

PART III NATIONAL TRAFFIC SAFETY MASTER PLAN 2020

1 INTRODUCTION

Objective of the master plan study is to formulate strategies which can reduce the number of road traffic accidents and develop desirable living environment. Road traffic accidents are caused by various factors and the causes of traffic accident are bound to change depending on socio-economic situations. Thus, long-term planning is of utmost importance and makes it necessary that during this master planning exercise, the following two areas are properly addressed:

- 1) Development of countermeasures that can alleviate road traffic accidents at present as well as in anticipation of the highly- motorized traffic society in the future.
- 2) Development of institutional fundamentals for the sustainable development of traffic safety policy and measures.

An overall national target and subsector targets on traffic accident reduction shall be established. To achieve these set targets, possible alternative strategies will be developed, evaluated and finalized to come up with the most feasible option.

2 FRAMEWORK DEVELOPMENT FOR THE NATIONAL ROAD TRAFFIC SAFETY MASTER PLAN

2.1 Formulation of Mission Statement for Road Traffic Safety

The appropriate mission that should be inspiring and understandable for the Vietnamese people will be confirmed by the Government of Vietnam. The 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”.

2.2 Establishment of Goals and Target of Master Plan

In order to show a stronger mission statement for this master plan, a numerical target, even if reliability is not so high, will be proposed so that socio- economic benefit derived from the measures can be estimated and evaluated in the proposed policies. At the same time, qualitative target for institutional issues will also be examined.

The following two targets will be proposed for the road traffic safety master plan:

- 1) To reduce the number of fatalities into half (based on 2007 figures). The Implementation of the Master Plan should ensure that by 2020, traffic accidents will cease to be a serious and crucial social concern. This can be validated by the above reduction rate of absolute number of fatalities. A careful analysis shows that this target corresponds to three other equivalences:
 - the fatalities rate per 100,000 population less than 6.4%;
 - the fatalities rate per 10,000 vehicles is less than 1.2-1.8%
 - a reduction of 5.2% in traffic accidents per year against previous year, in terms of the absolute number of fatalities.

- 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.

2.3 Basic Strategies for the Traffic Safety Measures in the Master Plan

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 (Medical Emergency)
- 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) How to ensure sustainable human and financial resource development is another critical issue that should be closely considered. During this master plan period, systematic collaboration with higher education institutions such as universities and other academic organizations are established including a post graduate training system. At the same time, responsible organizations in government shall establish necessary units/departments/ committees for traffic safety development in their respective organizations.

For financial resource development, a new mechanism with private sector involvement was examined during this master plan period.

It is also important to fully and effectively utilize ODA projects such as Hanoi Traffic Safety Human Resource Development Project (JICA), Vietnam Road Safety Project (WB), Injury Prevention Project (WHO), Northern Region Trunk Road Traffic Safety Project (JICA), among others.

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. Periodic communication and knowledge sharing activities among the agencies were the initial activities.
- 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) There has been remarkable technology development in the automobile industry which has expanded in the developed countries such as Intelligent Transportation Systems (ITS), safety vehicles and advanced equipment for enforcement, supporting system to minimize human errors, etc. However, acquisition, operation and maintenance of such systems require massive investment, aside from the required additional highly-skilled manpower. 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.

2.4 Focus Areas for the Achievement of the Master Plan's Targets

Emphasis was given on the following six (6) areas:

- (i) Motorcycle Accident
- (ii) Black-spot and Black-section on National Highways
- (iii) Traffic accidents and Congestion in the urban areas
- (iv) Accidents involving young population
- (v) Traffic accidents involving privately-operated commercial and public transport vehicles
- (vi) Caring for traffic accident victims

The other target of the Master Plan is institutional innovation for the sustainable traffic safety development. While many institutional issues exist in both the sectoral and intersectoral systems, the following institutional issues shall be examined.

- (i) Status of National Traffic Safety Committee (NTSC)
- (ii) Traffic Safety Law and its Implementing Guidelines
- (iii) Traffic Safety Institute (Center)
- (iv) Traffic Safety Foundation
- (v) Traffic Safety Audit
- (vi) Traffic Impact Assessment
- (vii) New Driver Licensing System (periodic renewal and licensing for less than 50cc) and Vehicle Inspection for Motorcycle
- (viii) Traffic Safety Driving and Internal Operation Inspector System
- (ix) Clear responsibility on Traffic Control and Management
- (x) Comprehensive Automobile Insurance System and Voluntary Insurance System

3 SECTORAL TRAFFIC SAFETY DEVELOPMENT STRATEGIES AND PROGRAM

3.1 Desirable Road Safety Environment Development

1) Engineering Sector Development Policy and Strategies

In the engineering sector, targets are set not only based on the present critical issues and problems facing traffic safety but also in coordination with ongoing policy of the GOV. The sector goal is towards system development for a desirable road environment to minimize traffic accident risk.

In line with the basic strategies discussed in the previous section, six (6) strategies for the engineering sector are reformulated:

- (i) To improve road physical conditions (road structure and geometric) to provide safe and comfortable driving environment;
- (ii) To improve traffic control and management devices to provide safety guidance to the drivers and road users;
- (iii) To develop effective measures in line with road functions and traffic conditions (accidents and demand) with scientific approach;
- (iv) To promote comprehensive measures for the focus target and areas such as Black Spot, School Zone, Residential areas, etc.
- (v) To improve institutions (organization, rules and regulations, R&D, Database, etc.) to ensure sustainable road safety environmental development; and
- (vi) To ensure sustainable human and financial resources development.

Engineering measures shall be developed based on two perspectives: one is to provide physical improvement such as geometric improvement, and the other is to provide appropriate and adequate information to the road users who are not familiar with traffic rules and regulations. Lack of people's awareness on safety and on the traffic rules and regulations should be taken into consideration.

Priority program for the Master Plan will be identified based on the focus areas examined as shown in Figure 3.1.1.

Figure 3.1.1 Traffic Accident Matrix in Vietnam

(%)	0	10	20	30	40	50	60	70	80	90
Where	National Highway				Province/ City road		District road		Local road	
Who	Motorcycle						Car		Others	
Why	Speeding		Wrong overtaking		Wrong lane shifting		Careless driving	Others		

Source: People's Police Academy, Road and Rail Transport Division, MOPS

2) Alternative Engineering Measures

Given the various possible engineering countermeasures, each target location shall be evaluated and proposed an appropriate measure based on local conditions. Table 3.1.1 shows alternative engineering countermeasures, divided into the structural measures

and driver guidance measures. For each target location, several measures may be appropriate; for example, symptomatic measures and radical/preventive measures. In order to select the most appropriate measure, scientific analysis will be very important based on traffic accident data and other traffic-related data. Table 3.1.2 shows typical countermeasures by road functions.

Table 3.1.1 Road Safety Engineering Measures

Cause of Accident	Structural Measures	Control / Guidance, etc.
Facility: - Encroachment - Insufficient Intersection Facilities - Narrow road width - Insufficient Road alignment - Lack of safety sight distance and visibility - Others Traffic Flow/Behavior: - Mix Traffic - Speeding - Reckless crossing and turning - Reckless overtaking - Jaywalking - Ignoring of red light - Others	✓ Traffic safety corridor development ✓ Lane separation by type of vehicle ✓ Service/collector road ✓ Pedestrian facilities (sidewalk, crossing facilities) ✓ Bicycle lane ✓ Safeguard facilities ✓ Median and separators ✓ Alignment improvement ✓ Intersection improvement ✓ Provision of sight distance ✓ Pavement improvement ✓ Railroad crossing facilities ✓ Bus stop facilities ✓ Parking facilities	✓ Road Information System ✓ Road lighting system ✓ Visual guidance system ✓ Rest facilities ✓ Traffic Signal System ✓ Road marking and signs ✓ Traffic Management (Speed limit, One-way, etc) ✓ Parking Management
	Radical and Comprehensive Measures <input type="checkbox"/> Road Functional Network Development including bypass, grade separation, access control etc (Primary, Secondary, Tertiary and Urban Road System) <input type="checkbox"/> Appropriate Transport Modal Share (w/ TDM scheme)	

Table 3.1.2 Focus Areas for the Engineering Measures

Road Classification (Traffic Feature)	Symptomatic Measures	Radical / Preventive
Inter-Urban NH - High traffic volume - High speed - Mix traffic - Heavy vehicle	➤ Black Spot Improvement - Intersection Improvement - Median/separator - Lighting, Delineator - Marking/Signage, etc ➤ Lane Separation for M/C ➤ Speed Reduction Measurement ➤ Pedestrian Crossing Facility (bridge, tunnel, etc.)	➤ TS Corridor Development with Service Road ➤ Separated M/C, B/C lane ➤ Alignment Improvement ➤ Road Information System ➤ Road Rest Facilities (Michi no Eki) ➤ Railway Crossing Facilities ➤ Comprehensive program for the metropolitan areas
Provincial/District Road - Less traffic volume - Poor road facility	➤ Black Spot Improvement ➤ School Zone measures	➤ Installation of traffic signal ➤ Upgrading of road facilities including widening and realignment
Urban Road - High traffic volume - Congestion - Mix traffic - Busy economic activities	➤ Black Spot Improvement ➤ School Zone Measures ➤ Commercial Zone Measures ➤ Lane Separation on the primary urban roads	➤ Public Transport System ➤ Development and TDM ➤ Parking Facility Development ➤ Traffic Control Management System

3) Development Strategy for the Priority Program

Although various alternative measures are available, significant measures/programs will be discussed on their implementation issues and strategies. Those are:

- (i) Black Spot Improvement Program
- (ii) Traffic safety Audit System Development Program
- (iii) Traffic Safety Corridor Development Program
- (iv) Highway Traffic Safety Facility Enhancement Program
- (v) Urban Bypass Development Program
- (vi) Vulnerable Road User Accident Prevention Program
- (vii) Expressway Safety Development Program
- (viii) Road Work Traffic Safety Development Program
- (ix) Traffic Safety Project Monitoring and Maintenance Program
- (x) Urban Road Traffic Safety plan Development Program
- (xi) R&D, Human Resources Development Program

Outline of these development programs are briefly described, as follows.

