JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
NATIONAL TRAFFIC SAFETY COMMITTEE (NTSC), VIETNAM

THE STUDY ON
NATIONAL ROAD TRAFFIC SAFETY MASTER PLAN
IN THE SOCIALIST REPUBLIC OF VIETNAM UNTIL 2020

FINAL REPORT

SUMMARY

March 2009

ALMEC CORPORATION
NIPPON KOEI Co., Ltd.

Exchange Rate used in the Report

USD 1 = JPY 118 = VND 16,500

(Average in 2008)

PREFACE

In response to the request from the Government of the Socialist Republic of Vietnam, the Government of Japan decided to conduct "The Study on National Road Traffic Safety Master Plan in Vietnam" and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA dispatched a study team headed by Mr. TAKAGI Michimasa of ALMEC Corporation, during the period from July 2007 to March 2009. The study team conducted the study with the Vietnamese counterpart team and held a series of discussions with the officials concerned of the Government of Vietnam. After the team returned to Japan, further studies were made and then the report was finally completed.

I hope that this report will contribute to the improvement of traffic safety measures and reduction of traffic accident in Vietnam.

I wish to express my sincere appreciation to the officials concerned of the Government of Vietnam for their close cooperation extended to the study team.

March 2009

TSUNO Motonori
Chief Representative of Vietnam Office
Japan International Cooperation Agency

March 2009

Mr. TSUNO Motonori
Chief Representative
Japan International Cooperation Agency
Vietnam Office

Letter of Transmittal

Dear Sir,

We are pleased to formally submit herewith the final report of the Study on National Road Traffic Safety Master Plan in the Socialist Republic of Vietnam.

This report compiles the result of the study which was undertaken both in Vietnam and Japan from July 2007 to March 2009 by the Team, organized by ALMEC Corporation and Nippon Koei Co., Ltd.

We owe a lot to many people for the accomplishment of this report. First, we would like to express our sincere appreciation and deep gratitude to all those who extended their extensive assistance and cooperation to the Team, in particular the National Traffic Safety Committee in Vietnam.

We also acknowledge the officials of your agency and National Police Agency as well as Ministry of Foreign Affaires for their support and valuable advice in the course of the Study.

We wish the report would contribute to the promotion and sustainable development of road traffic safety in Vietnam.

Very truly yours,

TAKAGI Michimasa
Team Leader
The Study on National Road Traffic Safety Master Plan

in the Socialist Republic of Vietnam

NATIONAL ROAD TRAFFIC SAFETY MASTER PLAN
IN THE SOCIALIST REPUBLIC OF VIETNAM UNTIL 2020
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PART VI TECHNICAL ASSISTANCE FOR CAPACITY DEVELOPMENT ON THE TRAFFIC SAFETY CULTURE AND FOUNDATION

ABBREVIATION

ADB	Asia Development Bank
ASEAN	Association of South East Asian Nations
CSR	Corporate Social Responsibility
D/D	Detailed Design
DOT	Department of Transport
EIRR	Economic Internal Rate of Return
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
FDI	Foreign Direct Investment
F/S	Feasibility Study
GDP	Gross Domestic Product
GOV	Government of Vietnam
GRSP	Global Road Safety Project
GTZ	German Technical Cooperation
HAIDEP	Hanoi Integrated Development and Environmental Program
HCMC	Ho Chi Minh City
ITS	Intelligent Transport System
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
M/C	Motorcycle
MIC	Ministry of Information and Communications
MOCI	Ministry of Culture and Information
MOET	Ministry of Education and Training
MOF	Ministry of Finance
MOH	Ministry of Health
MOJ	Ministry of Justice
MOPS	Ministry of Public Security
MOT	Ministry of Transport
NGOs	Non Governmental Organizations
NH	National Highway
NRADS	National Road Accident Data System
NTSA	National Traffic Safety Authority
NTSC	National Traffic Safety Committee
ODA	Official Development Assistance
OJT	On-the-Job Training
PDOT	Provincial Department of Transport
PTSC	Provincial Traffic Safety Committee

R&D	Research and Development
RRMU	Regional Road Management Unit
RSA	Road Safety Audit
RSMS	Road Safety Management System
SAPROF	Special Assistance for Project Formation
SIDA	Swedish International Development Cooperation Agency
TA	Traffic Accident
TDSI	Traffic Development and Strategy Institute
TDM	Traffic Demand Management
TRAHUD	Traffic Safety Human Resource Development Project in Hanoi
TS	Traffic Safety
TSA	Traffic Safety Audit
TSC	Traffic Safety Committee
TSPMU	Traffic Safety Project Management Unit
TUPWS	Transportation and Urban Public Works Services
UNICEF	United Nations Children's Emergency Fund
USD	United States Dollar
VITRANSS	Vietnam National Transport Development Study
VND	Vietnamese Dong
VR	Vietnam Register
VRA	Vietnam Road Administration
VRSP	Vietnam Road Safety Project
WB	World Bank
WG	Working Group
WHO	World Health Organization
WTO	World Trade Organization

EXECUTIVE SUMMARY

1 SCOPE OF THE STUDY

Objectives

The JICA-assisted “The Study on National Road Traffic Safety Master Plan in Vietnam until 2020” was conducted with the following main objectives:

(1) To develop a National Road Traffic Safety Master Plan until 2020, based on an analysis of current situation through data collection and survey.

(2) To formulate an Action Program for National Road Traffic Safety 2008-2012.

Study Area

The Study area covers the entire geographical area of Vietnam focusing on the road sub-sector which accounts for 97% of traffic accidents, as well as on road-railway crossings.

Study Process

The Study commenced in July 2007 and this Final Report reports on the completion of study activities. The Study was conducted under the supervision of the National Traffic Safety Committee (NTSC) and with extensive involvement of the Vietnamese counterpart agencies through Working Group meetings, series of seminars and technical workshops. Main responsible ministries such as Ministry of Transport (MOT), Ministry of Public Security (MOPS), Ministry of Education and Training (MOET) and Ministry of Health (MOH) had been extensively involved in the preparation of the plans.

2 ROAD TRAFFIC ACCIDENTS IN VIETNAM

Road Traffic Accidents

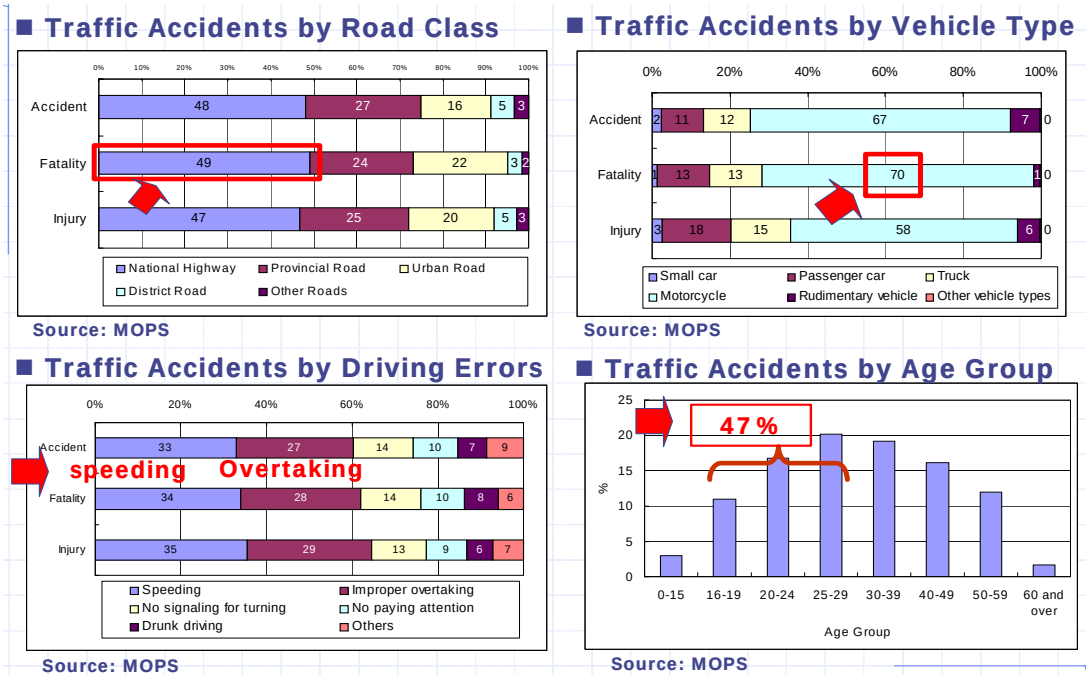
In 2007, there were 13,985 road traffic accidents which resulted to 12,800 fatalities and 10,266 injuries. The road traffic accidents increased rapidly from 1990 to 2002, the peak year of traffic accidents, with an annual increase rate of 13.5%. During this 12-year period, the number of fatalities has particularly increased 5.8 times. Rates of accidents and injuries were increasing until 2002, but decreased later by less than 2 per 10,000 persons. However, fatality rate was still high at about 1.5 per 10,000 persons.

Causes of the Traffic Accidents

Causes of the traffic accidents are intricately-intertwined between physical situation and human errors, mixed traffic and reckless driving behaviors. Many traffic accidents have occurred on the main national highways particularly in the major urban areas and its conurbations. About 70% of the total number of fatalities was motorcycle users and major accident cases are over speeding and reckless overtaking. Moreover, it should

be pointed out that more than half of the total victims are under 30 years old.

Figure 2.1 Characteristics of Road Traffic Accidents in Vietnam



Socioeconomic Losses

The losses due to road traffic accidents in 2007 are estimated at 2.89% of GDP, amounting to about VND32,600 billion (about USD2 billon) with Human Capital Method. However, due to limited data and information on road traffic accidents, the estimate may not be highly reliable. But since current traffic accident database does not cover all the accidents, the actual losses may even be higher than the estimates.

3 ROAD TRAFFIC SAFETY ISSUES

Intersectoral Issues

The Government of Vietnam (GOV) has undertaken numerous countermeasures as well as enlisted the support, assistance and cooperation of international donors to alleviate one of the most pressing social problems in the country at present, which is traffic safety. While some of the countermeasures are showing positive results such as the nationwide campaign for helmet wearing, however, there is still a long way to go to develop safe driving behaviors among traffic participants in the country. Further efforts not only from central government agencies but also from local governments are required. The most significant and current overall intersectoral issue is how to establish an appropriate institutional mechanism for sustainable development and implementation of traffic safety policies which will be flexible enough to adapt to demand of future economic development and increase in rate of motorization.

Sectoral Issues

(i) Infrastructure/Traffic Management

Although the main cause of a traffic accident is human error, particularly reckless driving and ignoring of traffic rules and regulations, insufficient road facilities and traffic congestions are also major causes of traffic accidents. While human errors will be addressed by the education and enforcement sectors, it is equally important that appropriate geometric design and safety facilities, as well as sufficient information, be provided to minimize, if not totally avoid, the human errors.

At present, the Vietnam Road Administration (VRA) is conducting black spot improvement as an urgent countermeasure to avoid future traffic accidents. However, there are some factors which hinder smooth project implementation such as lack of accident data and budgetary constraints. Encroachment on the road safety corridors is another major issue in this sub-sector. While directives on the preservation of the safety corridor has been clearly stipulated in various Government documents, however, required accompanying implementing guidelines have not been sufficiently formulated to secure the corridors, particularly on the responsibility of the local governments.

