties for various violations of traffic

rules and regulations through its Traffic Operation Center.

DOH is the principal health agency in the Philippines. It is responsible for ensuring that all Filipinos have access to basic public health services through the provision of quality health care and regulation of providers of health goods and services. Given this mandate, DOH is a stakeholder in the health sector and a policy and regulatory body for health. As a major player, DOH is a technical resource, a catalyst for health policy, and a political sponsor and advocate for health issues on behalf of the health sector.

The Department of Education is the primary government agency tasked with providing basic education to the school-age population and young adults with skills, knowledge, and values to become caring, self-reliant, productive, and patriotic citizens. It has been long proposed that traffic education should be included in the high school curriculum, but a bill has not been discussed in the legislature.

The University of the Philippines-National Center for Transportation Studies plays a major role in human resource development in the field of transportation. This center conducts training and research transportation planning, traffic engineering, and traffic management. Subjects related to road safety—road safety programs and accident investigation, reporting, and analysis—are offered as part of the curriculum of the regular training programs for participants of traffic engineering and traffic management for traffic law enforcers.

SOPI is a private organization funded by donations from private companies as well as from government agencies. Its activities cover road safety and include prevention of any type of accident. May is set by SOPI as Road Safety Month, and SOPI's road safety campaigns are

conducted during this month, in cooperation with private companies and government agencies. Aside from an annual national meeting on road safety, SOPI issues booklets and other materials for road safety education.

The Automobile Association Philippines (formerly the Philippine Motor Association) is a private organization that has dedicated itself to the promotion of motoring and to the service of the Philippine motorist for more than 50 years. This organization also serves the needs of Philippine motorists worldwide, through its affiliation with the two most distinguished motoring federations in the world—the Alliance Internationale de Tourisme and the Federation Internationale de l'Automobile. Members of the association can avail of numerous privileges, such as 24-hour roadside free towing services within Metro Manila, discounted driving lessons, free motor vehicle registration service, 24-hour ambulance service at minimal cost, international driving permits, accident investigation assistance, and others.

In the smallest administrative unit, which is called barangay, volunteers serve as traffic aides. They assist the traffic police in controlling traffic at bottlenecks and when accidents occur.

### 3.3 Recent Initiatives

Some recent initiatives that the Government has introduced are examined in the following paragraphs.

**RA 8794 (Imposing a Motor Vehicle User's Fee on Owners of All Types of Motor Vehicles).** Section 7 of RA 8794 (passed in 2000) provides, among others, that 7.5% of all monies collected under this act shall be allotted to and placed in the special road safety fund under DPWH. Also under this act, a portion of the special fund shall be apportioned to provincial and city governments in accordance with the vehicle population and size of the road

network under their respective jurisdictions and shall be used exclusively for maintenance of local roads, traffic management, and road safety devices.

**Motor Vehicle Inspection System by the Land Transportation Office.** It is a prerequisite of vehicle registration with the objective of ensuring that all vehicles are in good condition. Structural and safety components of the vehicles are officially examined.

**RA 8750 (Seat Belt Law).** This law, which was passed in 2000, requires installation and buckling of seatbelts on front seats only of private vehicles. No special requirements are stipulated for children. For public utility jeepneys, only the driver and passengers seated in seats facing forward are required to wear seat belts. For public utility buses, only the driver and passengers seated immediately behind the driver and immediately behind the door of the bus are required to wear seat belts.

**RA 7924 (Banning of Use of Cellular Phones and Handset Radios while Operating or Driving a Motor Vehicle).** Recognizing the potential hazards to motorists using cellular phones and handset radios, the usage of these while driving has been banned within Metro Manila since March 1997. Although still small in number, there are accidents that have occurred that were primarily attributed to using cellular phones while driving.

**Others.** As mentioned in Section 2.3, UNICEF Philippines conducted in 2003 a study on the reduction of incidence of childhood death and disability resulting from preventable injuries. This study was similar to the first project (Child Injury Prevention) supported by UNICEF in Viet Nam. The results of the study have confirmed the seriousness of road safety-related problems in the Philippines and the unreliability of data provided by police. Appendix 2 provides some details of the study.

## 4 RECOMMENDATIONS

There is a need to stress the urgency of improving road safety. In line with this, the following recommendations should be given priority when addressing the issue of safety.

### 4.1 Legislative

Among the causal factors, there seems to be a general consensus that the majority of accidents are attributed to driver error. The Government must not delay implementation of stronger driver's licensing control and driver improvement programs. This is the first step in keeping unskilled drivers off the roads. The licensing system is currently so lax that people do not have to learn how to drive before getting driver's licenses. Driver licensing requirements should be tied to driver education.