(i) Black Spot Improvement Program

Objectives of the Program

The benefit from black spot improvement is not only limited to alleviating traffic accident at a specific location; instead, it is expected to also provide further practical guidelines for other black spot improvement as discussed below.

Program Components

- (1) Legislation designating executing agencies with clear delineation of obligations and responsibilities and further promotion of understanding
 - Project for Institutional Development*
 - Development of cooperative mechanism between traffic police and road management authority
- (2) Development of the black spot improvement system
 - Project for Institutional Development*
 - Review on the black spot improvement guideline
- (3) Training and technical upgrading system for black spot improvement engineers
 - Project for Facilities Development*
 - Implementation of the black spot improvement pilot project including training for engineers and capacity development
 - Project for Institutional Development*
 - (a) Development of an exchange system for human resources and techniques/expertise related to black spot improvement system
 - (b) Promotion of understanding of black spot improvement system to the road management authorities
 - (c) Promotion of black spot improvement implementation to local governments

- (4) Utilization of the black spot improvement database, development of supporting tools and establishment of the executing agency
- (5) Follow-up on the results of post-monitoring of the black spot improvement

(ii) Traffic Safety Audit System Development Program

Objectives of the Program

The Road Safety Audit (RSA) system should be enhanced and implemented appropriately as soon as possible. By doing so, improvement in cost-effectiveness of road sector development and the reduction in traffic casualties can be expected.

Program Components

- (1) Enhancement of legislations regarding responsibilities of relevant authorities and education and expansion of RSA

Project for Institutional Development

- (a) Promotion of RSA system to the road management authorities

Suggested contents of revised RSA

Revision of the RSA system should be immediately proposed by reviewing the guidelines including the following points and pilot projects:

- Establishment of a guideline in selecting target road and traffic development plans
- Improvement of safety control method including revision of the audit checklist
- Estimated time and cost required, and sustainable financial sources

- (b) Revision of RSA guideline

- (2) Establishment of licensing/accrediting system and human resource development mechanism for the auditors

Project for Facilities Development

RSA pilot project

(iii) Traffic Safety Corridor Development Program

Objectives of the Program

The road management authority and the local governments are jointly taking the necessary actions to address these problems through the creation of an appropriate and effective coordination system. Meanwhile, necessary legislations to support such actions should be formulated and enacted. Based on the situation analysis and lessons learned, a pilot project on improvement traffic safety mitigation measures should be implemented on sample road sections to obtain useful outputs, feedbacks and practical recommendations for future traffic safety policy.

Program Components

- (1) Establishment of integrated database on status of land acquisition and illegal dwellers in cooperation with the road management authorities and the local governments.

Project for Institutional Development

Database development for inventory of encroachment and road conditions

- (2) Establishment of improvement plan including estimation of compensation costs and relocation plan based on the above database.

Project for Institutional Development

- (a) Setting of land value based on market price and application in land acquisition for road projects
(b) Improvement of compensation system for affected people

- (3) Preparation of measures for consensus-building on compensation package for relocation of illegal dwellers.

Project for Institutional Development

- (a) Improvement of public consultation system
(b) Mandatory requirement of resettlement plan in road projects

- (4) Application of coercive measures to clear illegal structures and constructions on the traffic safety corridor.

Project for Institutional Development

Strengthening and strict enforcement of sanctions against returning illegal dwellers

- (5) Investments on improvement, upgrading, construction of side roads in line with the current guidelines.

Project for Institutional Development

Planning development focus on heavy access sections

- (6) Planning of access roads to economic zones, commercial and residential areas, locations to connect to national roads.

Project for Institutional Development

Strengthening regulation for access from heavy traffic generating road side facilities

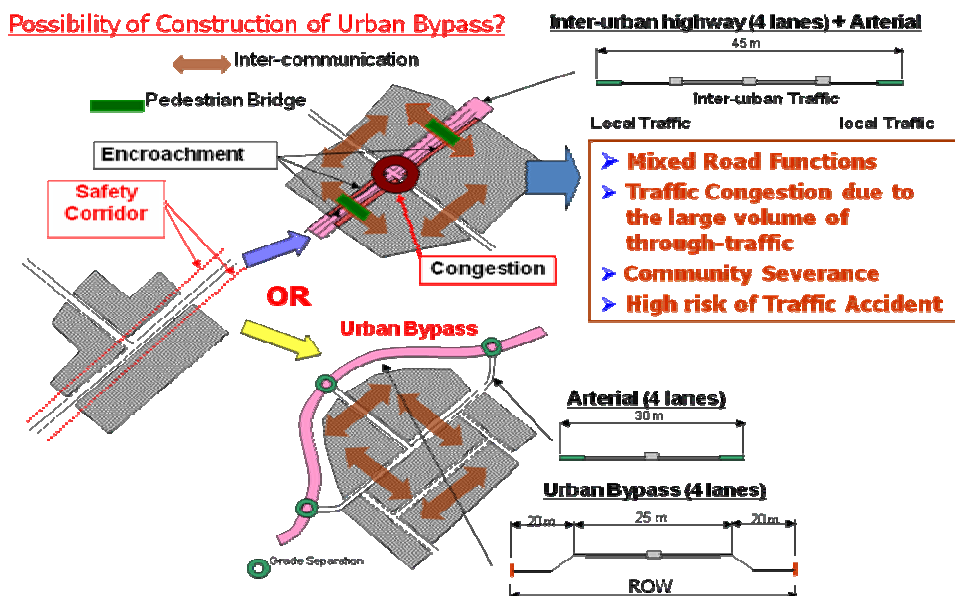
- (7) Recommendations to amend, modify and supplement the legal provisions to ensure appropriateness of management requirements in the restoration of the traffic safety corridor.

Project for Institutional Development

Legal system improvement for encroachment

- (8) Widening of the existing road in the urbanized sections will require huge amount of the investment for the traffic safety corridor. However, it is necessary to examine further on how to address increasing traffic passing through the urbanized areas; that is, either to widen the existing road or develop an urban bypass. Figure 3.1.2 illustrates advantages and disadvantages of these alternatives. However, it will be recommended to formulate a functional road network system for urbanized areas [Refer to (v) Bypass Development Program].

Figure 3.1.2 Comparison Between Widening of Existing National Highway and Construction of Urban Bypass



(iv) Highway Traffic Safety Facility Enhancement Program

Objectives of the Program

The assessment of appropriate traffic safety measures should be conducted based not only on road design standard but also on practical accident analysis of subject road.

In Vietnam, simply adopting international design standards from developed countries has not resulted in levels of safety that are achieved in the developed countries because such standards are generally accompanied by effective enforcement, driver training and safety education and promotion. In addition, traffic conditions and types of traffic on the roads of Vietnam are very different from those of the developed countries.

Important aspects that should be reflected into consideration of the design standards and guidelines are different vehicle mode comparing with the developed country. It is necessary to review and revise accordingly the design standards and guidelines for more safety-conscious road and road safety facilities design.

Program Components

- (1) Systematic road network development with appropriate function sharing
- (2) Enhancement of traffic control in accordance to local characteristics and road function
- (3) Promotion of smooth and comfortable road traffic, and road accident prevention measures on general roads

Project for Facilities Development

- (a) Railway crossing improvement
- (b) Service road development on residential areas and urban sections
- (c) Traffic control and information system development for inter-city road
- (d) Traffic signal and control system development

- (e) Intersection improvement
 - (f) Passing lanes and road station development for inter-city road
 - (g) Traffic safety facilities improvement
- (4) Review of design standard considering traffic and local characteristics
- Project for Institutional Development*
- (a) Design standards and guideline improvement based on Vietnam's unique traffic characteristics
 - (b) Design standards and guideline improvement based on regional characteristics and budgetary situations
- (5) Promotion of design standard and its applicable application
- Project for Institutional Development*
- (a) Integration of design standards and development of design standard instruction manual
 - (b) Standard design drawings development

(v) Urban Bypass Development Program

Objectives of the Program

The development of a systematic road network should be promoted to reduce accidents particularly on roads in residential areas and to protect the living environment of surrounding areas.

Program Components

- (1) Systematic road network development with appropriate function sharing
- Project for Facilities Development*
- Ring road and bypass development

(vi) Vulnerable Road User Accident Prevention Program

Objectives of the Program

Traffic accidents involving vulnerable road users and cars accounted for 40% in 2006, with this number still increasing. Pedestrians and bicycle riders, vulnerable participants in road traffic with high risk to serious damage caused by traffic accidents, should be protected. However, safety facilities for these vulnerable users have not been sufficiently installed in many road sections, with some sections not even completely passable to them. Therefore, to ensure safety of vulnerable road users, appropriate facilities for pedestrians and bicycle riders should be prioritized.

Program Components

- (1) Development of safe pedestrian space
- Project for Facilities Development*
- (a) Pedestrian facility improvement along school routes
 - (b) Pedestrian facility improvement for high-risk accident areas
- (2) Separation of car traffic and development of facilities for light vehicles
- Project for Facilities Development*
- Exclusive bicycle lane facility development

(vii) Expressway Safety Development Program

Objectives of the Program

Traffic safety measure assessment for expressways should consider other unexpected driving characteristics which can cause traffic accidents such as high-speed driving, swerving and merging as well as high-speed overtaking of drivers in Vietnam. Thus, a proactive assessment of traffic safety measures on the expressway is very important.

Program Components

- (1) Systematic road network development with appropriate function sharing
Project for Facilities Development
Expressway network development
- (2) Enhancement of traffic control in accordance to local characteristics and road function
Project for Institutional Development
Traffic regulation development for expressways
- (3) Promotion of road accident prevention measures on expressways
Project for Institutional Development
 - (a) Establishment of efficient cooperation body between VEC and traffic police for expressway traffic control
 - (b) Traffic safety measures guidelines development for expressways*Project for Facilities Development*
Advanced traffic control system (ETC) development for expressways

(viii) Road Work Traffic Safety Development Program

Objectives of the Program

Inadequate road maintenance often leads to traffic accident. Lack of proper maintenance causes hazardous situation such as pothole and limited sight distance. Even in asphalt-paved road sections, about half of these sections are constructed with DBST (Double Bituminous Surface Treatment) pavements which are also susceptible to become uneven if not properly maintained. Therefore, adequate and periodic assessment of road maintenance system improvement is also necessary to ensure traffic safety and sustainability of roads.