(ii) Transport Operation and Management

Three areas are being addressed in this subsector: (i) licensing system, (ii) vehicle inspection and (iii) transport operation. With regards to the licensing system, the training and testing system for more than 4-wheel vehicles requires a much longer training program and stricter testing. On the other hand, the system for motorcycle licensing is conducted with much ease, with requires only a minimum operation skill and basic knowledge on traffic rules and regulations. Thus, it may be construed that a specific feature of Vietnam's road traffic condition is that majority of its road users do not have adequate knowledge or understanding of traffic rules and proper driving behaviors. Also in relation to the licensing system is the lack of training and testing centers especially in the rural areas.

The vehicle inspection system in Vietnam has generally improved with the establishment of the Vietnam Register. However, there is still no technical inspection regulation for M/C. In addition, the database on vehicle registration, which is very important information for enforcement, is still limited at the local levels since there is still no nationwide network communication that can link these local databases.

Nowadays, serious traffic accidents are frequently reported involving trucks and buses travelling long distance. In the same manner, traffic accidents in the urban areas are usually caused by reckless driving involving buses, trucks or taxis. And when such accidents happen, traffic violation is assigned to the responsible drivers while there is no penalty imposed on their respective transport operators.

(iii) Enforcement

While enforcement capacity has been further expanded recently, it is still not adequate to meet the increasing traffic demand and traffic law violators. Lack of

enforcement facilities and equipment is also limiting the effectiveness of the enforcement efforts. Given such limitations, strategic enforcement planning based on traffic accident and violation data will be required.

Traffic accident and enforcement data is one of the basic data information not only for traffic enforcement but also for engineering improvement and traffic safety education program. However, the database is not yet developed at present.

(iv) Education and Propaganda Issues

Despite traffic safety education being part of school education system's curriculum from kindergarten to secondary level, it is still considered to be in the development stage. Several issues remain to be urgently addressed and requiring improvement. Moreover, despite several years of implementation, a systematic evaluation is yet to be established to determine the effectiveness of the current program. If the students' behavior is to be set as basis for evaluating effectiveness of the program, then it can be said that remarkable progress is yet to be achieved by the present school traffic education program. Thus it is important to have proper coordination with home/ community and other social institutions be ensure effectiveness of traffic safety education programs.

(v) Medical Emergency

Development of the medical emergency system is one among the important factors of a post-accident measure to save peoples' lives. Emergency Medical Center (Call 115) has been introduced sometime ago; but at this moment, the service is available only in major urban areas. Moreover, even in the areas where the system is available, the usage of the service is very limited because of the poor facilities and lack of ambulance units. Current situation of the medical emergency system is still very poor, particularly in the district hospitals which subsequently transfer their patients to the already overloaded Central and Provincial hospitals.

In general, insurance system is not yet well established. As there is still limited coverage, some of traffic accident victims cannot cover their own medical expenses.

4 NATIONAL ROAD TRAFFIC SAFETY MASTER PLAN 2020

Mission of the Road Traffic Safety Development

The appropriate mission that should be inspiring and understandable for the Vietnamese people will be confirmed by the Government of Vietnam. This Master Plan study recommends that the mission statement adopted by the Government of Vietnam for road traffic safety is "A Kindhearted, Traffic Accident-Free Society".

Kindhearted Traffic Safety Culture with Comprehensive Traffic Safety Measure

Source: Do Lan Huong (The Gioi Det) JICA-TRAHUD Journalist Club

Targets of the Master Plan

The following are the two targets proposed by the road traffic safety Master Plan:

(1) To reduce the number of fatalities into half (based on 2007 figures).

(2) To strengthen the capability and functions of the organizations involved in road traffic safety and to develop new organizations and rules/regulations necessary to ensure sustainability of traffic safety measures.

Basic Strategies

Basic strategies will be discussed in two areas, Basic Planning Policies and Implementation Strategies.

Basic Planning Policies

1) Covering the three elements of Person, Vehicle and Road Traffic Environment, six (6) measure areas are identified for implementation of effective and efficient traffic safety measures.
   (i) Development of Safe Road Traffic Environment
   (ii) Enhancement of Safe Driving
   (iii) Ensuring Safety in Vehicles
   (iv) Effective and Efficient Traffic Control and Enforcement
   (v) Enhancement of Traffic Safety Education and Propaganda
   (vi) Development of Post-Accident Countermeasures
2) For sustainable traffic safety development, all necessary institutions and database shall be established within this master plan period, including establishment of new laws and regulations and database for scientific analysis.
3) It is necessary to ensure sustainable human and financial resource development.

Implementation Strategies

a) In order to promote comprehensive traffic safety measures, the appropriate environment and mechanisms shall be enhanced and developed, which can be referred to as the 4Cs (communication, cooperation, collaboration, and

coordination) among traffic safety stakeholders.

b) Introduction of new policies for the development of a Traffic Safety Culture in Vietnam in order to achieve sustainable changes in the peoples' present unsafe driving behaviors. Given the widening regional differences due to economic development and rate of motorization, appropriate measures are introduced in accordance with the living environment and standards of each respective regions or provinces.

c) For this master plan period, priority will instead be given to human resource development rather than on investing on these advanced technologies. However, introduction of the practical and reasonable advanced technology for Vietnam shall be periodically enhanced and upgraded.

Focus Areas

Proposed focus areas to reduce the number of traffic accident fatalities are: (i) Motorcycle, (ii) National Highways, (iii) Urban areas and its Conurbation, (iv) Young Population, (v) Commercial Vehicles, and (vi) Post-accident measures.

Sectoral Traffic Safety Development

(i) Desirable Road Safety Environment Development

In the engineering sector, targets are set not only based on the present critical issues but also in coordination with ongoing policy of the GOV. The sector goal is towards system development for a desirable road environment. In the examination of measures, overall approach was used by including not only structural improvement such as alignment and cross-section improvement, but also the signage and guide system. In addition to above measures, institutional infrastructure system which shall support those measures are proposed. The following 11 priority programs are examined for the Master Plan:

(1) Black Spot Improvement Program
(2) Traffic Safety Audit System Development Program
(3) Traffic Safety Corridor Development Program
(4) Highway Traffic Safety Facility Enhancement Program
(5) Urban Bypass Development Program
(6) Vulnerable Road User Accident Prevention Program
(7) Expressway Safety Development Program
(8) Road Work Traffic Safety Development Program
(9) Traffic Safety Project Monitoring and Maintenance Program
(10) Urban Road Traffic Safety Plan Development Program
(11) R&D, Human Resource Development Program

(ii) Safe Driving and Vehicle Safety Development

Road traffic situation in Vietnam has become more and more complicated particularly due to increasing mixed traffic and motorization rate. It is therefore

necessary to develop strict and comprehensive system enhancing the social responsibility of the road user and operators. In this sector, the following improvement programs are proposed:

(1) Basic License Renewal System

(2) License Renewal System based on Traffic Violation

(3) Promotion of M/C Licensing in the Rural Areas

(4) License for M/C under 50cc

(5) License for Beginner Drivers

(6) Comprehensive Program for Driver Training and Testing

(7) Safe Driving Management System for Transport Companies

(8) Vehicle Registration Renewal System

(9) Technical Inspection for M/C

(10) Vehicle Countermeasures for People with Disability

(11) Human Resource Development for Driving Instructors

(iii) Formulation of Traffic Enforcement Master Plan

Comprehensive strategy on traffic law enforcement activities in the Master Plan is set as the "promotion of efficient, effective and well-organized traffic law enforcement system that is widely supported by the people." Development target for this sector is aimed to cover 20% of the Master Plan's target of reducing by 50% traffic accident fatalities through implementation of effective traffic enforcement measures. Thus, in order to achieve the target, the following comprehensive programs are formulated:

(1) Strategic Traffic Guidance and Enforcement Development Program

- Traffic safety guidance for vulnerable road users,
- Traffic guidance for inexperienced road users
- Strict enforcement for deliberate traffic law violators

(2) Traffic Safety Culture Development Supporting Program

(3) Comprehensive Traffic Safety Enhancement Program

(4) Traffic Accident and Enforcement Database Development Program

(5) Human Resource Development Program

(6) Guidance and Enforcement Equipment Modernization Program

In addition, a capability improvement program to enhance technical capabilities of Transport Inspectors is proposed with following main components: (1) Institutional and Organizational Frameworks; (2) Human Resource Development; and (3) Working Conditions Improvement.

(iv) Traffic Safety Education in Schools and Traffic Safety Culture Development Strategy

In order to introduce and implement traffic safety awareness effectively, two (2) distinct approaches are proposed which focus fundamentally on the government

agencies' areas of responsibility and authority as well as appropriateness of programs for the various age groups: (1) Traffic safety education in school and (2) Traffic safety culture development (Traffic safety education in community including traffic safety campaign and propaganda).

To comprehensively implement traffic safety awareness initiatives in the schools, four (4) basic strategies with nineteen (19) programs are being proposed in this traffic safety education in school program. The basic strategies for traffic safety education in schools are:

(1) Traffic Safety Educational Practice for Pre-school Children

(2) Traffic Safety Education for Primary to University Students

(3) Community Involvement Program

(4) Organization and Institutional Framework Development

Introduction of traffic safety culture may require a fundamental set of an independent credible institution to act as a focal point or foundation responsible for improving road traffic accident situation and changing road user behavior for a better quality of life and welfare of the people. Thus, for traffic safety culture development, establishment of a traffic safety foundation is the only basic strategy proposed in this Master Plan which shall entail 12 programs to be implemented nationwide utilizing media and propaganda for campaign activities.

(v) Medical Emergency and Traffic Accident Victim Support Development Strategy

By the year 2020, the medical emergency sector will take more than 10% share in fulfilling the goal of the Master Plan of reducing traffic accident fatalities by 50% by the year 2020. Even though there are many areas to be improved in the medical sector itself, the following areas are expected to contribute to reduce the number of fatalities:

(1) Reduce traffic accident fatalities in hospitals by improving hospital capabilities

(2) Improve pre-hospital care

(3) Develop 115 system

(4) Improve training system for EMS personnel

(5) Prepare for disaster and mass causalities

Intersectoral Traffic Safety Development

(i) Institution and Resource Development

In order to ensure the sustainability of the traffic safety policy and to continue effective and efficient countermeasures, it is necessary to develop institutional infrastructure, human resource and financial resource. The Master Plan proposes the following institutional development programs. Figure 4.1 and Figure 4.2 illustrates the overall function of the core traffic safety administrations and proposed organizational structure for comprehensive traffic safety development, respectively.