There is an urgent need to reconvene NRSC, which has not met for a long time. A more powerful national safety committee is necessary to formulate action plans or develop an agenda toward the reduction of traffic accidents in the country.

Campaigns on prohibiting street children, vendors, and others from soliciting on roads and clearing all sidewalks of vendors must be continued.

Banning dilapidated (i.e., not roadworthy) smoke-belching vehicles from roads must be strictly enforced.

The road right-of-way must be intended for road users, paths for pedestrians, for installation of appropriate traffic control devices, etc. No commercial advertisements should be mounted or installed within the road right-of-way, as they compete for the attention of drivers.

### 4.2 Institutional

Availability of reliable data on accidents is a key to understanding how the transportation system works. However, without a systematic method of accident data collection, processing, and analysis, the overall picture of road safety in the Philippines still remains obscure. The seemingly rosy picture depicted by accident statistics must not make officials complacent, as accident statistics cannot simply cover up for the failure of the transportation system, comprising roads, drivers, and vehicles. There must be a significant commitment to improving traffic accident investigation, reporting, and analysis. While computer databases on traffic accidents have been developed at DPWH and MMDA, integration of the two databases is necessary. A more complete reporting of traffic accidents and better use of accident records will prove very useful in planning preventive activities. In particular, records from hospitals must be included to minimize, if not eliminate, underreporting of accidents. It is therefore necessary to establish an integrated accident database incorporating police and hospital reports. This is possible only if there is a very strong link between police and hospitals. This may be achieved by undertaking a memorandum of agreement between the Department of Interior and Local Government and DOH.

Sustainability of ongoing efforts to maintain the accident databases has to be strongly considered. At MMDA, for example, continuing activity on MMARAS may be in question, considering that the technical staff under the Road Safety Unit are hired as contract workers.

### 4.3 Technical

Regarding the road environment, changes in control or geometric improvements applied to intersections or roadways bring about significant change

in accident occurrence and accident rates. Caution is therefore appropriate when conducting test runs or experiments without prior careful analysis. A trial-and-error method of solving traffic problems, which is often undertaken in the Philippines, must therefore be avoided.

Many accidents also occurred at night. Efforts must be exerted to improve night visibility. Placing appropriate traffic control devices (warning devices) at hazardous locations, such as road construction sites, can help minimize accidents.

Improved and uniform warning traffic signs and marking devices on all roads must be applied. Rules must be written in a concise, readable way and placed in prominent spots.

Research on the area of traffic safety has not been given the fullest attention in the country. But the following questions need to be answered to have a better traffic safety program.

- (i) Where are the high accident locations?
- (ii) How many were killed and injured last year?
- (iii) Where, when, and how were they killed and injured?

Some of the more urgent topics for research include the following.

- (i) Real causes of motor vehicle accidents, as differentiated from circumstantial factors
- (ii) Driver behavior and accidents (speeding, inattention, ignoring traffic control devices, drunk driving, driving on drugs, failure to wear seat belts, etc.)
- (iii) Relation of specific road and vehicle design elements to highway safety
- (iv) Monotony and fatigue problems in expressway driving or in long distance driving

- (v) Developing improved means of communication from the highway to the individual user and between drivers
- (vi) Estimating the cost of traffic accidents

#### 4.4 Education and Campaigns

There must be a continuing program to increase the level of awareness of road safety. The program must include expanded and proper use of all media. Safer pedestrian habits, through education and control measures, must be given importance.

#### 4.5 Sociocultural

Some aspects of the Filipino culture that affect all concerned—legislators, implementers, government employees, drivers, and pedestrians—must also be addressed. Some attitudes often go against strict law implementation, self-discipline, and courtesy. These cultural factors tend to infect many agencies, as well as the behavior of drivers and pedestrians. Responsibility toward curing this situation falls on all concerned, at every level—legislative, institutional, or educational.

## 5 CONCLUSION

The current road safety situation, as presented in this report, leaves much to be desired. Data show that traffic accident occurrence is high, and, with the factors known, many accidents could have been prevented. It will take concerted efforts from all sectors of society to make the necessary improvements toward improving road safety in the Philippines.

## Appendix 1 Traffic Accident Statistics

Tables A1.1–A1.6 examine various statistics related to road traffic accidents.

**Table A1.1: Population, Gross Domestic Product and Vehicle Registration**

Year	Population (million)	Gross Domestic Product (pesos billion)	Vehicle Registration (million)	Fatalities	Seriously Injured
1998	73	888	3.3	1,213	1,844
1999	75	917	3.5	969	1,637
2000	76	973	3.7	866	1,541
2001	78	1,002	3.8	737	1,961
2002	80	1,046	4.0	801	1,145
2003	81	1,135	4.1	774	1,129

Sources: NSCB, National Statistics Office, Land Transportation Office, Philippine National Police, and Traffic Management Group.