Program Components

- (1) Development and satisfactory implementation of efficient road maintenance system
Project for Institutional Development
 - (a) Regulation and guidelines development for safety measures during road construction and maintenance
 - (b) Road maintenance data base and comprehensive management system development for national highways

(ix) Traffic Safety Project Monitoring and Maintenance Program

Objectives of the Program

The successful implementation of the traffic safety might depend on the road management authority's capacity for planning and implementation, as well as stability of financial resources. However, as human and financial resources are limited in local authorities, it might be difficult to plan and implement an effective and efficient road safety mitigation measure. Thus, the introduction of capacity development for planning, implementation and monitoring system and the establishment of the executing agencies both at the central and local governments is proposed.

Program Components

- (1) Capacity development on planning and implementation of traffic safety environment improvement

Project for Institutional Development

- (a) Monitoring and evaluation system for local planning development
- (b) Establishment of a monitoring and evaluation unit of road safety plan

(x) Urban Road Traffic Safety Plan Development Program

Objectives of the Program

Traffic safety issues in urban areas are closely related with road facility, traffic characteristics, road side land use, as well as diversified utilization of road space independently and/or compositely. Therefore, examination of urban traffic safety measures should be implemented using comprehensive perspectives.

The, timely implementation of comprehensive traffic safety measures to meet both rapidly increasing rate of urbanization and motorization is essential based on lessons learned from other big Asian cities. Traffic demand management activities such as encouraging modal shift from private to public transportation will be key countermeasures to address these urban traffic problems.

Program Components

- (1) Enhancement of traffic control in accordance to local characteristics and road function

Project for Institutional Development

Traffic regulation improvement for urban road

- (2) Promotion of upgrading and efficient traffic signal system development

Project for Facilities Development

- (a) Coordinated traffic signal system development
- (b) Area wide and flexible signal control system development

- (3) Development of parking space and strengthening of enforcement for illegal parking

Project for Facilities Development

- (a) Illegal parking prevention facilities development

Project for Institutional Development

- (a) Efficient parking regulation system development
 - (b) Formulation of regulations making parking facility compulsory in every building construction
 - (c) Comprehensive parking system plan development
- (4) Improvement of traffic demand control

Project for Facilities Development

- (a) Public transport prioritizing facilities development

Project for Institutional Development

- (a) Promotion of public transport usage facilitation
- (b) Measures promoting traffic dispersion during peak hour
- (c) Park and ride system development

(xi) R&D, Human Resources Development Program

Objectives of the Program

To increase efficiency and capacity of the traffic safety improvement system, the following support mechanisms shall be developed:

- Establishment of the R & D facilities including database system
- Promotion of professional human resource for traffic safety area

Program Components

- (1) Utilization of the black spot improvement database, development of supporting tools and establishment of the executing agency
- (2) Follow-up on the results of post monitoring of the black spot improvement

Project for Institutional Development

- (a) Development of support mechanisms to increase efficiency of the black spot improvement such as database and guideline
 - (b) Promotion of establishment of an independent implementing unit in the road management organization which shall be responsible for traffic safety mitigation
 - (c) Legal establishment of research institution on black spot improvement
- (3) Establishment of licensing/accrediting system and human resource development mechanism for the auditors

Project for Institutional Development

- (a) Licensing/accreditation system for the RSA auditor
- (4) Utilization of database supporting the auditing, development of the supporting tools and establishment of the responsible agency
- (5) Scientific traffic accident analysis, evaluation of effectiveness of RSA implementation and cost-effectiveness, and feedback mechanism for the results to be appropriately utilized

Project for Institutional Development

Establishment of new institution in charge of traffic safety analysis

(6) Scientific support for design standard preparation

Project for Institutional Development

Establishment of research and development institute for the design standard and guideline improvement

4) Institutional Improvement

In order to implement the proposed programs, aside from design of the measures, there are also various kinds of outstanding issues on the organizations, systems as well as database development. The institutional issues have been discussed in each program and are summarized as follows:

(i) Organization

- Traffic Safety and Management Department (MOT, VRA, DOT)
- Traffic Management Section in the other local governments
- Establishment of an organization for the Traffic Safety Audit and Traffic Impact Assessment
- Promotion of National and Local Traffic Committees for the comprehensive traffic safety measures development

(ii) System, Rules and Regulation

- Traffic Safety Audit System
- Traffic Impact Assessment (for NH and Urban Primary road)
- Review of Road Traffic Law
- Review of Technical and Installation Guidelines for the safety facilities

(iii) R&D and Database

- Road Traffic Census and Road Inventory Database
- Traffic Accident Database (MOPS)
- Development of 5-year Action Program for Engineering sector
- Issuance of Annual Evaluation Report
- Analysis of the new technologies (ITS)

5) Implementation Strategies

The fundamental issues that should be considered for the smooth and effective implementation of the proposed measures are the following:

- Establishment of numeric targets
- Development of institutional infrastructure including organization system and guidelines which will be needed to ensure the sustainable implementation, and
- Human and financial resource development

Subsequently, the following targets are proposed:

(i) Targets for the Engineering Sector

- All black spots on the major national highway network (under VRA) shall be removed by year 2020, and reduced by 50% (as compared to year 2007) in 2012.

- Compared to 2007 figures, the number of fatalities caused by motorcycle accidents on major national highway network will be reduced by 30% by 2012 and 50% by 2020.
- Compared to 2007 figures, the number of accidents involving pedestrians and bicycle users on major national highway network will be reduced by 30% by 2012 and 50% by 2020.

(ii) Establishment of Core Organization including Human Resource Development

For sustainable traffic safety development, there are many institutional improvements that shall be required as mentioned in the preceding subsection. Thus, a one-stop responsible unit will be indispensable, including human resource development for the unit. The newly-established Department of Traffic Safety under the Ministry of Transport will be one of the candidate organizations for the one-stop center.

3.2 Safe Driving and Vehicle Safety Development Strategy

1) Planning Approach and Priority Issues

The following programs are proposed to be developed:

- Basic License Renewal System
- License Renewal System based on Traffic Violation
- Promotion of M/C Licensing in the Rural Areas
- License System for M/C under 50cc
- License System for Beginner Drivers
- Comprehensive Program for Driver Training and Testing
- Safe Driving Management System for Transport Companies
- Vehicle Registration Renewal System
- Technical Inspection for M/C
- Vehicle Countermeasures for People with Disability
- Human Resource Development for Driving Instructors

2) Driver Licensing System for Future Motorized Society

(i) License Renewal System

(1) Basic License Renewal System (1st Step)

It is proposed that the standard periodic license renewal system be implemented not only for B1 class and above but as well as from A1 to A4 classes to ensure efficient management of licensing system. And during this renewal period, the drivers will be provided a refresher course through compulsory attendance in a lecture class on road traffic law, traffic accident characteristics, etc. It is expected that these lecture classes will contribute to the prevention of dangerous and delinquent driving behaviours.

(2) License Renewal Based on Traffic Violation (2nd Step)

The suggested content of the refresher course and renewal period should be

based on traffic violations committed by the driver. For a non-delinquent and law-abiding driver, for example, the validity of the renewed license may be longer while required number of hours to attend a refresher course is shorter than a driver with a record of traffic violations. Moreover, a suitable beginner drivers' period for young drivers will be set. For the effective implementation of this proposed license renewal system based on traffic violation, a driver violation database system should be developed and collaboratively implemented by the VRA, PTSC, driver training center, DOT, and the Police.

(3) Option to Introduce a License with Integrated Chip (IC)

It is further recommended that a built-in IC on the license be introduced to further contribute in the efficiency of database management and traffic control, as well as to prevent forgery of licenses. However, introduction of this high technology system will require high costs, which will then require a significant increase in user charges.

Implementation schedule for the License Renewal System will be proposed as shown in Table 3.2.1.

Table 3.2.1 Proposed Implementation Schedule for License Renewal System

Key Activity		Year	2008-2010	2011-2012	2013-2015	2016-2020
1 st Step	Preparatory works		■			
	Training of Instructors		■			
	Law enactment		■			
	Implementation			■	■	
2 nd Step	Development of database		■	■		
	System design & textbook preparation			■		
	Coordination with concerned organizations			■	■	
	Training of Instructors			■	■	
	Law enactment			■	■	
	Implementation					■

Source: JICA Study Team

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

Despite recent efforts of increasing the number of driver training centers in the country, it is difficult to fully cover the rural areas, particularly in areas with minority groups. Therefore, this proposed mobile driver training and testing centers intend to address this situation by targeting unlicensed M/C drivers in the rural areas. Instructors and necessary training equipments will be brought to the target rural areas where training and testing will be provided prior to licensing by the PDOT.

Table 3.2.2 presents the proposed implementation plan.

Table 3.2.2 Proposed Implementation Schedule for Promotion of the M/C Driver Licensing System in the Rural Areas

Key Activity	Year	2008-2010	2011-2012	2013-2015	2016-2020
	Preparatory works		■ ■ ■ ■ ■ ■ ■ ■ ■ ■		
Instructor education			■ ■ ■ ■ ■ ■ ■ ■ ■ ■		
Implementation				■ ■ ■ ■ ■ ■ ■ ■ ■ ■	

Source: JICA Study Team

(iii) Licensing System for Drivers of M/C under 50cc

For the long-term, it is suggested that an institutionalized driver licensing system like that for M/C more than 50cc be set-up at the district levels.

In fact, it seems that M/C under 50cc is indispensable for vulnerable road users, especially in rural area. Therefore, the implementation of this kind of system should be carefully investigated to keep up with the times.

Based on experiences of other countries in the region, the following licensing alternatives are listed in Table 3.2.3.