(1) Administrative Enhancement Program

- Enhancement of National Traffic Safety Committee
- Provincial/City Traffic Safety Committee
- Traffic Safety Department/Unit in the transport department
- Legalization of NTSC and Traffic Safety Plan

(2) Research and Development Program

- Traffic Safety Center Development
- Traffic Safety Database Development

(3) Resource Development Program

- Traffic Safety Foundation Development
- Vehicle Tax System and other fund sources development
- Traffic Safety Human Resource Development

(ii) Fund Resources for the Traffic Safety Development

The two main funding sources for traffic safety at present are the state budget and share from collected fees/fines. Despite the Government's other required sectoral expenditures to cover, state fund allocation for traffic safety is justified by at least two reasons: huge economic losses resulting from traffic accidents and the economical value-added by transport and by traffic safety. The Government imposes fines for violations with a standard amount across all provinces/cities, rural and urban. It is proposed that there will be an additional fee tentatively referred to as "surcharge for ensuring traffic safety order" charged for each traffic violation committed in the provinces/cities.

Figure 4.1 Overall Functions of the Core Traffic Safety

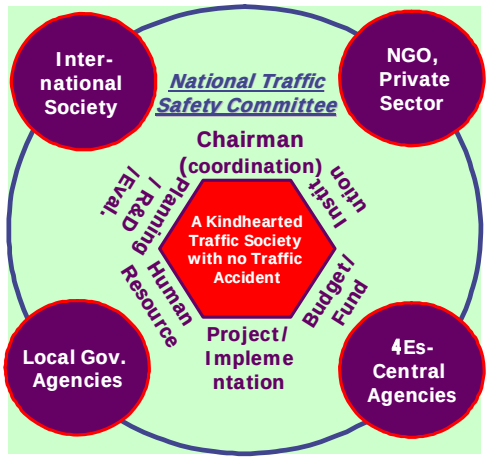


Figure 4.2 Proposed Organizational Structure for Comprehensive Traffic Safety Development

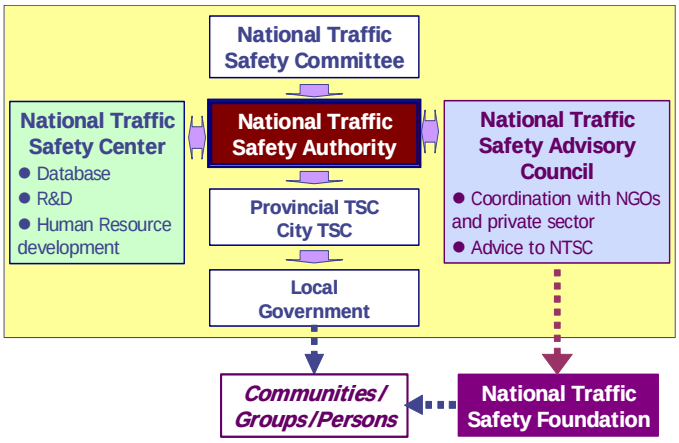


Table 4.1 Typical Advantages and Disadvantages of Different Sources of Financing for Road Safety

Sources of Funding	Advantages	Disadvantages
Value-added to State budget from transport	Large amount	New concept and difficult to evaluate
Surcharge for ensuring traffic safety in addition to funds collected from fines	Related directly to traffic safety and flexible enough for actual conditions of localities	Some requirements in institutional aspects
Surcharges on motor fuel	Low level of evasion, low collection fee	Difficulty to raise fuel prices
Surcharges on weight-distance charges	Accepted as user-charge	High level of evasion
Surcharges on compulsory vehicle insurance	Best related to road safety	High level of evasion
Surcharges on vehicle license fees	Low collection fee	High level of evasion
Surcharges on toll fees from roads	Low level of evasion, accepted as user charges	Toll roads form only a small part of the road network
Contribution by private sector	Can complement road safety financing and can make use of private sector management and efficiency	Can only provide limited amounts and may not be sustainable
Development loans and grants	Can initiate effective road safety programs and financing schemes	Not sustainable

Source: JICA Study Team (2008) and ESCAP document No. E/ESCAP/CMG(4/I)/7 dated 30 July 2007.

5 NATIONAL ROAD TRAFFIC SAFETY FIVE-YEAR ACTION PROGRAM

The Five-Year Action Program (2008-2012) is the first phase implementation period of the proposed traffic safety measures in the Master Plan. This first Action Program is critical in ensuring that smooth and successful implementation of the proposed measures shall be the basis for implementation conditions of the succeeding Action Programs.

Planning Principles

In order to meet the requirements of the Master Plan and strategies, the following basic principles are introduced:

(1) The active participation of the whole political system through the “all-people” and “Comprehensiveness” perspectives.

(2) The Action Program should consider the forecasted special political and socio-economic features as well as the traffic safety conditions in the whole country until 2012. During this period, Vietnam is in transition to further accelerate its economic development. Given the forecasted high growth percentage of the vehicles and drivers, a slower implementation of necessary countermeasures will lead to more complex situations and implementation in the late years.

(3) The Action Program should be integrated with all related existing orientations, policies, plans of the Government.

(4) Among the various proposed measures from the Master Plan, those that are considered as a “critical path” should receive high priority. Such measures can be recognized as those which result in the: (i) improvement of capacities of traffic safety related agencies; (ii) enhancement of institutional framework for traffic safety and (iii) development of traffic safety culture, among others.

(5) The selected measures should be ensured under a strong leadership and with adequate financial and human resources.

Five-Year Development Targets

For the first phase implementation of the Master Plan, the following three targets are formulated as common targets for each sector.

(1) Majority of road users have inherently developed a habit for respecting all traffic rules.

(2) A reduction of 5.2 - 6% in traffic accidents per year against previous year, in terms of the absolute number of fatalities.

(3) Strengthening of the capability and functions of the organizations involved in road traffic safety and development of new organizations and rules/regulations necessary to ensure sustainability of traffic safety measures.

Five-Year Action Program and Investment

Table 5.1 presents the total cost of the Five-Year Action Program which is estimated at USD1,351 million (about VND22,289 billion). About 55% of the total investment is for engineering improvement and 24% is for traffic enforcement improvement, including equipment procurement. License and vehicle system improvement and medical emergency improvement share approximately 16% of the total respectively. Those investments are mainly for the hardware improvement such as safety facilities, nationwide communication system, among others.

Socioeconomic Viability

The economic internal rate of return (EIRR) for said investment is showing a high EIRR of 21%, which economically justifies the Action Program. The sensitivity of EIRR is tested in terms of cost increase and benefit decrease. The Action Program is still economically viable with 13% EIRR even if the cost increases 10% and benefit decreases 10%.

Investment Fund Resources

The most basic and prevailing constraint for many countries in achieving traffic safety goals is the insufficiency of available resources. The main issue therefore regarding resource generation is how to mobilize other potential fund sources for the Five-Year Action Program. While preparation and approval of basic legal requirements to tap potential funding sources require various steps and take at least one year, committed

funding resources from the international donors (WB, JBIC and others) should be utilized effectively, taking into consideration the proposed programs in this Action Program.

Table 5.1 Cost Estimation for the Five-Year Action Program by Sectoral Program

Unit: (Million USD)

	Traffic Safety Program	Annual Investment Plan					Total
		1	2	3	4	5	
Road Infrastructure	1) Black Spot Improvement Plan	8.3	7.9	10.9	13.1	12	52.0
	2) Traffic Safety Audit System Development Plan	0.3	0.7	0.6	0.5	0.4	2.5
	3) Traffic Safety Corridor development Plan	0.7	30.4	50.1	50	50	181.2
	4) Highway TS Facility Enhancement Plan	39.6	77	92.2	91.9	91.9	392.6
	5) Vulnerable Road User Accident Prevention	1.5	12.8	25	25	25	89.3
	6) Expressway Safety Development Plan	1.2	1	0.3	0.3	0.3	3.1
	7) Road Work Traffic Safety Development Plan	6.7	2.7	5.1	0.2	0.2	14.9
	8) TS Monitoring and Maintenance Plan	0.5	0.3	0.4	0.4	0.4	2.0
	9) Human Resource Development Plan	-	-	0.1	0.7	0.4	1.2
	Sub-total	58.8	132.8	184.7	182.1	180.6	739.0 [54.7%]
Transport Management	1) Safe Driving and Vehicle Safety Development	-	12.5	51.6	46.4	3.3	113.9
	Sub-total	-	12.5	51.6	46.4	3.3	113.9 [8.4%]
Traffic Enforcement	1) Enforcement for Inexperienced Road Users				4.9	5.7	10.6
	2) Enforcement for Deliberate Law Violations	3.2	2.0	3.5	3.5	3.5	15.6
	3) Traffic Safety Culture Supporting Program		0.2	3.9	4.2	4.0	12.2
	4) Comprehensive TS Enhancement Program		0.3	4.1	4.6	4.2	13.2
	5) Database Development Program		0.9	5.6	5.6	5.6	17.7
	6) Human Resource Development Program		1.8	4.2	4.6	2.8	13.5
	7) Enforcement Equipment Modernization Preparation	53.6	47.7	44.8	35.7	31.9	228..7
	8) Transport Inspectors Program		2.8	5.2	4.7	3.3	16.1
	Subtotal	56.7	53.0	66.1	63.0	57.7	327.7 [24.3%]
Traffic Safety Education and Traffic Safety Culture	1) Safety Practice for Pre-school Children			0.2	0.2		0.4
	2) Traffic Safety Education for Students		0.0	0.1	2.0	3.6	5.7
	3) Community Involvement Program		0.0	1.0	2.0	1.7	4.7
	4) Institution and Human Resource Development for Schools		0.0	0.4	0.4	0.2	1.1
	5) Traffic Safety Culture Development Program		7.2	10.4	10.8	8.4	36.9
	6) Traffic Safety Campaign and Propaganda		0.2	0.0	0.0		0.3
	Subtotal		7.5	12.2	15.5	13.9	49.0 [3.6%]
Medical Emergency	1) Pre-hospital Care Enhancement		10.1	10.5	10.3	7.3	38.3
	2) Capacity Development for Mass Casualty		0.3	0.3	0.3	0.1	0.9
	3) Medical Emergency Resources Development		13.8	23.8	13.9	13.2	64.8
	Subtotal		24.2	34.6	24.5	20.6	103.9 [7.7%]
Institution	1) National Traffic Safety Authority	0.1	0.1	0.1	0.1	4.7	5.1
	2) National Traffic Safety Center	0.1	0.2	0.1	5.1	5.1	10.6
	3) National Traffic Safety Advisory Council	0.1	0.1	-	-	-	0.2
	4) National Traffic Safety Foundation	0.1	1.9	-	-	-	2
	Subtotal	0.4	2.3	0.2	5.2	9.8	17.9 [1.3%]
Grand Total Investment (USD million)		**115.7**	**238.9**	**358.5**	**345.4**	**292.3**	**1,350.8** [100%]

Source: JICA Study Team

Human Resource Development

Two types of human resource development will be required: educating leaders and experts from various concerned organizations and developing adequate manpower, such as traffic police and traffic engineers, to implement the proposed traffic safety measures. The leaders and experts will be provided advanced training in the proposed Traffic Safety Center while the traffic police and traffic engineers will receive training in the higher educational institutes such as universities and academies.

Implementation Strategy

To achieve a great social impact from the proposed Action Program, a very strong leadership from the Government is essential to ensure its smooth and sustainable implementation, In addition and equally as important, a close relationship among responsible agencies and between central and local governments is necessary. Thus, the adoption of the 4Cs approach is highly advisable.