The following tables were obtained from the Land Transportation Office.

**Table A1.2: Vehicle Registration**

Year	All Vehicles	Motorcycles
1998	3,316,817	604,746
1999	3,533,732	672,789
2000	3,701,173	725,330
2001	3,865,862	1,337,576
2002	3,979,898	1,470,383
2003	4,054,014	1,616,376

Source: Land Transportation Office.

**Table A1.3: Driver's Licenses and Permits**

Year	Professional	Nonprofessional	Student Permit	Total
2000	1,386,407	586,710	1,001,927	<b>2,975,044</b>
2001	1,352,205	580,545	990,031	<b>2,922,781</b>
2002	1,351,102	581,333	967,588	<b>2,900,023</b>

Source: Land Transportation Office.

Until 1998, the Department of Health compiled health statistics, including information on casualties resulting from road traffic accidents. The information was

published in *Philippine Health Statistics*. For unknown reasons, this compilation was stopped.

**Table A1.4: Road Accident Deaths**

Year	Number
1970	1,212
1980	2,093
1990	2,889
1998	3,865

Source: Department of Health data.

The following tables were processed from the databases of the 16 hospitals in Metro Manila that had the largest number of

patients who were victims of road traffic accidents.

**Table A1.5: Fatal and Nonfatal Accidents by Age (2001)**

Age Group	Fatal	Nonfatal	Fatal (%)	Nonfatal (%)
<10	11	626	11	16
10–15	9	421	9	11
16–20	6	427	6	11
21–25	17	512	17	13
26–30	9	381	9	10
31–35	6	427	6	11
36–40	10	228	10	6
41–45	4	251	4	6
46–50	5	142	5	4
51–55	6	142	6	4
56–60	4	63	4	2
61–65	3	91	3	2
>65	9	154	9	4
<b>Total</b>	<b>99</b>	<b>3,866</b>	<b>100</b>	<b>100</b>

Source: Hospital data.

Table A1.6: Vulnerable Road Users Group

<b>Group</b>	<b>Fatal (%)</b>	<b>Seriously Injured (%)</b>	<b>Fatal</b>	<b>Injured</b>
Cyclists	0	3.7	0	142
Passengers (private)	5.1	5.6	5	216
Passengers (public)	6.1	8.5	6	330
Motorcyclists	9.1	10.2	9	393
Pedestrians	56.6	45.4	56	1,754
Others	23.2	26.7	23	1,031
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>99</b>	<b>3,866</b>

Source: Hospital data.

## Appendix 2 United Nations Children's Fund Study: Philippine National Injury Survey (2003)

*The details of the study presented here are based on the presentation of C. Lim-Quizon during the Road Safety Forum held in Manila in October 2004.*

The nationwide study covered about 90,500 households that were randomly selected from the barangay<sup>1</sup> to the regional level. The respondents of the interview were any of the household members at least 18 years of age who

have reliable knowledge of the other household members.

In the study, illness was classified as infectious diseases (56%), noncommunicable diseases (14%), injury (15%), and others (15%).

In terms of injury morbidity (illness), vehicular accidents were the main cause.

**Table A2.1: Leading Causes of Injury Morbidity (2003)**

Cause of Injury	Percent
Vehicular Accidents	21.8
Falls	14.6
Injured by Sharp Objects	12.4
Struck by Objects	5.3
Animal or Insect Bites	5.3
Burns	3.8
Assault	3.6
Machine or Tool Injury	1.4
Electrocution	1.4
Self-Inflicted	1.0
Others	29.4

Source: Survey data.

In terms of mortality (deaths), causes were classified as infectious (49%), noncommunicable (17%), injury (11%), and unknown (23%). As far as injury is

concerned, road traffic deaths again ranked number one, as shown in Table A2.2.

<sup>1</sup> Barangay is the smallest administrative unit of a local government.

**Table A2.2: Leading Causes of Death from Injury**

<b>Causes</b>	<b>Percent</b>
Road Traffic Accidents	20
Gunshots	17
Stabbings	14
Drowning	12
Electrocution	4
Falls	4
Abortion	2
Others	27

Source: Survey data.

According to the study, the highest mortality rate was recorded for children between the ages of 1 and 4 years. The mortality rate was about 17 deaths per 100,000 people. This was followed by

children under the age of 1 year (11 deaths per 100,000) and children between the ages of 10 and 14 years (10 deaths per 100,000).

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