Table 3.2.3 Licensing System Alternatives for M/C under 50cc Institution

Alternative	Alt. 1	Alt. 2	Alt. 3
Enforcement	Same as M/C		Traffic safety education in school
Contents	<ul style="list-style-type: none"> Short course on driving skill and knowledge of road safety and law (2-4 hours) Theoretical examination 		<ul style="list-style-type: none"> Short course on driving skill and knowledge of road safety and law (2-4 hours)
License	Issued		-
Target	At least 16 years old	At least 18 years old (same as other drivers' licenses)	At least 16 years old high school student
Advantage	<ul style="list-style-type: none"> Accident reduction is expected with the acquisition of both driving skills and knowledge as the road user Prevention of accidents among student drivers 		<ul style="list-style-type: none"> All students can acquire driving skills and gain required knowledge. As a result, this can prevent traffic accidents for pedestrians, bicycle users and M/C users.
Disadvantage		<ul style="list-style-type: none"> Decrease in mobility of students (rural area) 	<ul style="list-style-type: none"> Promotes M/C use among students and thus increase chances of traffic accidents Exclusion of non-students

Source: JICA Study Team

(iv) License System for Beginner Drivers

Based on experiences from developed countries, setting-up of an appropriate system for beginner driver is a very important issue in the future.

The graduated driver licensing scheme (GDLS) is among the effective program to reduce the traffic accidents among young drivers and it is a gradual process of obtaining a full driver's license which involves the following:

- At least 50 hours of supervised driving during the Learner's Permit phase
- A two-stage Provisional License (P1 and P2)

- A compulsory Hazard Perception Test to progress from P1 to P2
- Rewards for drivers who do the right thing, and penalties for those who don't.

During implementation of such program, evaluation should be made during the medium- and long-term (after 2013) since appropriateness of program will depend on future traffic accident characteristics.

3) Driver Training and Testing System

(i) Comprehensive Program for Driver Training and Testing

Table 3.2.4 presents the proposed implementation schedule.

Table 3.2.4 Proposed Implementation Schedule for Driver Training and Testing

Key Activity	Year	2008-2010	2011-2012	2013-2015	2016-2020
Preparatory works		■			
Coordination with concerned organization(s)		■			
Textbook preparation			■		
Manual preparation for professional driver			■		
Development of an Instructor Education system			■		
New content materials for training and testing for Traction Vehicle			■		
Adequate financial support to ensure sustainable operation		■			

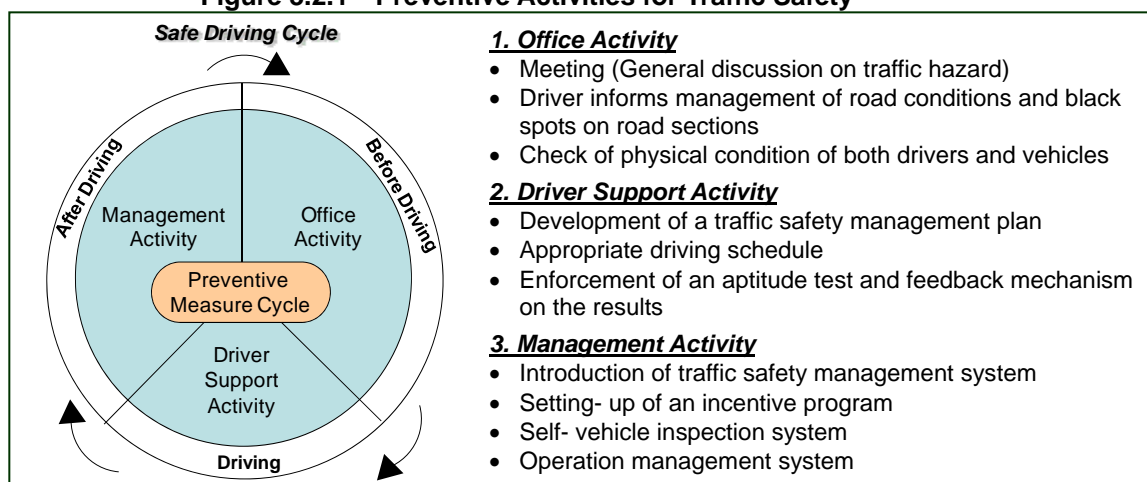
Source: JICA Study Team

(ii) Drivers' Education in Transport Companies

(1) Safe Driving Management System for Transport Companies

It is suggested that business operation law will be amended and enhanced to include traffic accident prevention activities. The preventive activities can be classified into three categories (Figure 3.2.1).

Figure 3.2.1 Preventive Activities for Traffic Safety



Source: JICA Study Team

(2) Implementation Plan

Table 3.2.5 presents the proposed implementation plan.

Table 3.2.5 Proposed Implementation Schedule for Safe Driving Management System for Transport Companies

Key Activity		Year	2008-2010	2011-2012	2013-2015	2016-2020
1 st Step	Preparatory works		■	■	■	
	Coordination with concerned organizations			■	■	
	Development of manual for transport companies		■	■		
	Experimental study			■	■	
2 nd Step	Request for the creation of a new law			■	■	
	Short course for driver manager			■	■	
	Enactment of a new law				■	■
	Implementation				■	■

Source: JICA Study Team

4) Vehicle Registration System

The present vehicle registration system in Vietnam does not require renewal of registration while the renewal of registration will be very important and should therefore be required.

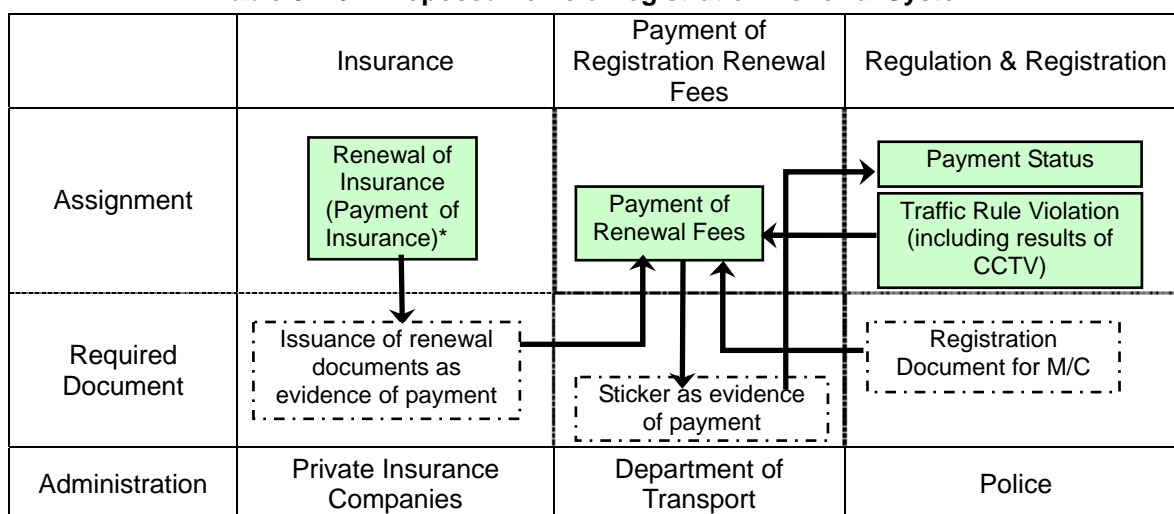
(i) Proposed Vehicle Registration Renewal System

Table 3.2.6 presents the proposed system for renewal of vehicle registration.

(ii) Implementation Plan

Table 3.2.7 presents the proposed implementation plan.

Table 3.2.6 Proposed Vehicle Registration Renewal System



* Automobile Third Party Liability Insurance

Source: JICA Study Team

Table 3.2.7 Proposed Implementation Schedule for Vehicle Registration Renewal System

Key Activity	Year	2008-2010	2011-2012	2013-2015	2016-2020
Preparatory works		■	■	■	
Coordination with related organizations			■	■	
Development of system			■	■	
Setting-up of the insurance system			■	■	
Enactment of a new law				■	
Implementation					■

Source: JICA Study Team

5) Vehicle Inspection System

(i) Technical Inspection for M/C

It is proposed that the technical inspection system for M/C will be enforced to particularly target old M/C.

- After the fifth renewal of M/C registration, the M/C holders must have their M/C inspected at an authorized inspection unit and submit the certification of inspection upon renewal of registration. In this case, the designated M/C manufacturer and other M/C distributors may be designated as inspection units.
- The M/C technical inspection standard should be established by the VR. The environmental standard for exhaust gas control can also be established.
- Compared with cars, items for inspection in M/C are very uncomplicated. M/C inspection should therefore ensure that M/C has complied with the installation of a simple system.

(ii) Implementation Plan

Table 3.2.8 presents the proposed implementation plan.

Table 3.2.8 Proposed Implementation Schedule for M/C Technical Inspection

Key Activity	Year	2008-2010	2011-2012	2013-2015	2016-2020
Preparatory works		■	■	■	
Coordination with related organizations			■	■	
Development of system			■	■	
Enactment of a new standard			■	■	
Instruction to manufacturers & distributors			■	■	
Enactment of a new law				■	
Implementation					■

Source: JICA Study Team

6) Organizational and Resource Development

A summary of the functions of each organization for the proposed programs is shown in Table 3.2.9.

Table 3.2.9 Proposed Organizations for Transport Operation Strategy

Program	Core Organization		Coordinating Organization	Remarks	
	Management	Operation			
License Renewal System	1 st Step	VRA	DOT	MOET	
	2 nd Step	VRA & MOPS	DOT, Police	MOET	
Promotion of M/C Licensing in Rural Area		VRA	DOT		
License System for M/C under 50cc		VRA	DOT, District office	MOET	Alt. 1 & 2
		MOET	MOET	VRA & DOT	Alt.3
License System for Beginner Drivers		-	-	-	Long-term plan
Comprehensive Program for Driver Training and Testing		VRA		NTSC, MOF, MOET, PTSC, Police, driver training center, testing center, experts in the academe	
Safety Driver Management System for Transport Company		MOT, VRA	Transport Companies	MOH, VR, DOT, MOL	
Vehicle Registration Renewal System	M/C	VRA, MOPS	DOT, District office, Police	Private Insurance Company	
	Car		DOT, Police		
Technical Inspection of M/C		VR	VRA, DOT	M/C Manufacturer, Distributor (Shop)	
Strategies to Improve Condition of Vehicles for People with Disability		VR	VRA	MOH, Support group for people with disability	

Table 3.2.10 shows the proposed organizational management and level of access to the database system of related organizations.