The initial years of this Action Program shall focus on preparatory works. However, emphasis will be on institutional and planning issues which greatly impact on the smooth and sustainable implementation of the entire Master Plan and Action Program.

For some key strategic improvements to be carried out, absolute funding will be necessary (such as for the development of an improved accident data system). For some other proposed measures, however, a small amount (or “seed money”) should be enough to realize and encourage desirable results and developments. There are also some proposed measures which may require funding or support for a limited period only, after which, anticipated developments and resulting activities (or sustainable operation) should eventually take over the funding requirement.

6 TECHNICAL ASSISTANCE FOR CAPACITY DEVELOPMENT ON THE TRAFFIC SAFETY CULTURE AND FOUNDATION

This Master Plan Study which is primarily aimed at developing a National Road Traffic Safety Master Plan until 2020 and formulating an Action Program for the next five years has been completed. The Master Plan and Action Program have introduced a series of traffic safety development programs covering both intersectoral and sectoral issues which aim to reduce by half the number of fatalities as well as to improve institutions concerned with traffic safety. This includes proposed programs for organization (or re-organization, as the case may be) and systems development towards comprehensive traffic safety policy development.

Current serious traffic accident situation however requires immediate implementation of whatever effective countermeasures can reduce the number of traffic accident fatalities. Among the urgent required measures is the improvement of traffic safety awareness since lack of it accounts for more than 80% of the cause of traffic accidents. Thus, the community-based activity (traffic safety culture activity) that aims to raise traffic safety awareness among road users was proposed in the Master Plan and Action Program. In order to successfully implement these community-based activities, a comprehensive approach that includes not only the concerned Ministries such as MOT and MOPS but also the local governments, civic organizations, homeowners associations, and private companies will be requested, with the National Traffic Safety Committee (NTSC) expected to play a key role during the implementation. To respond to this urgent need, the NTSC has requested additional technical assistance from the Government of Japan for sustainable traffic safety development to achieve the proposed mission of the Master Plan of a “Kindhearted Traffic Accident-Free Society”.

Implementation Methodology

The Master Plan and Action Program have proposed several safety programs for the communities to enhance peoples’ traffic safety awareness wherein NTSC is expected to play significant roles in promoting it through coordination with related agencies, assessment on how to secure new budget for the activities and development of public relation activities for nationwide coverage. Therefore, to further strengthen NTSC function, the additional assistance will focus on the following areas:

(1) Examination of required institutional mechanism for Traffic Safety Culture Development,

(2) Examination on the establishment of a Traffic Safety Foundation, and

(3) Support for traffic safety campaign to enhance peoples’ safety awareness.

Pilot Project of Traffic Safety Culture Development

It is necessary to establish a system and formulate policies towards sustainable implementation of traffic safety culture activities. Thus, this pilot project was implemented with the sole purpose of providing NTSC with the necessary experience and basic implementation knowledge towards the institutionalization of the traffic safety

culture activity.

The pilot project is therefore aimed towards:

(1) Studying knowledge of behavioral habits through practical traffic safety culture activity

(2) Identification of the coordinating organizations that shall play a key role in implementing the traffic safety culture activity along the national highways to improve coordination capability.

(3) Identification of possible recurring implementation issues that can hamper sustainable traffic safety culture development to guide them in future implementation activities.

The conduct of the pilot project can be concluded as follows:

(i) The implementation of traffic safety culture activity on Safe Route-to-School Program was relatively successful in terms of (1) encouraging local participation; (2) raising awareness on traffic safety, and (3) promoting traffic safety education and traffic safety culture activity in the school and the local community of Tan Truong Commune, Cam Giang District, Hai Duong Province.

(ii) An introduction of traffic safety culture development through a pilot project activity presents an opportunity for capacity building and human resources development not only at the central and local government agencies but also in the school, community and people at grass root levels.

(iii) It helped in identifying the key coordinating organizations that play a key role in implementing the traffic safety culture activity in the provincial area/school along the national highways, which is the Local People's Committee. However, it was also established that it should work in close cooperation and coordination with other concerned local authorities, transportation agencies and traffic police in particular to ensure its successful implementation.

(iv) This pilot project was implemented as part of the capacity strengthening needed in NTSC to implement the traffic safety project on the master plan. NTSC was able to undergo various processes of community-based activities on "Participation, Experience and Implementation" through this pilot project, which is expected to become very useful in future undertakings.

(v) The traffic safety culture activity has taken on various types of activities that respond to respective social economic situations in each region. However, the organization which is in-charge of directing and supervising the implementation as well as in preparing the action plan has not developed. In particular, it is necessary to promote the activity in coordination with World Bank's Vietnam Road Safety Project (VRSP) or JICA's Northern Vietnam National Roads Traffic Safety Improvement Project to establish suitable organization in each region.

Pilot Project of Traffic Safety Culture Development

Regarding the Traffic Safety Foundation, alternative organizational establishments

were discussed and the Charitable Foundation was found to be the most appropriate over other organizational structures such as Governmental Fund, Local Association, and Association of Foreign Business in terms of capability and social acceptability. This additional technical assistance has further confirmed the role and importance of a traffic safety fund in the NTSC and related organizations, which can contribute to the capacity development of NTSC aimed at the development of a new system.

Traffic safety foundation is useful not only for traffic safety culture development activities, especially community-based activities related to traffic safety, but also in human resource development and formulation of the action program. However, since private contribution may vary from time to time depending on the economic situation, it may be difficult to secure sufficient funding for programs and activities at times such as during this time of the current global economic recession. Therefore, in order to ensure sustainable fund resource, self-financing mechanisms will be needed with governmental support.

The Traffic Safety Foundation should be established the soonest possible time to promote sustainable community-based traffic safety program. Main objective of the urgent establishment is not only to ensure fund sourcing but also to formulate core organization with sufficient knowledge, skills and strong leadership.

The Traffic Safety Foundation will be a charitable fund; however, full operation as a charitable fund may have to wait until automobile sector is matured enough to share the cost among other sectors. Until then, several forms of government support will be required to generate new resources of fund from fees or charges or business activities.

It is also recommended that the Foundation be established under the VRSP or JICA Northern Region Safety Projects as a government subsidiary organization. The project will be aimed at the establishment of an appropriate system and capacity development on the operation to ensure independence and sustainability by the end of the loan projects. NTSC initiatives will be based on the results of examination on this additional technical assistance.

PART I INTRODUCTION

1.1 Background and Objective

1) Study Background

The open door policy has accelerated economic growth of the country since the 1990's. While the demand for passengers and goods transport were increasing sharply, Vietnam's road system is being built or renovated significantly with domestic funding as well as from loans from donor organizations. In the last decade, income growth and improvement of transport infrastructure have both contributed to a rapid increase in the number of motorized vehicles, especially motorcycles. As traffic volume expanded, traffic-related problems also increased: traffic conflicts and bottlenecks in urban areas became evident and traffic accidents in rural areas began to rise. On the other hand, the level of understanding and compliance to traffic safety requirements remains very low among the public. Authorities have also been not always aware of their critical role in restoring traffic safety and order.

Thus, traffic accident has become a major social problem, in which traffic safety is now regarded as one of the most urgent policy issues of the Government of Vietnam (GOV). It is within this context that GOV requested the Government of Japan to conduct "The Study on National Road Traffic Safety Master Plan in Vietnam" under the Japan International Cooperation Agency (JICA).

2) Study Objectives

The objectives of the Study are as follows:

(i) To develop a National Road Traffic Safety Master Plan to 2020

(ii) To formulate an Action Program for National Road Traffic Safety 2008-2012

The Master Plan will provide various comprehensive strategies and develop sustainable fundamentals for the road traffic safety in Vietnam. The proposals are based on the existing conditions of the country, and thus, will be deemed feasible. They will address all aspects of the road transport system, as follows: (i) infrastructure; (ii) road users; (iii) vehicle; and (iv) legal framework, especially traffic safety policies and institutional issues. The activities included in the Action Program of 2008-2012 will form the first phase of implementation process for the whole complex of strategies from the Master Plan.

1.2 Study Area and Coverage

The Study area covers the entire geographical area of Vietnam focusing on the road sub-sector which accounts for 97% of traffic accidents, as well as on road-railway crossings.

1.3 Study Implementation

1) Implementing Organization of the Study

The Study is being conducted in accordance with the typical scheme of Japanese technical cooperation where JICA dispatches the JICA Study Team while the Vietnam side organizes the Steering Committee and the Counterpart Team.

2) Coordination with Vietnamese Side

(i) Steering Committee/Technical Working Group

All the reports and important issues were presented and discussed in the Steering Committee meetings during each stage of the Study. The Steering Committee was composed of decision-makers from the counterpart agency and relevant agencies.

(ii) Counterpart Team

Under the Steering Committee, a Working Group was organized as core counterparts for this Study and was composed of the following:

(1) Representatives from National Traffic Safety Committee (NTSC)
(2) Representatives from Ministry of Transport (MOT)
(3) Representatives from Ministry of Public Security (MOPS)
(4) Representatives from Ministry of Education and Training (MOET)
(5) Representatives from Ministry of Health (MOH)
(6) Representatives from Ministry of Finance (MOF)
(7) Representatives from Ministry of Culture and Information (MOCI)
(8) Representatives from Ministry of Justice (MOJ)

(iii) JICA Study Team

The JICA Study Team was organized by ALMEC Corporation in association with Nippon Koei Co., Ltd. It is composed of eleven (12) experts and one (1) coordinator, as follows:

TAKAGI Michimasa	Team Leader/Organization
NAITO Hisatoshi	Traffic Safety Infrastructure
NAGAI Takayasu	Infrastructure Design / Estimation
SAITO Takeshi	Traffic Management / Enforcement
HOSHI Tadamichi	Traffic Safety Education
KOBAYASHI Kunio	First-aid Medical / Insurance
SUZUKI Tetsuji	First-aid System
SEKI Yosui	Driver’s License / Car Inspection / Pilot Project
Nguyen Huu Duc	Financial Analysis / Evaluation
MASUJIMA Tetsuji	Traffic Accident Analysis
FUKUDA Tuenjai	Region and Traffic Safety
IMAI Haruhiko	Traffic Safety Foundation
Nanette T. Abilay	Study Coordinator

PART II CURRENT TRAFFIC SAFETY SITUATIONS, PROBLEMS AND ISSUES

1 CHARACTERISTICS OF THE STUDY AREA AND ROAD TRAFFIC ACCIDENTS

1.1 Profile of the Study Area

After market elements as a part of the broad economic reform package called "Doi Moi (Renovation)" was introduced in 1986, Vietnam achieved around 8% annual GDP growth from 1990 to 1997. Although GDP growth fell to 6% in 1998 and 5% in 1999 due to the East Asian financial crisis in 1997, growth then rose up again even against the background of global recession. Vietnam had an average annual GDP growth of 7.1% from 2000 to 2004, which further increased to 8.4% in 2005 and 8.2% in 2006. GDP per capita however is still at a low level but has increased to USD722 in 2006.

In November 2006, Vietnam became WTO's 150th member. Vietnam's access to WTO should provide an important boost to Vietnam's economy and should help to ensure the continuation of liberalizing reforms and create options for trade expansion. However, WTO accession also brings serious challenges, requiring Vietnam's economic sectors to open its door to increased foreign competition.

Vietnam is now the world's largest coffee, cashew nuts and pepper exporter, and the second largest rice exporter worldwide. Vietnam has the highest percent of land use for permanent crops in the Greater Mekong Sub-region. Besides rice, key exports are coffee, tea, rubber, crude oil, pepper, garments, and fishery products. However, agriculture's share of economic output has declined, falling as a share of GDP from 42% in 1989 to 19% in 2006, as production in other sectors of the economy has risen.

1.2 Motorization and Road Transport Demand

1) Registered Vehicles in Vietnam

(i) Rapid Motorization

In the 1990s, the number of registered motorized vehicles has rapidly increased with high annual growth rates of 17.8% for motorcycle and 7.0% for automobile. The number of motorcycles and automobiles has increased from 1.2 million and 246 thousand in 1990 to 6.2 million and 484 thousand in 2000, respectively.

The number of motorcycles and automobiles has further increased and reached about 19 million and 1 million, respectively, with higher annual growth rates of 20.1% and 12.3%, respectively. In 2007, the vehicle ownership rates are 220 motorcycles and 12 automobiles per 1,000 persons.

(ii) Geographical Distribution

According to the data from the Road and Rail Traffic Police Department under the MOPS which has authority for the registration of road vehicles, automobiles and motorcycles are distributed nationwide but more than a half of them is concentrated

in the regions of South East and Red River Delta where the two major metropolitan areas of Hanoi and HCMC are located. This tendency is more apparent in automobile, sharing 60% of the total.

In HCMC and Hanoi, 224 thousand and 132 thousand of automobiles and 3.3 million and 1.1 million of motorcycles are registered, respectively. Ownership rates of automobile and motorcycle per 10,000 persons are calculated at 37 automobiles and 548 motorcycles in HCMC and 41 automobiles and 349 motorcycles in Hanoi

2) Road Transport Demand

With the development of national economy, transport demand of people and goods is absolutely increasing. In Vietnam, road transport shares a dominant proportion among the total transport demand. In passenger transport, road transport shares 85% in terms of number of passengers and 63% in terms of passenger-km. Besides, in freight transport, it shares 67% in terms of tonnage and 15% in terms of ton-km.

Road transport demand in Vietnam is increasing yearly and opportunity for occurring traffic accident is also increasing. Annual growth rates of road passenger transport demand are 12% in the number of passengers and 8% in passenger-km. In freight transport by road transport, annual growth rates are 9% in tonnage and 8% in ton-km.

3) Traffic Conditions on Major National Highways

Daily traffic volume varies by national highway and by section. Generally, arterial corridors such as national highways of No.1, No.5, No.13, and No.51 have larger automobile traffic volume ranging from 8,000 to 15,000 vehicles in 2004, particularly on the urbanized sections near the large cities of Hanoi, HCMC and Haiphong. On the other hand, the large motorcycle traffic volume of more than 10,000 in 2004 is observed not only on the urbanized sections of arterial corridors but also on the sections in the Mekong River Delta. Some road sections on minor national highways in the central regions, Northeast and Northwest have less than 1,000 vehicles daily.

A mixed traffic of automobiles and motorcycle is significant in Vietnam. Apparently, this traffic situation tends to be a cause of traffic accidents because of traffic conflicts between vehicles with different running speeds and body size. Traffic volume of motorcycles accounted for more than 65% of the total traffic or 19 times of automobile in terms of vehicular traffic volume. In general, proportion of automobiles in the traffic on national highways is relatively higher compared to the traffic on the other lower classed roads such as provincial/city and district roads, since national highways are mainly used for long-distance trips. In the urbanized areas such as in Hanoi and HCMC, traffic volume of motorcycles accounted for more or less 90% in terms of vehicular traffic volume.

1.3 Traffic Accident Analysis

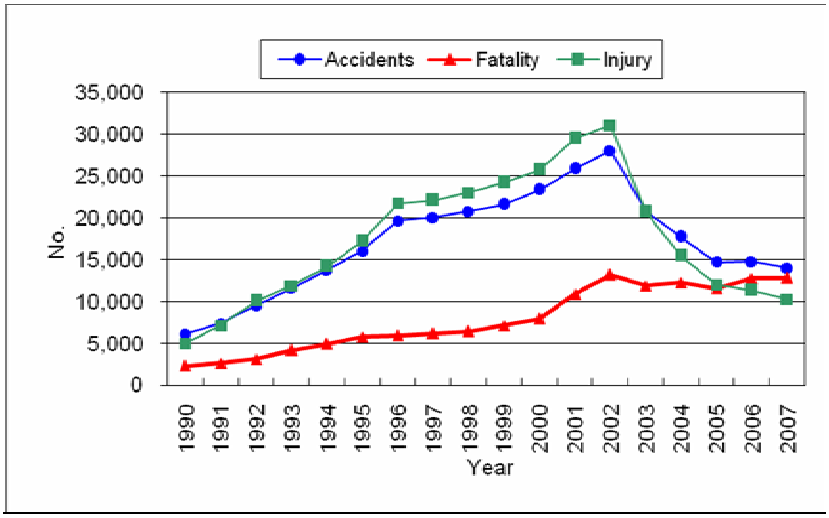
Vietnam’s traffic accident situation is worsening and is getting more serious than that of other ASEAN countries. Recently, traffic accidents have become critical social problems and traffic safety is addressed as one of the urgent policy issues of the government.

1) Road Traffic Accidents in Vietnam

(i) Trend of Road Traffic Accidents

In 2007, there were 13,985 road traffic accidents which resulted to 12,800 fatalities and 10,266 injuries. The road traffic accidents increased rapidly from 1990 to 2002, the peak year of traffic accidents, with an annual increase rate of 13.5%. During this 12-year period, the number of fatalities has particularly increased 5.8 times. The number of accidents, fatalities and injuries has reached 27,993, 13,186 and 30,999, respectively. However, the number of traffic accidents and injuries dramatically fell after 2003, although the number of fatalities remained high and relatively constant around 12,000 per year.

Figure 1.3.1 Road Traffic Accidents in Vietnam (1990-2007)



Source: National Traffic Safety Committee (NTSC)

(ii) Traffic Accident per Population

Rates of accidents and injuries were increasing until 2002, but decreased later by less than 2 per 10,000 persons. However, fatality rate was still high at about 1.5 per 10,000 persons.

(iii) Traffic Accident per Motorized Vehicles

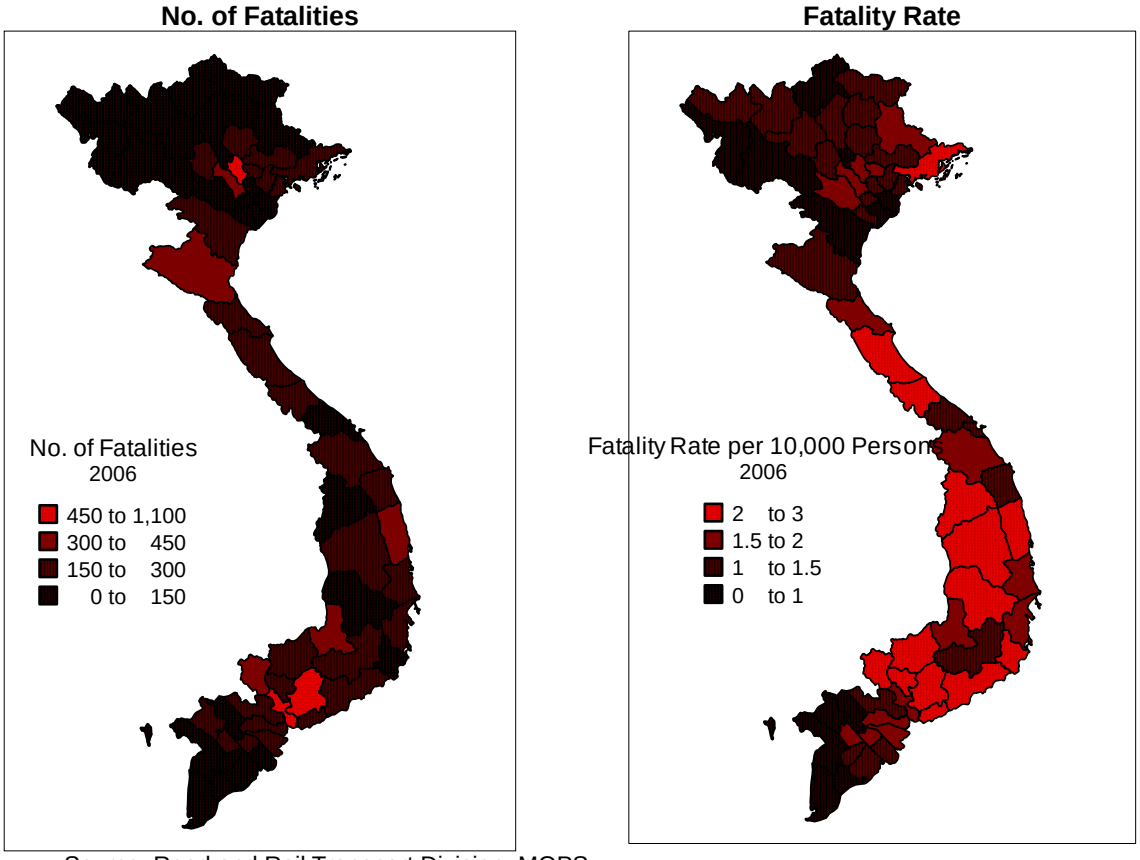
The number of road traffic accidents has been increasing as the number of motorized vehicles including motorcycles increased. This is due to the rapid motorization that Vietnam has been experiencing since the 1990s. As statistics would show, from 1900 to 2006, the number of motorized vehicles has sharply increased 13.5 times (4.0 times in cars and 15.4 times in motorcycle). On the other hand, the rates of accidents and injuries are sharply decreasing through the years. However, fatality rate still remains at a critical level of 6.5 per 10,000 motorized vehicles.

(iv) Geographical Distribution of Traffic Accidents

Traffic accidents are occurring nationwide. However, more than 40% of accidents with nearly 6,000 fatalities are occurring in South Vietnam in 2006. HCMC accounted for 9% of the total accidents with more than 1,000 fatalities. In terms of rate per population, the regions of Southeast, Central Highlands, South Central

Coast and Northeast indicated higher rate in each indicator of accident, fatality and injury.

Figure 1.3.2 Number of Accident Fatalities and Fatality Rate by Province (2006)



Source: Road and Rail Transport Division, MOPS

2) Comparison with Other ASEAN Countries

According to the traffic accident data of ASEAN countries, the level of traffic safety in Vietnam is very low. Regarding the total number of fatalities, Vietnam ranked third after Thailand and Indonesia in 2000 but has overtaken them to become No.1 by 2006.