Table 3.2.10 Database Management and Access Among Concerned Agencies

Kind of Data	Management Organization	Access Organization (Access User)
State Driver License Data	VRA	DOT, PDOT, Police
M/C under 50cc License Data*	DOT	VRA, District office, Police
Traffic Violation Record	MOPS	VRA, DOT
Drivers' License Data of Minority Race	DOT	VRA, District office, Police
Vehicle Registration Data	MOPS, DOT	VRA, VR
Data Related to Renewal of Vehicle Registration Fees	DOT	VRA, Police
Vehicle Inspection Data	M/C	VRA, DOT
	Car	
Data on Vehicle for Person with Disability	VR	VRA, MOH
Transport Company Information	MOT, VRA	MOH, VR, DOT, MOL

* This data is including the driver's information and number of professional driver, etc.

** The case of Alt.1 & 2.

Table 3.2.11 shows the proposed fund sources for the proposed programs.

Table 3.2.11 New Fund Sources for Proposed Transport Management Programs

Program		Core Organization		Fund Sources
		Management	Operation	
License Renewal System	1 st Step	VRA	DOT, PDOT	Lecture fee
	2 nd Step	VRA & MOPS	DOT, PDOT Police	Lecture fee
Promotion of M/C Licensing in Rural Area		-	-	
Licensing System for M/C under 50cc		VRA	DOT, PDOT	Lecture fee
		MOET	MOET	-
License System for Beginner Drivers		-	-	-
Comprehensive Program for Driver Training and Testing		VRA		Sales from driver text-books and manuals
Professional Driver Safety Management System		MOT, VRA	Transport Companies	-
Vehicle Registration Renewal System	M/C	VRA, MOPS	DOT, District office, Police	Portion of insurance (Automobile liability insurance)
	Car		DOT, Police	Annual Vehicle Registration Renewal Fees
Certificate of Parking Space		-	-	-
Technical Inspection of M/C		VR	VRA, DOT	-
Strategies to Improve Vehicle Conditions for People with Disability		VR	VRA	-

Source: JICA Study Team

7) Implementation Strategies

The milestone and goal by each program is shown in Table 3.2.12.

For the driver licensing system, the license renewal system targeting M/C drivers will be implemented until 2012. In addition, the mobile driver training and testing center targeting unlicensed M/C drivers will be introduced to meet the demand particularly in the rural areas. As a long-term strategy, license renewal system based on traffic violations will be introduced to manage the drivers' data and information including the traffic violations they committed. This system is aimed to be operational from 2015.

The driver training programs include updating of training contents and instructor training. Safe driver management system in Transport Companies will be introduced in 2015.

For the vehicle registration and inspection, human resource development, some new programs will be required to manage safety vehicle to secure budget and to encourage upgrading of skilled instructors. Therefore, the first 5 years will be preparation period to establish these systems. And these systems should be introduced in 2015.

Table 3.2.12 Milestones and Goals in the Proposed Transport Management Program

Programs		Milestones			Goals
		To 2012 (Short-term)	To 2015 (Medium-term)	To 2020 (Long-term)	
Driver Licensing System for Future Motorized Society	1. Basic License Renewal System	<ul style="list-style-type: none"> Introduction of license renewal system for M/C 			<ul style="list-style-type: none"> To properly manage the licensing database system (including personal traffic violation data) To establish licensing system for various drivers
	2. License Renewal System by Traffic Violation		<ul style="list-style-type: none"> Introduction of license renewal system by traffic violation 		
	3. Promotion of M/C Driver Licensing in Rural Areas	<ul style="list-style-type: none"> Introduction of mobile driver training and testing centers 	<ul style="list-style-type: none"> Investigation of additional system 		
	4. License System for M/C under 50cc				
	5. License System for Beginner Drivers				
Driver Training	6. Comprehensive Program for Driver Training and Testing	<ul style="list-style-type: none"> Textbook revisions and updating Implementation of Instructor training Review of existing system 			<ul style="list-style-type: none"> To encourage safe drivers
	7. Safe Driving Management System for Transport Companies	<ul style="list-style-type: none"> Introduction of safe driving management system 			
Vehicle Registration & Inspection	8. Vehicle Registration Renewal System		<ul style="list-style-type: none"> Introduction of vehicle registration renewal system 		<ul style="list-style-type: none"> To properly manage safety vehicles To secure budget
	9. Technical Inspection for M/C		<ul style="list-style-type: none"> Introduction of inspection system for M/C 		
	10. Strategies to Improve Vehicle Conditions for People with Disability		<ul style="list-style-type: none"> Implement counter-measures 		
Human Resource Development	11. Human Resource Development for Instructors		<ul style="list-style-type: none"> Introduction of periodic instructor education system 		<ul style="list-style-type: none"> To encourage skilled instructors

Source: JICA Study Team

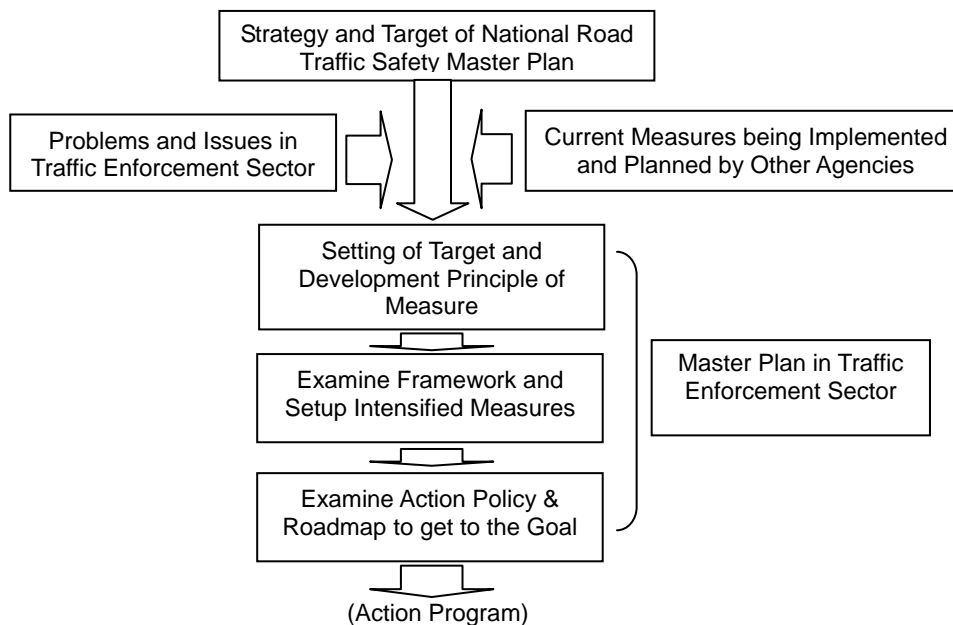
3.3 Formulation of Traffic Enforcement Master Plan

1) Planning Approach

Based on the overall basic strategy and target of the traffic safety Master Plan, the problems and issues in the traffic law enforcement sector were analyzed, the current measures being implemented and/or planned were evaluated, and the following steps are taken to formulate the traffic sector master plan:

- (i) Setting of target and development principle of traffic enforcement measures.
- (ii) Examination and formulation of intensified measures.
- (iii) Formulation of action policy and roadmap to achieve set goals

Figure 3.3.1 Examination Process of Master Plan in Traffic Enforcement Sector



Source: JICA Study Team.

2) Setting of Target and Development Principle of the Measures

The basic idea of this traffic safety Master Plan is to realize a kindhearted traffic society and eliminate conflicts and accidents on the road. As one of the principal pillars of the comprehensive traffic safety countermeasures known as the 4Es, the basic sector policy and target of traffic enforcement is to fully and effectively implement responsible traffic enforcement activities acceptable to and with support from the people.

Based on examination of countermeasures in the traffic enforcement sector, this sector aims to cover 20% of the Master Plan's target of reducing by 50% traffic accident fatalities through implementation of effective traffic enforcement measures.

3) Examination of Framework and Formulation of Intensified Measures for the Traffic Enforcement Sector

The framework for the formulation of the traffic law enforcement master plan is examined and the comprehensive strategy that is adopted is the "promotion of efficient, effective and well-organized traffic law enforcement system that is widely supported by the people." To support this overall comprehensive strategy, basic strategies are further developed as shown in Table 3.3.1.

Table 3.3.1 Framework of Traffic Law Enforcement Implementation Measures and Budgetary Allocation by MOPS for Procurement of Equipment

(Total Budget for Traffic Enforcement Sector: 615.5 Mil. USD)

STRATEGY	No.	Traffic Law Enforcement Measure/Program	MILESTONE				Core Agency	Joint Agencies	Budget (mil. USD) (MOPS)	
			2008-2010	2011-2012	2013-2015	2016-2020				
Promotion of efficient, effective and well-organized traffic law enforcement system that is widely supported by the people.	1	Traffic safety guidance for beginner/novice and vulnerable road users					MOPS	MOET MOT	17.5	
		Traffic safety guidance for inexperienced and less-skilled road users					MOPS	MOET MOT	28.1	
		Strengthening and intensifying traffic law enforcement to completely eradicate deliberate traffic violators					MOPS	MOET MOT	33.1	
	2	Public relations on traffic safety guidance and enforcements					MOPS	MOET MOT	45.3	
		Coordination among concerned agencies responsible for traffic safety countermeasures					MOPS	MOT MOET	36.0	
	4	Recording and evaluation of traffic safety guidance and enforcement activities.					MOPS	MOT	45.7	
		Human resource development on traffic safety guidance and enforcements					MOPS	MOT MOET	64.3	
	6	Preparation and development of equipments on traffic safety guidance and enforcements					MOPS	MOT	26.2	
		Budget for Equipment								319.2
				Programs recently started						
				More than 50% of programs being implemented						
				Implementation ongoing for all programs						

Source: JICA Study Team

The milestone shown in above table for each measure/program assumed that the following programs were implemented accordingly:

- (i) Strict, punitive and intensive traffic law enforcement targeting intentional traffic violators will be prioritized as a first stage and will be implemented during the entire Master Plan period.
- (ii) Traffic safety guidance for less-skilled road users is conducted as a second stage.
- (iii) Traffic safety guidance for beginner/novice and vulnerable road users is conducted as the final stage.