In terms of fatalities to rate of population, Vietnam's figure is 1.5 per 10,000 persons in 2006 and ranked third after Malaysia (2.6) and Thailand (2.0). In terms of fatalities to motorized vehicles including motorcycle, Vietnam's figure is 6.5 per 10,000 vehicles and again ranked third after Myanmar (24.3) and Laos (19.1). In comparison, fatalities in Japan are 0.7 per 10,000 persons and 1.0 per 10,000 motorized vehicles.

3) Analysis of Traffic Accident Data

Detailed data and information for nationwide traffic accidents compiled in a comprehensive database format is not available yet. The detailed data and information of each traffic accident is still kept with the local level and only representative data such as number of traffic accidents, fatalities and injuries are reported to the central level.

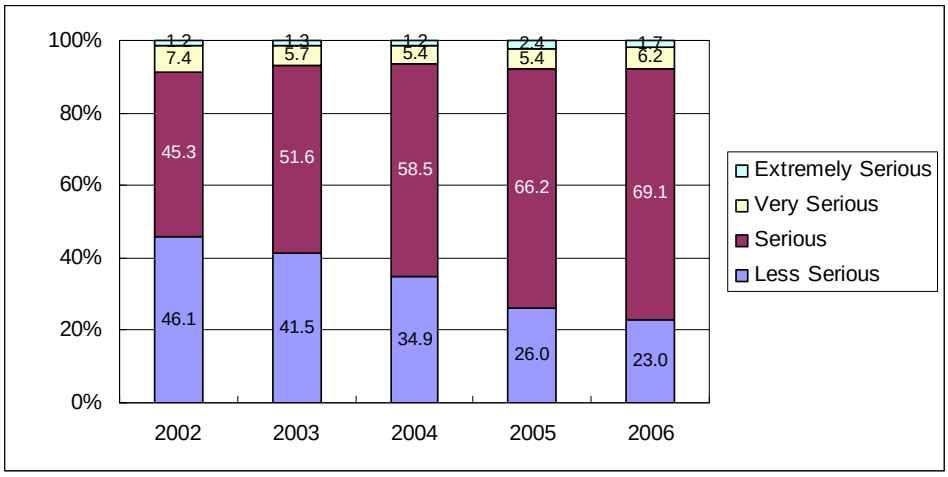
Therefore, in this Study, available data and information were collected by MOPS from the provincial departments of public security and simple analysis was conducted for the major items.

(i) Accident Type

Accident type is defined by MOPS in its Decision 768/2006/QD-BCA (C11) issued on 20 June 2006, and classification is basically dependent on the seriousness of accident such as number of fatalities, injuries and property losses, etc.

The serious accidents accounted for about 70% of the total accidents and the very serious and extremely serious accidents accounted for less than 8% of the total. Proportion of the serious accidents has been increasing as proportion of the less serious accidents has been decreasing since 2002.

Figure 1.3.3 Traffic Accidents by Accident Type (2002-2006)

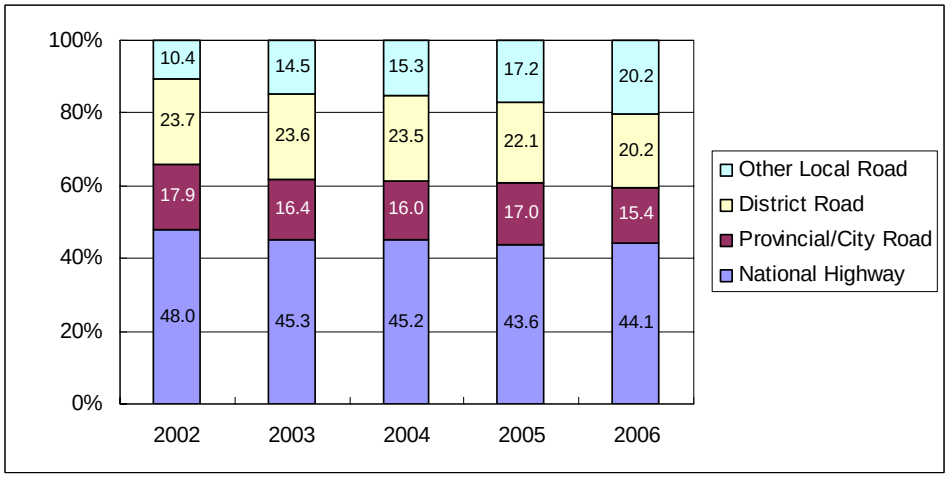


Source: Road and Rail Transport Division, MOPS

(ii) Road Classification

Almost half of road traffic accidents have occurred on the national highways where traffic volume and cruising speed are higher than other road. Proportion of the other local roads has been gradually increased from 10% in 2002 to 20% in 2006.

Figure 1.3.4 Traffic Accidents by Road Classification (2002-2006)



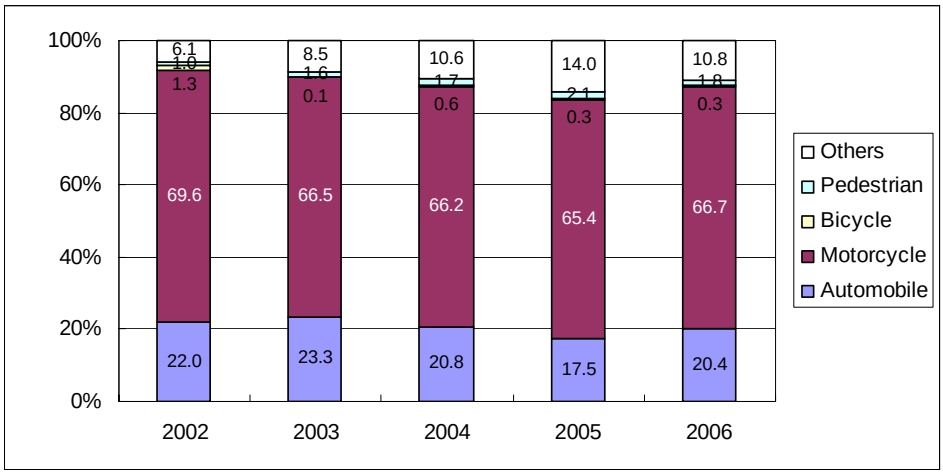
Source: Road and Rail Transport Division, MOPS

(iii) Vehicle Type

By vehicle type, 67% of road traffic accidents were caused by motorcycle, 20% by automobile and 13% by other road users including bicycle and pedestrian from

2002 to 2006.

Figure 1.3.5 Traffic Accidents by Vehicle Type (2002-2006)



Source: Road and Rail Transport Division, MOPS

(iv) Accident Causes

Most road traffic accidents in Vietnam are caused by road users' errors, among which, speeding is the primary cause accounting for 25%. Road infrastructure, especially national highways, has improved significantly in the last decade, but drivers' mindset has not changed accordingly. As a result, road users tend to speed up in highways with relatively less traffic. Wrong overtaking by trucks, buses and passenger cars expose low-speed vehicle, such as motorcycles and bicycles, to great risk in a mixed traffic situation.

Table 1.3.1 Traffic Accidents by Cause (2002-2006)

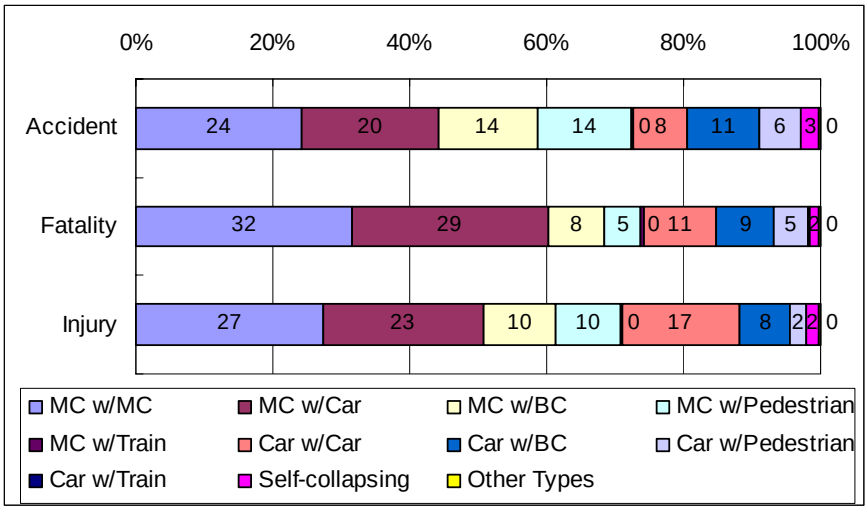
Causes	Proportion (%)				
	2002	2003	2004	2005	2006
1.Speeding	24.4	24.1	26.0	25.8	24.8
2. Wrong Overtaking	18.9	16.8	15.8	12.7	13.7
3. Wrong Lane Shifting	17.0	17.6	16.5	16.7	18.0
4. Turning Direction without Turning Signal	4.1	3.4	2.4	1.6	1.7
5. Passing Intersection with Red Signal	1.1	0.1	1.7	0.6	0.2
6. Not Keeping Safe Distance	6.9	0.9	2.4	1.8	0.4
7. Careless Driving	15.9	12.1	8.1	10.0	8.2
8. Careless Crossing of Pedestrians	0.7	2.3	2.9	3.2	2.6
9. Others	11.0	22.7	24.2	27.6	30.4

Source: Road and Rail Transport Division, MOPS

(v) Collision Type

In 2001, more than 60% of fatalities are caused by accident between motorcycles and motorcycle with automobile. In the case of injury, accident between automobiles has higher proportion of 17% compared to other accident indicators such as the number of accidents and fatalities.

Figure 1.3.6 Traffic Accidents by Collision Type (2001)

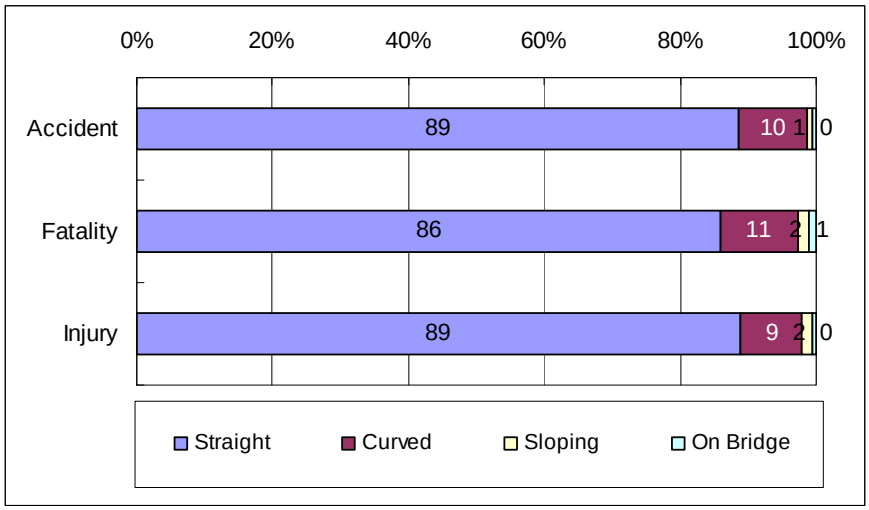


Source: People's Police Academy (Sampled Data Analysis)

(vi) Road Section

About 90% of accidents occurred on the straight section of the road. In the case of fatality, accidents occurred on the curve section has relatively higher proportion (about 11%) as compared to the number of accidents and injuries. Most of these accidents occurred at intersections without any control.