4) Traffic Safety Guidance for Beginner/Novice and Vulnerable Road Users

Table 3.3.2 presents a summary of the program content, implementation strategies and expected outcome of the program.

Table 3.3.2 Summary of Implementation Program for Traffic Safety Guidance for Beginner/Novice and Vulnerable Road Users

PROGRAM	Traffic safety guidance for beginner/novice and vulnerable road users				
Program Nos.	1-1-1 ~ 5	Core Agency	MOPS	Joint Agency	MOET, MOT
IMPLEMENTATION PROGRAM	On-street traffic safety guidance to motorcycle riders, young/beginner drivers, pedestrians, etc. and on-site traffic safety guidance on how to drive at black spots and sections				
Program Strategies	1-1-1 On-street traffic safety guidance to motorcycle riders (e.g. proper lane-changing, turning, use of winker, etc.) and pedestrians (e.g. use of pedestrian lanes and overpass, etc.) 1-1-2 On-site traffic safety guidance on how to drive at black-spots and black-sections 1-1-3 Traffic safety guidance during rush hour 1-1-4 Intensified traffic safety guidance for young and beginner drivers 1-1-5 Traffic safety guidance on how to drive near trucks and buses (e.g. running parallel with, overtaking, etc.)				
Roadmap & Milestone	2013 to 2020 Implementation is scheduled after successful implementation of intensive traffic law enforcement program which should have already strengthened policemen's resolve for strict and punitive enforcement to traffic violators.				
Expected Outcome	More than 80% reduction in traffic violations by beginner/novice and vulnerable road users (pedestrians, riders and drivers)				

Source: JICA Study Team

5) Traffic Safety Guidance for Inexperienced and Less-skilled Road Users

Table 3.3.3 presents a summary of the program content, implementation strategies and expected outcome of the program.

Table 3.3.3 Summary of Implementation Program for Traffic Safety Guidance for Inexperienced and Less-skilled Road Users

PROGRAM	Traffic safety guidance for inexperienced and less-skilled road users				
Program Component Nos.	1-2-1 ~ 5	Core Agency	MOPS	Joint Agency	MOET, MOT
IMPLEMENTATION PROGRAM	On-street traffic safety guidance and warning to motorcycle riders, young/beginner drivers, etc. and on-site traffic safety guidance on how to drive at black spots and sections				
Program Strategies	1-2-1 On-street traffic safety guidance and warning to motorcycle riders (e.g. proper lane-changing, turning, use of winker, etc.) and pedestrians (e.g. use of pedestrian lanes and overpass, etc.) 1-2-2 On-site traffic safety guidance and warning on how to drive at black-spots and black-sections 1-2-3 Traffic safety guidance and warning during rush hour 1-2-4 Intensified traffic safety guidance and warning for young and beginner drivers 1-2-5 Traffic safety guidance and warning on how to drive near trucks and buses (e.g. running parallel with, overtaking, etc.)				
Roadmap & Milestone	2011 to 2020 Implementation is scheduled after successful implementation of intensive traffic law enforcement program.				
Expected Outcome	More than 80% reduction in traffic violations by inexperienced and less-skilled drivers and riders.				

Source: JICA Study Team

6) Strengthening and Intensifying Traffic Law Enforcement to Completely Eradicate Deliberate Traffic Violations

Table 3.3.4 presents a summary of the program content, implementation strategies and expected outcome of the program.

Table 3.3.4 Summary of Implementation Program for Strengthening and Intensifying Traffic Law Enforcement to Completely Eradicate Deliberate Traffic Violations

PROGRAM	Strengthening and intensifying traffic law enforcement to completely eradicate deliberate traffic violations				
Program Component Nos.	1-3-1 ~ 5	Core Agency	MOPS	Joint Agency	MOET, MOT
IMPLEMENTATION PROGRAM	Strengthen and intensify traffic enforcement to those who deliberately violate traffic rules, especially for speeding, red-running, young drivers and so forth				
Program Strategies	Strengthen and intensify enforcement targeting the following: 1-3-1 Traffic violations such as over speeding, running on red light, etc. 1-3-2 Traffic violators at black-spots and sections 1-3-3 Traffic violators on streets 1-3-4 Traffic violators among young drivers 1-3-5 Traffic violators among truck and bus drivers				
Roadmap & Milestone	2008 to 2020 This program is the priority in implementation.				
Expected Outcome	More than 95% reduction in both violations and accidents caused by traffic violators.				

Source: JICA Study Team

7) Public Relations on Traffic Safety Guidance and Enforcement

Table 3.3.5 presents a summary of the program content, implementation strategies and expected outcome of the program.

Table 3.3.5 Summary of Implementation Program for Public Relations on Traffic Safety Guidance and Enforcement

PROGRAM	Public relations on traffic safety guidance and enforcements				
Program Component Nos.	2-1-1 ~ 3	Core Agency	MOPS	Joint Agency	MOET, MOT
IMPLEMENTATION PROGRAM	Public relations on traffic safety guidance and enforcements, including current situation of traffic violations, implementation plan and implementation results				
Program Strategies	2-1-1 Examination and design of public relations on traffic safety guidance and enforcements 2-1-2 Current situation of traffic violations and implementation plan of traffic guidance/enforcements 2-1-3 Implementation results of traffic guidance and enforcements				
Roadmap & Milestone	2008 to 2020 (step by step implementation is desired according to the plan)				
Expected Outcome	More than 90% reduction of traffic violations caused by inadequate knowledge of traffic rules.				

Source: JICA Study Team

8) Coordination among Concerned Agencies Responsible for Traffic Safety Countermeasures

Table 3.3.6 presents a summary of the program content, implementation strategies and expected outcome of the program.

Table 3.3.6 Summary of Implementation Program for Coordination among Concerned Agencies Responsible for Traffic Safety Countermeasures

PROGRAM	Coordination among related agencies on traffic safety countermeasures				
Program Component Nos.	3-1-1 ~ 3	Core Agency	MOPS	Joint Agency	MOT, MOET
IMPLEMENTATION PROGRAM	Coordination with related agencies on traffic safety countermeasures, exchange of views among all participants				
Program Strategies	3-1-1 Examination and design of public relations strategies on coordination mechanism with related agencies 3-1-2 Presentation to, and exchange of views among the participants on the current situation of traffic safety guidance and enforcement activities 3-1-3 Presentation to, and exchange of views among the participants on the current issues on traffic facilities and traffic management related to traffic safety guidance and enforcement				
Roadmap & Milestone	2008 to 2020 (step by step implementation is desired according to the plan)				
Expected Outcome	More than 50% increase in comprehensive countermeasures as a result of successful collaboration among concerned agencies				

Source: JICA Study Team

9) Recording and Evaluation of Traffic Safety Guidance and Enforcement Activities

Table 3.3.7 presents a summary of the program content, implementation strategies and expected outcome of the program.

Table 3.3.7 Summary of Implementation Program for Recording and Evaluation

PROGRAM	Activity record and evaluation on traffic safety guidance and enforcements				
Program Component Nos.	4-1-1 ~ 3	Core Agency	MOPS	Joint Agency	MOT
IMPLEMENTATION PROGRAM	Recording and evaluation of traffic safety guidance and enforcement activities and activity planning based on the evaluation				
Program Strategies	4-1-1 Recording of traffic guidance and enforcement activities 4-1-2 Evaluation of the activities 4-1-3 Activity planning based on the evaluation				
Roadmap & Milestone	2008 to 2020 (step by step implementation is desired according to the plan)				
Expected Outcome	More than 50% increase in cost/benefit of traffic enforcement activities				

Source: JICA Study Team

10) Human Resource Development on Traffic Safety Guidance and Enforcement

Table 3.3.8 presents a summary of the program content, implementation strategies and expected outcome of the program.

Table 3.3.8 Summary of Implementation Program for Human Resource Development on Traffic Safety Guidance and Enforcements

PROGRAM	Human resource development on traffic safety guidance and enforcement				
Program Component Nos.	5-1-1 ~ 4	Core Agency	MOPS	Joint Agency	MOT, MOET
IMPLEMENTATION PROGRAM	Examination of human resource development policy on traffic safety guidance and enforcement and development of training system for sustainable human resource development				
Program Strategies	5-1-1 Examination of human resource development policy on traffic safety guidance and enforcement 5-1-2 Beginners' training 5-1-3 Intermediate leaders' training 5-1-4 Advance training				
Implementation Site	Provincial Police Academy National Police Academy				
Required Manpower	20 to 30 policemen/provincial (or city) police academy 30 to 50 policemen/national police academy				
Roadmap & Milestone	2008 to 2020 (step by step implementation is desired according to the plan)				
Expected Outcome	More than 60% increase in reliability of and dependability on policemen				

Source: JICA Study Team

11) Preparation and Development of Equipment for Traffic Safety Guidance and Enforcement

Table 3.3.9 presents a summary of the program content, implementation strategies and expected outcome of the program.

Table 3.3.9 Summary of Implementation Program for the Preparation and Development of Equipment for Traffic Safety Guidance and Enforcement

PROGRAM	Preparation and development of equipment for traffic safety guidance and enforcement				
Program Component Nos.	6-1-1 ~ 4	Core Agency	MOPS	Joint Agency	MOT
IMPLEMENTATION PROGRAM	Procurement of equipments on traffic safety guidance and enforcement and planning for new equipment development				
Program Strategies	6-1-1 Procurement planning for required equipment on traffic safety guidance and enforcement 6-1-2 Implementation of procurement plan 6-1-3 Development of new equipment for traffic safety guidance and enforcement and formulation of new procurement plan 6-1-4 Development of ITS camera system on several main NHs				
Roadmap & Milestone	2008 to 2020 (step by step implementation is desired according to the plan)				
Expected Outcome	More than 30% increase of cost/benefit of traffic enforcement activities				

Source: JICA Study Team

12) Capability Improvement for Transport Inspectors

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.

3.4 Traffic Safety Education in School and Traffic Safety Culture Development Strategy

1) Planning Approach and Priority Issues

It is vitally important that planning for traffic safety education and traffic safety culture development be based on current and respective road traffic situations in the local levels. Analysis made on existing situational problems and issues indicated that traffic safety education in schools and in communities is still at a very early stage of development. While there had been many government efforts through conduct of various activities, there is still however no systematic approach in place to ensure sustainability of those activities.