Figure 1.3.7 Traffic Accidents by Road Section (2001)



Source: People's Police Academy (Sampled Data Analysis)

2 TRAFFIC SAFETY INSTITUTIONAL FRAMEWORK DEVELOPMENT, POLICIES AND PLANS

2.1 Organizational Framework for Traffic Safety

Relevant organizations and their responsibilities for traffic safety are briefly as follows:

1) Government

The Government is responsible for supreme power execution in front of National Assembly.

2) NTSC

The NTSC is responsible for coordinating traffic safety efforts and report the situation in the whole country to the Government. It has two main functions: (1) overall coordination and organization of all traffic safety activities and (2) monitoring of the traffic safety situations in local areas for reporting to and consideration of the Prime Minister.

Thus, the NTSC is a Coordinating State Agency and therefore does not play the role of a Traffic Safety State Management.

The members of NTSC are concurrent leaders from related ministries: MOT, MOPS, MOET, MOH, and MOF, MOCI, and MOJ. This shows that the Government considers traffic safety as a comprehensive undertaking which needs to be ensured by participations of all related agencies.

The NTSC leaders, with the exception of the Chairman, are officers at vice-minister post or head of ministerial agency. This shows that NTSC is not an Inter-ministerial agency but instead, only an inter-ministerial coordination agency.

The Standing Office of NTSC established by the Decision No. 16/1998/QD-UGATGTQG dated 6 February 1998 plays an executive role. Besides the administrative jobs, this Standing Office has a focal position in the NTSC with three specialized tasks.

3) MOT

The functions and responsibilities of MOT are to set strategies and policy directions, and, through its statutory agencies, to ensure the operations and regulatory functions and duties are being carried out.

Subsector agency under MOT such as the VRA is responsible for managing, monitoring and investing in transport infrastructures of its subsector. The VRA was established in 1993 as a subordinate agency to the MOT responsible for national road administration, from planning through construction and maintenance.

4) MOPS (General Department of Police)

Road and Railway Traffic Police Bureau is responsible for managing and monitoring road and railway traffic accidents, and enforcing road and railway traffic rules and regulations.

Social Order and Administrative Management Police Bureau is responsible for dealing with pavement and roadway encroachment, illegal construction and preventing illegal motorbike races.

Criminal Police Bureau is responsible for investigating serious, very serious and extremely serious traffic accidents.

5) MOET

The MOET is responsible for educating and disseminating traffic laws and regulations in schools and universities.

6) MOH

The MOH is responsible for giving emergency treatment, supporting and curing injuries caused by traffic accidents.

7) Provincial and Municipal Traffic Safety Committees

These are responsible for giving advice on local traffic safety to the chairmen of provinces and cities.

8) TUPWS/PDOT

The TUPWS/PDOT is responsible for State administration on matters of transport infrastructures, transport means, drivers, traffic accidents, and transport inspectors.

9) Local Traffic Police

The local traffic police is responsible for enforcing traffic rules and regulations, dealing with traffic accidents, collecting traffic accidents data at local level, and making reports.

10) Some other related agencies with specific responsibilities relating to the traffic safety.

2.2 Traffic Safety Development Plans and Projects

1) Vietnam Road Safety Project (VRSP) by the World Bank

The project development objective of VRSP is to reduce the rate of accidents, injury, and death associated with road transport through physical improvement and institutional development to strengthen the management of road transport safety. Project implementation started last 1 July 2005 and is expected to be completed by 30 June 2009.

The project has three components:

(i) Component A. Institutional and Capacity Building Program

(ii) Component B. Road Safety Demonstration and Awareness Program

This component will develop and implement comprehensive, integrated safety programs along three high-risk national road corridors. The three demonstration corridors that have been identified for inclusion under the project are: (i) National Highway 1 between Hanoi and Vinh (281 km); (ii) National Highway 1 between Ho Chi Minh City and Can Tho City (151 km) and (iii) Highway 51 from Dong Nai province to Vung Tau (80 km).

(iii) Component C. Road Safety Monitoring and Evaluation Program

2) National Road Action Plan by the Asian Development Bank (ADB)

In 2004, ADB supported the 10 ASEAN nations with the implementation of a Regional Road Safety Program. The Road Safety Action Plan in Vietnam was produced as part of this Program and follows Action Plan Guidelines published by the UN, ADB and the WB. The experts tried specifically to tailor to the particular needs and the operating conditions in Vietnam.

3) Hanoi Traffic Safety Human Resource Development Project (TRAHUD) by JICA

This is a 3-year technical assistance project funded by the Government of Japan through JICA. The objective of this Project is to improve the traffic safety measures in Hanoi. It is expected that the results of this Project will have direct and indirect effects

towards improving the road traffic conditions in Hanoi (as the Overall Goal). In addition, the Project is also expected to achieve a safe and orderly road traffic environment in Hanoi which properly abides traffic safety rules and regulations, and that such environment shall be replicable to other cities of the country (as the Super Goal).

4) Special Assistance for Project Formation for Traffic Safety Improvement Project in Vietnam (JICA)

(i) Highway No 3, 5, 10 and 18 Traffic Safety Improvement Portion

(ii) Hanoi Portion: To improve the traffic safety in 16 routes

5) General Views on Current Traffic Safety Activities

Taking into consideration the activities conducted in Vietnam over the past 20 years, the general trend of traffic safety in Viet Nam is that while the rate of traffic accidents is rapidly increasing and the nature of accidents becoming more and more serious, the required traffic safety activities are those of comprehensive nature and should be implemented in a more professional and effective manner.

The Government is implementing activities which have phased implementation nature: middle- and long-term and short-term.

(i) Medium- and Long-term Activities for Traffic Safety

There are two significant actions towards achieving this, as follows: (i) scheme towards improvement and ensuring of national traffic safety condition until 2010 and (ii) strategy to ensure the national traffic safety until 2020 and vision for 2030. A task force headed by the Chairman of the NTSC Standing Board has been formed to prepare this Strategy.

(ii) Current Activities for Traffic Safety

A general wave of implementation of the Government's Resolution No 32/2007/NQ-CP dated 29 June 2007 on some urgent measures to dominate traffic accidents and congestions is being undertaken at present.

2.3 Road Traffic Law and Regulation

1) Road Traffic Law (2008) and Traffic Safety

A revision to the 2001 Road Traffic Law was made and in 2008, the revised Road Traffic Law (2008) has been approved and shall become effective from 1 July 2009. Compared with the 2001 version, the recently approved law includes stipulations not only on road traffic regulations, but also for road infrastructure, vehicle, road users, road transportation, and state management over road traffic. In particular, the revised version has provided more attention to traffic safety.

Article 84, item 1 stipulates that "drawing up and directing the implementation of national programs on traffic safety" belongs to state management over road traffic. Thus, the responsibility of the Government and concerned ministries (MOT, MOPS, etc.) on traffic safety is allocated under their road traffic responsibilities.

The Road Traffic Law (2008) has the following concrete measures:

- Emphasis on propaganda, dissemination and education on legal regulations (Article 7);
- Responsibilities of individuals, agencies, organizations with traffic accidents are clarified in Article 38;
- Measures and facilities for traffic safety on road are emphases in Chapter III;
- Etc.

2) On the Implementation of the 2008 Road Traffic Law

Despite the better quality and form of the present Road Traffic Law, its successful implementation will still require a lot of hard work.

First, all legal documents stipulated under the law should be prepared and approved. As MOT has projected, there should be 48 such documents including 10 Decrees of the Government, 32 Circulars of various ministries, and 6 legal documents of the Provincial People's Committees. This seems to be a major undertaking and most of them are still in the preparation phase only.

Second, there are various measures that are quite new for the Vietnamese people and their implementation seems not easy and would require the efforts of the whole political system. For example, the Law requires the installation of something similar to a black-box (itinerary control equipment) on cars involved in the transportation business. Also, the car driver and the front seat passenger should use belt.

At present, the NTSC and related ministries are trying to set up conditions for law implementation and proposals from this Master Plan seem to be very useful and timely.

2.4 Traffic Safety Budget and Allocation

Although the Government has always given priority to allocation of budget for traffic safety, the budgetary constraints all the more make it necessary for Government to have a planned budget and allocation for traffic safety.

(i) Traffic Safety Expenditures

The Traffic Safety Expenditures consist of five main contents: Engineering, Emergency, Enforcement, Education and Promotion/Information Campaign, Activities and routine expenditure of Traffic Safety Agencies.

(ii) Traffic Safety Financial Resources

To meet these expenditures, there are five main Traffic Safety Financial Resources:

- State budget is the most important part and covers mainly all engineering works, all NTSC activities; a major part of traffic safety education in the schools, information campaign in the community, etc.
- Receivables from fines of Traffic Regulation Violations: This revenue is the second largest source of funds for traffic safety and it seems to be enough for traffic safety activities in the local areas (except engineering works).
- Sponsors: mainly for traffic safety education/information campaigns

- Insurance firms: mainly for medical treatment of traffic accident patients; in some cases for traffic safety facilities such as spherical mirrors, rescue road, etc.
- Other Social Contribution (such as from traffic accident patients or their family, people who have caused traffic accidents, etc.) mainly for medical treatment, especially in the case of very/extremely serious traffic accidents with a high numbers of fatalities and/or injuries.

(iii) Traffic Safety Budget Allocation Regulations

This allocation is regulated mainly by related Circulars of the MOF and/or Decision of MOT in reference of expenditure kinds and budget sources. It is remarkable that the state budget (central and/or local) through MOT and MOET cover a majority of expenditures for engineering works and traffic safety education in the schools.

The expenditure of medical emergency is mainly covered by state budget and social contributions (insurance firms, patient and family relatives, the traffic accident offender, etc.)

3 IDENTIFICATION OF CURRENT TRAFFIC SAFETY ISSUES

3.1 Identification of Key Traffic Safety Policy Issues

In the previous chapter, existing traffic accident situations and various efforts implemented by the concerned organizations, agencies as well as international donors were discussed. Effectiveness of those efforts, however, has not been fully realized and was not adequate to completely eradicate traffic accident situations. In fact, the traffic accident situation is even getting more serious due to the rapid expansion of the motorization not only in urban areas but also in the rural areas. In this chapter, traffic safety issues will be identified based on the analysis of the present situations and shall be categorized into specific themes to be able to develop a strategic traffic safety policy.

Traffic safety measures are generally developed based on the three fundamental elements of any transportation activity, that is: Person, Vehicle and Road Environment. After careful consideration of the integration of these three elements, appropriate traffic safety countermeasures can be formulated.

While the rate of motorization is rapidly increasing, institutional improvements which include human and financial resources development, are lagging behind. Thus, a new traffic safety strategy and master plan is urgently required to focus on both aspects of traffic safety: formulation and implementation of effective countermeasures and institutional development.