Provisions of traffic safety education activities in schools can raise the level of traffic safety awareness and correct high risk-taking road user behaviors. However, it is equally necessary to provide life-long learning opportunities and training programs for each age group, and inspire people to envision the common goal of a safe, traffic society which is achieved through their efforts. It is also essential to raise awareness on

caring for vulnerable road users, including disabilities/impairments, elderly and children, and develop an attitude toward perception of risk and accident prevention under the principle of improving the quality of life and social welfare. Hence, the systematic provision of traffic safety education programs suitable for the various age groups at their stage of mental and physical development is very crucial.

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).

2) Basic Strategies and Focus Areas

(i) Sectoral Planning Principle and Goal / Target

(1) Vision

The vision of traffic safety education and traffic safety culture development is to create "A Kind-hearted Road Traffic Accident-Free Society." Despite it being a rather ambitious and time- and resources-consuming plan, this vision is regarded as attainable through efficient participation and cooperation of every concerned agency.

(2) Common Goal

The common goal of traffic safety culture development is to "minimize the number of road traffic accidents and to maximize the level of awareness on road traffic safety by 95% of total population by 2020."

(3) Target

The target will be prioritized based on existing road traffic accident causal analysis upon the high-risk behaviours, age groups and geographical areas as follows:

- High risk-taking behaviors: Speed-driving; running red light; drunk-driving; reckless driving, overtaking, passing over; jaywalking; reckless pedestrian crossing such as not using authorized pedestrian lanes or use of gadgets/devices while crossing, etc.
- Target age groups: The targeted age groups are as follows: (a) 5 – 10 years old; (b) 11 – 14 years old; (c) 15 – 20 years old; (d) 21 – 30 years old; (e) 31 – 55 years old; (f) and 56 and above.

The provision of traffic safety education and cultural development should reach all these age groups which include small children, students at all educational levels, migrant workers in construction sites, street vendors, general population, particularly the elderly in communities and the indigenous groups, people working for government and private organizations, etc.

- Coverage area: This shall have a nationwide coverage, including urban,

rural, remote, and mountainous areas.

(ii) Basic Strategies

The traffic safety education and traffic safety culture development will have to cover a wide range of fields or areas. Thus, it is important to develop practical strategies and focus areas for both effective planning and sustainable implementation.

The basic strategies for traffic safety education and traffic safety culture development are formulated basically in consideration of the current sectoral issues as discussed in Volume 2 of this Final Report as well as the overall basic strategies discussed in Chapter 2 of this report volume.

Hence, the following are basic strategies and focus areas of traffic safety education and traffic safety culture development.

(1) Traffic Safety Education in School Program

The proposed basic strategies for traffic safety education in school program are as follows:

- Traffic safety educational practice program for pre-school children
- Traffic safety education program for primary up to university students
- Community involvement program
- Organization and institutional framework development

(2) Traffic Safety Culture Development Program

The basic and main strategy for the traffic safety culture development program is the establishment of a traffic safety foundation wherein various programs and campaign activities shall be introduced for implementation. These programs, campaigns, and activities shall be described in the succeeding subsections.

3) Traffic Safety Education in School Program

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.

In order to meet the common goal in minimizing the number of road traffic accidents, the target of these implementation programs are from pre-school children to university students including its communities and concerned key agencies such as MOET and MOPS.

The total cost for comprehensively implementing the traffic safety education in school program is roughly estimated at USD118.53 million for the overall proposed strategies and its implementation programs until 2020.

Table 3.4.1 Overall Traffic Safety Education in School Program by 2020

Total Cost US\$ 118,530,000

Basic Strategy	Target	Focus area	Program/Activity	Core Agency	Joint Agencies	Budget
Traffic Safety Educational practice for pre-school children	Pre-school children	The basic strategy for young children is to equip them with basic safety abilities, such as ability to safely cross the street alone before they reach primary school-age.	SAFETY PRACTICE FOR PRE-SCHOOL CHILDREN PROGRAM		Sub-Total	11,770
			TSE improvement program at Kindergarten	MOET	DOET	930
			Safe road crossing ability development program	MOET	DOET	6,750
			Mobile traffic safety program for out-of-school kindergarten-age children	NTSC	MOET	1,280
			Parental education development program	MOET	MOCI	2,810
Traffic Safety Education for primary to university students	Primary school pupils to university students	Development of ability for risk perception and safety practice	TSE PROGRAM FOR PRIMARY TO UNIVERSITY STUDENTS		Sub-Total	46,970
			Traffic safety education improvement program at primary school levels	MOET	DOET	14,930
			Safe bicycle riding program for primary & secondary schools	MOET	DOET	14,930
			Traffic Safety Zone (Safe-Routes-to/from-home-school)	MOET	MOT	14,930
			Safe motorcycle riding program for college to university students	MOET	MOPS	2,180
Community Involvement Program	Community, schools, students	Enable Community to be a nurturing ground for knowledge and skills on traffic safety learned by students in school	COMMUNITY INVOLVEMENT PROGRAM		Sub-Total	5,079
			Traffic Safety Culture in school program	MOET	DOET(MOCI)	399
			Black spots/hazardous spots identification program	MOET	MOPS	1,560
			Safe children's crossing program	MOET	NTSC	1,560

Continued next page

Table 3.4.1 Overall Traffic Safety Education in School Program (con't.)

Basic Strategy	Target	Focus area	Program/Activity	Core Agency	Joint Agencies	Budget
Organization and Institutional Framework Development	Schools, teachers, students and other organizations concerned	Introduction and improvement of traffic safety education possible to support the necessary functions in R&D activities, teaching methodology and so forth	ORGANIZATIONAL AND INSTITUTIONAL FRAMEWORK DEVELOPMENT		Sub-Total	54,711
			Institutionalization of school traffic safety education	MOET	DOET	1,130
			Curriculum development program	MOET	DOET	27
			Teaching materials/aids development/supply program	MOET	NTSC	40,550
			Human resource development program (Training and Retraining of school teachers)	MOET	DOET	3,475
			New teaching methodology development program	MOET	DOET	5,680
			School-police liaison system development program	MOET	MOPS	1,590
			Guideline on the management and evaluation of school traffic safety education	MOET	NTSC	18
			Enhancement of safety function in the existing department	MOET	NTSC, MOPS	2,241

4) Traffic Safety Culture Development Program

Since major cause of accident is human error, changing road user behavior should urgently be prioritized to make road traffic safety normative. This means a re-ordered set of culture through values, beliefs, attitudes, and perceptions and altered norms need to be reformed for appropriate behaviour when participating in road traffic. Hence, traffic safety culture development shall be introduced.

The daily practice of proper road use behavior would accumulatively internalize an individual attitude, develop into subjective norm and safety-consciousness leading to a safety habit and gradually developing into a sense of social conscience which will naturally and inherently transform to a traffic safety culture behavior.

The success of traffic safety culture development lies in the enthusiasm and commitment of the authorities concerned and the communities in particular to work together towards a common goal of increasing awareness and reducing the number of road traffic accidents. This traffic safety culture development is therefore aimed at helping build capacity towards sustainable development.

It is important that the development of traffic safety culture should utilize not only a single countermeasure but a combination of the 3-E countermeasures to effect a sustainable road user behavioral change. Hence and foremost, the establishment of a traffic safety culture coordinating unit (or traffic safety foundation) for the management of safety culture in road traffic safety should be a primary consideration.

(i) Institutional Framework of Traffic Safety Culture 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. Proposed institutional framework and specific roles of each responsible unit is illustrated in Figure 3.4.1.

(ii) Determination of Potential Agencies and Stakeholders as Traffic Safety Foundation

Determining which are potential agencies that are appropriate to handle or manage the traffic safety foundation is thus an urgent and essential requirement.

To improve road user behavior and to develop an inherent safe culture in the Vietnamese society, the concerned core agencies that must be involved directly are the Central Ideology and Culture Department, Ministry of Information and Communications (MIC), MOCI, MOET, in coordination with the MOT, MOJ, MOH, MOPS, and private sector such as automobile companies, insurance companies and other safety advocates with fundamental support from the community and general public.