In order to develop a comprehensive and strategic plan, various kinds of issues will be categorized according to focus areas based on the three fundamental elements and respective responsible sectors, namely Key Policy Issues. The key policy issues will be further elaborated for the implementation, namely Planning Issues. The planning issues will be identified based on the current traffic accident situations and existing policies on traffic safety, as well as referred to the experiences in other developed countries.

Table 3.1.1 Identification of Key Traffic Safety Policy Issues (Focus Areas)

	Pre-Accident Policy Issue			Post-Accident Policy Issue
	Road Traffic Environment	Person	Vehicle	
MOT/PDOT/TUPWS (Engineering)	**1** ■ *Safety Road Development* ■ *Traffic Safety Facilities Development* ■ *Appropriate Traffic Management* ■ *Traffic Safety* Under Construction	**2** ■ Drivers' Licensing System ■ Driver Education and Management ■ Traffic Safety Management in the organizations	**2b** ■ Vehicle Inspection System	
MOPS/PDPS/DTP (Enforcement)	■ Traffic Control and Regulation	**3** ■ Traffic Law Enforcement	■ Vehicle Registration System	■ Accident Investigation **3**
MOET/DOET (Education)	**4a**	■ Traffic Safety Education in School		
MOH/DOH (Emergency)			**5**	■ Medical Emergency System ■ Accident Insurance System
Propaganda (Education)	**4b**	■ Traffic Safety Culture ■ Campaigns/ Publicities		
Inter-sectoral Themes	**6a** ■ Institutional Strengthening (Laws and Regulations, NTSC Function, etc)			
	6b ■ Research and Development (Database, Information system, etc)			
	6c ■ Resource Development (Human and Finance)			

MOT:	Ministry of Transport
PDOT:	Provincial Department of Transport
TUPWS:	Transport and Urban Public Works Service
MOPS:	Ministry of Public Security
PDPS:	Provincial Department of Public Security
DTP:	Department of Traffic Police
MOET:	Ministry of Education and Training
DOET:	Department of Education and Training
MOH:	Ministry of Health
DOH:	Department of Health

6 Categories and 13 Key Issues Area	
1	Road Safety Environment Development
2	Safety Driving and Vehicle Safety Development
a	Safety Driving
b	Vehicle Safety
3	Traffic Control and Enforcement Development
4	Traffic Safety Education and Propaganda Development
a	Traffic Safety Education
b	Traffic Safety Culture/Campaign
5	Medical Emergency and Accident Victim Support System
6	Institution and Resource Development
a	Administration
b	Research and Development
c	Resource Development

Source: JICA Study Team

3.2 Summary of the Existing Traffic Safety Problems

The existing situations and problems which were mentioned in the previous chapter will be summarized to identify policy and planning issues for the Master Plan. The identified situations and problems will be divided into intersectoral and sectoral situation and problems including Engineering, Enforcement, Education, and Emergency sectors.

1) Intersectoral Situations and Problems

Despite the GOV's enormous efforts towards eradicating serious traffic situations, the traffic safety situation has not improved yet. In line with its continuing efforts, the Government has recently issued Resolution No. 32 to urgently strengthen the traffic safety countermeasures being implemented. The Resolution states that starting 15 December 2007, the new regulation for wearing of helmets for M/C users is going to be implemented. Together with good coordination and commitment among the responsible agencies including international donors, this is expected to remarkably increase people's awareness on traffic safety, thus, a good example of a comprehensive traffic safety program. What is important now is how to make this program sustainable until wearing of helmet already becomes a habit of M/C users, and thus, part of the culture of Vietnam's traffic society.

However, traffic safety measures are not limited to wearing of helmets; needless to say, there are a lot of issues to be addressed in road traffic safety. The most significant and current overall intersectoral issue is how to establish an appropriate institutional mechanism for sustainable development and implementation of traffic safety policies which will be flexible enough to adapt to demand of future economic development and increase in rate of motorization. Crucial inhibiting factors are human and financial resource development, as well as organizational strengthening.

2) Subsectoral Situations and Problems

(i) Infrastructure/Traffic Management

Rapid motorization and insufficient road capacity/network are the main causes of the present traffic congestions being experienced particularly in major urban areas. Although congestion may be one of the causes of a traffic accident, the main cause of a traffic accident however is human error, particularly reckless driving and ignoring of traffic rules and regulations.

While improvement of the human errors will be addressed by the education and enforcement sectors, it is equally important that appropriate geometric design and safety facilities, as well as sufficient information, be provided to minimize, if not totally avoid, the human errors. At present, VRA is improving the black spots as an urgent countermeasure to avoid future traffic accidents. However, there are some factors which hinder smooth project implementation such as lack of accident data and budgetary constraints.

Encroachment on the road safety corridors is another major issue in this sub-sector. While directives on the preservation of the safety corridor has been clearly stipulated in various Government documents, however, required accompanying implementing guidelines have not been formulated enough to secure the corridors,

particularly on the responsibility of the local governments.

(ii) Transport Operation

Three areas will be discussed in this subsector: licensing system, vehicle inspection and transport operation.

With regards to the licensing system, the training and testing system for more than 4-wheel vehicles requires a much longer training program and stricter testing. On the other hand, the system for motorcycle licensing is conducted with much ease, with requires only a minimum operation skill and basic knowledge on traffic rules and regulations. Thus, it may be construed that a specific feature of Vietnam's road traffic condition is that majority of its road users do not have adequate knowledge or understanding of traffic rules and proper driving behaviors. Also in relation to the licensing system is the lack of training and testing centers especially in the rural areas.

The vehicle inspection system in Vietnam has generally improved with the establishment of the Vietnam Register (VR). However, there is still no technical inspection regulation for M/C. In addition, the database on vehicle registration, which is very important information for enforcement, is still limited at the local levels since there is still no nationwide network communication that can link these local databases.

Recent economic development is accelerating the demand for long distance transport for both freight and passenger traffic. Nowadays, serious traffic accidents are frequently reported involving trucks and buses travelling long distance. In the same manner, traffic accidents in the urban areas are usually caused by reckless driving involving buses, trucks or taxis. And when such accidents happen, traffic violation is assigned to the responsible drivers while there is no penalty imposed on their respective transport operators.

(iii) Enforcement

While enforcement capacity has been further expanded recently, it is still not adequate to meet the increasing traffic demand and traffic law violations. Lack of enforcement facilities and equipment is also limiting the effectiveness of the enforcement efforts. Given such limitations, strategic enforcement planning based on traffic accident and violation data will be required.

Data would show that the major cause of traffic accident is still human error. Thus, traffic safety education's main thrust should be how to increase peoples' level of awareness and consciousness on traffic rules and regulations. But education in itself may not be enough to change peoples' road traffic behavior, thus, effective traffic enforcement also becomes indispensable. People observe that new roads kill more people, thus this implies that facility development will also not be enough to ensure traffic safety. After facility improvement, preservation of traffic safety will very much depend on sustainable and effective enforcement activities. As already mentioned, while traffic enforcement has been increasing rapidly due to increase in volume of traffic, capacity and capability of the traffic police has yet to be upgraded. In addition, traffic enforcement is not only faced with lack in facilities and equipment

but also lacks in planning capacity as well as human and financial resources.

Traffic accident and enforcement data is one of the basic data information not only for traffic enforcement but also for engineering improvement and traffic safety education program. However, the database is not yet developed at present.

(iv) Education and Information Campaign/Propaganda

Despite traffic safety education being part of school education system's curriculum from kindergarten to secondary level, it is still considered to be in the development stage. Several issues remain to be urgently addressed and requiring improvement. Moreover, despite several years of implementation, a systematic evaluation is yet to be established to determine the effectiveness of the current program. If the students' behavior is to be set as basis for evaluating effectiveness of the program, then it can be said that remarkable progress is yet to be achieved by the present school traffic education program. Thus it is important to have proper coordination with home/community and other social institutions be ensure effectiveness of traffic safety education programs.

In other developed countries, importance of traffic safety education for the very young children as a future road user is strongly emphasized. Another issue faced by traffic safety education and campaign subsector is organizational constraints, wherein there is no clear allocation of responsibilities on activities, particularly those outside of the school.

(v) Medical Emergency

Development of the medical emergency system is one among the important factors of a post-accident measure to save peoples' life. Emergency Medical Center (Call 115) has been introduced sometime ago; but at this moment, the service is available only in major urban areas. Moreover, even in the areas where the system is available, the usage of the service is very limited because of the poor facilities and lack of ambulance vehicles.

Current situation of the medical emergency system is still very poor, particularly in the district hospitals which are subsequently overloaded to the Central and Provincial hospitals.

In general, insurance system is not yet well established. As there is still limited coverage, some of traffic accident victims cannot cover their own medical expenses.

3.3 Assessment of Road Traffic Accident Risk until 2020

Apart from the humanitarian aspects of the road safety, traffic accidents have serious social and economic implication. Deaths and serious injuries as a result of traffic accidents represent a considerable waste of a nation's resources and cause anguish and grief to family and friends of those killed or maimed. Even if the emotional consequences of traffic accidents are ignored, the cost to the community in purely economic terms is high. Research in a number of countries indicates that such losses are normally in the range of 1 percent to 5 percent of a country's GDP.

Socio-economic losses due to traffic accidents could be calculated based on the two main information sources: (1) accident cost and (2) traffic accident data.

Accident costing highlights the socioeconomic burden of road accidents. Developing countries like Vietnam are faced with many challenges and have many resource needs. The knowledge of the material losses is one among essential aids for decision-makers in considering proposals to spend budget for traffic safety.

Knowledge of accident costs allows safety impacts to be economically justified. Road safety measures have been frequently ignored or downplayed in cost benefit analyses on the grounds that the associated costs and benefits are too intangible. Where road safety is included in cost benefit analyses of road improvements, it is often only factored on a subjective basis and so does not get applied in the consistent manner required for project comparisons. So road safety has generally been severely underfunded for it is not possible to prove its cost-effectiveness without the use of road accident cost values.

The Study team has used the Human Capital Method to review this estimation with updated data. The Costs are calculated separately for four Accident types: Fatal, Serious Injury, Minor Injury, and Damage-only, and the proportion among these accident types is found in the Accident-Injury Pyramid of Vietnam officially published by the MOH.

The losses due to road traffic accidents in 2007 are estimated at 2.89% of GDP with an amount of about VND32,600 Billion (about USD2 Billion).

The value 2.89% is higher than the 2.80% (of GDP) “threshold” by ESCAP formula. For 2007 only, the absolute economic losses reached a huge amount of USD2 Billion. This therefore justifies economically the conclusion of Resolution No 32/2007/CP-NQ dated 29 June 2006 that traffic accidents have now become “extremely serious and crucial social concern”.

Based on the published socio-economic development planning, annual growth rate of GDP is 8% while population growth rate is 1.25% for 2008-2010 and 1.18% for 2011-2020. This leads to the projected annual growth rate of GDP per capita of 6.67% for 2008-2010 and 6.74% for 2011-2020.

As mentioned in Chapter 2, an increasing rate of road traffic accidents until 2020 at about 8-10% per year is estimated under the assumption that conventional traffic safety measures will be maintained with no major traffic safety projects/program implemented. This rate is a little higher than that of GDP, but for purposes of simplification, the economic losses percentage is proposed to remain at 2.89%.