Figure 3.4.1 Proposed Institutional Framework of Traffic Safety Foundation

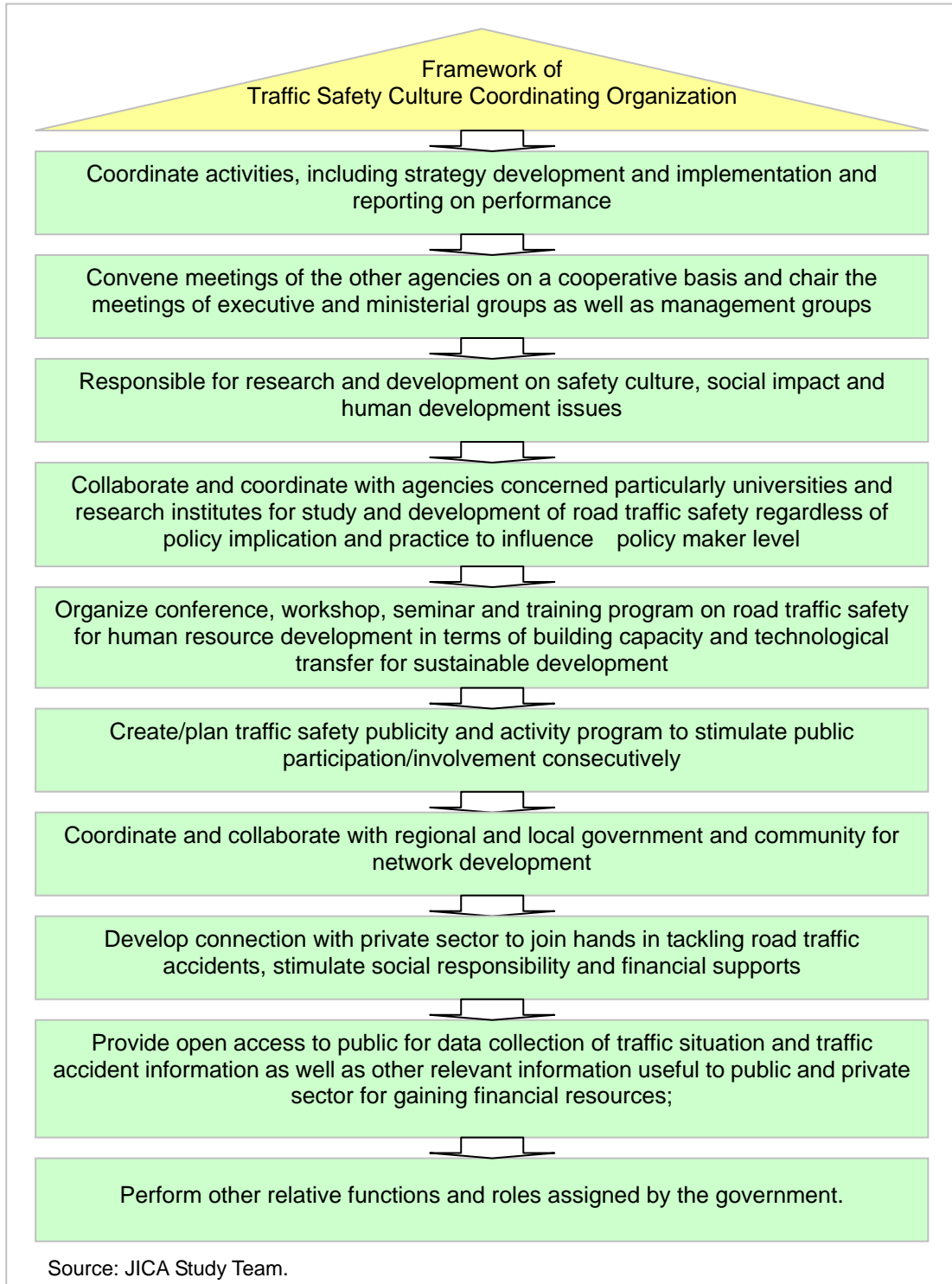


Table 3.4.2 Proposed Traffic Safety Culture Development Program

Total Cost: (US\$ 140,000,000)

Commitment	Basic Strategy	Program component / Action Program	Core Agency	Coordinating Agency	Estimated Cost (Mil. USD)
Vision "A kindhearted Traffic Accident-Free Society"	Establishment of Traffic Safety Foundation	Establish traffic safety foundation or institution	Central Ideology and Culture Dept. NTSC / MOT	MOET, MOPS, MOH, VN Fatherland Front organization and its union members, universities, private sector	9
		Enhance research and development	NTSC / MOT	MOET, MOPS, universities	10
		Strengthen education and consciousness / awareness	MOET, MIC, MOT	MOPS, MOJ, MOCI	12
Goal "Minimize the number of road traffic accidents and maximize traffic safety awareness by 95% of population" by the year 2020		Improve human resource development focusing on building capacity through safety culture workshop activities	Central Ideology and Culture Dept., MOT, MOET	MOPS, MOH, VN Fatherland Front organization and its union members, private sector,	16
		Create community understanding and acceptance on safety issues	Central Ideology and Culture Dept., MIC	MOET, MOT, Dept. information and communication	8
		Enhance safety management commitment on publicity and propaganda	MOCI, Dept. of information and communication	MOT, MOET, MOPS, MOH, VN Fatherland Front organization and its union members	8
		Enhance community involvement /participation for network development	MOCI, MIC	MOET, MOPS, MOH, VN Fatherland Front organization and its union members, private sector	13
		Target All citizens from decision makers/policy makers down to schools, university and community peoples at grass root level	Consensus- and trust-building in community prioritizing safe community	MOCI, Dept. of information and communication	MOT, MOET, MOPS, MOH, VN Fatherland Front organization and its union members
Build national image on "Vietnam, a culture of safety"			MOCI, Dept. of information and communication	MOT, MOET, MOPS, MOH, VN Fatherland Front organization and its union members	10
Develop/improve traffic safety standards through dissemination of information			MOCI, Dept. of information and communication	MOT, MOET, MOPS, MOH	15
Develop and increase the level of collaboration and responsibility sharing for action among all stakeholders	Central Ideology & Culture Dept., MOCI, Dept. of Information and communication		MOT, MOET, MOPS, MOH, VN Fatherland Front organization and its union members, private sector	10.5	
Develop system for monitoring and reporting progress of all planned actions and evaluating results (Key performance indicator vis-a-vis Key success indicator).	MOCI, MOCTS, Dept. of Information and communication		MOT, MOPS, MOH, MOJ, and local agencies concerned	8.5	

Source: JICA Study Team.

5) Summary of Traffic Safety Education and Traffic Safety Culture Development

The development of traffic safety education and traffic safety culture (traffic safety education in community including traffic safety campaign and propaganda) will be the key significant mechanism to sustainably change the general population as a whole towards integration of proper road use and behavior into their daily lifestyle.

To motivate a sustainably behavioral change among the road users, one single measure would not be efficiently adequate and hence an integrated countermeasure of education, engineering and enforcement with proper encouragement of public participation and evaluation is essentially required.

Thus, 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.

Similarly, the traffic safety foundation that is proposed for establishment is the only basic strategy in the Master Plan. Under the establishment of this traffic safety foundation, a total of 12 programs are being proposed to be implemented nationwide utilizing media and propaganda for campaign activities.

The traffic safety culture development or traffic safety education in community including traffic safety campaign and propaganda shall be promoted systematically and constantly through mutual cooperation among the national and local government agencies, traffic police and private organizations for the purpose of raising people's traffic awareness and encourage them to observe traffic rules and appropriate traffic behavior in their daily life. Mass media has a profound effect on daily lives of the people, and effective publicity can influence road user behavior and increase awareness on traffic safety issues. Well-planned publicity and campaigns can influence road users' attitude and behavior in the long run.

3.5 Medical Emergency and Traffic Accident Victim Support Development Strategy

1) Goals

(i) Overall Goal

By the year 2020, the medical emergency sector will take more than 10% of share in fulfilling the goal of the Master Plan to reduce TA deaths by 50% in the year 2020. (The fatality rate will be 0.68/100,000 habitant compare with 1.36/100,000 habitant 2006)

(ii) Specific Goals

- (1) Reduce traffic accident fatalities in hospitals by improving hospital capabilities: 100% of provinces/cities hospitals will be upgraded in manpower (specialists) and medical equipment in order to have capacities to reduce traffic accident fatalities by 5% every year. To reduce by 50% the number of traffic accident fatalities in hospitals compared with 2007 data (i.e. lower fatality rate to 0.68/100,000 population from 1.36/100,000 population in 2007).

- (2) Improving pre-hospital care: Apply formula "4 ready in the field" to give first aid to the victims in the field as soon as possible; motivate community to participate in first aid and transfer victims to the hospitals, especially in the remote areas; establish emergency units in the "parking or rest areas" along national roads and railway stations to provide first aid to traffic accident victims.
- (3) Develop 115 system: 115 emergency systems to cover all provinces nationwide based on public health system, private and military system. District hospitals have out-hospital emergency team equipped ambulances and necessary medical equipment to give first aid and transfer victim to the hospitals.
- (4) Improve training system for EMS personnel: Training system on emergency will be established to upgrade knowledge of the health workers, training to grass-root health workers and community on common first aid techniques in high risk traffic accident areas.
- (5) Prepare for disaster and mass casualties: 100% of provinces/cities hospitals will be upgraded in manpower (specialists), medical equipment, facilities, etc. for the provincial and district hospitals to have the capacities to receive at least 50 victims and 20 victims of mass casualty accident, respectively.

2) Strategies for Medical Emergency Development Program

(i) Development of Pre-hospital Care

- (1) Strengthening Emergency Information System
 - Consistent policy nationwide on a single, toll-free telephone code system for emergency (115).
 - Setting-up the first information center on Traffic Accidents along the national roads.
 - Immediate rescue activities right after information is received.
 - Consider investing on GPS (Global Positioning System) to identify location of vehicles involved in traffic accidents and to be able to immediately deploy rescue and emergency operations.
 - Application of modern information system in the command post of the 115 emergency system in big cities like Hanoi, Da Nang, Ho Chi Minh City, and Can Tho and utilization of the digital communication map in the central emergency command post.
- (2) First Aid and Transportation
 - It is necessary to apply the "4 ready in the field" principle which is command, manpower, facilities, and logistics in the application of medical emergency for traffic accident victims.
 - The following are proposed:
 - District hospitals, especially those located in areas with high traffic accident incidences need to have at least 2 ambulances
 - The health and medical facilities should have an effective plan to collaborate with the military stationed in the remote areas in providing rescue and first aid operations

- Railway emergency medical stations which can provide first aid treatment in cases of accidents should be established

- Strengthening emergency capacity for health worker at the grassroots level:

(3) Development of 115 System

- Implementation of all prescriptions for out-patient hospital emergency system (115 emergency system) as indicated in the Decision of MOH No 01/2008/QD-BYT dated 21 January 2008 which promulgated the regulation on health emergency, active recuperation and poisoning control Social mobilization of private sector and community for 115 emergency services
- Encourage favorable policies for health workers in 115 emergency system

(ii) Training Health Workers for Emergency System

(1) Needs Identification

(2) Standardization of Training Curriculum

- It is necessary to prepare a training curriculum for emergency which is approved by the MOET. If curriculum can be completed and approved within this year (2008), then training may commence for 2009-2010 training cycle. Otherwise, it should wait until 2010.
- While waiting for the completion of the official emergency training curriculum, the present training curriculum for existing staff of the 115 emergency units and emergency wards of the provincial/district hospitals must immediately be updated in time for the 2008-2009 training cycle.

(3) Formulation of Emergency Training Centers in 3 Areas of the Country

(4) Design, Printing and Dissemination of Training Curriculums

(5) Educating the Community and School Children

(iii) Disaster and Mass Casualty Accident

(1) Strengthening emergency capacity of the hospitals

(2) Satellite hospitals

- Hospitals in the provinces/cities located in the focus regions will establish an emergency satellite system by upgrading both expertise and medical equipment of the provincial hospitals located in the area. In addition, a provincial hospital will be upgraded into a regional hospital which will be responsible in receiving traffic accident victims from other provincial hospitals in the area.
- Set up emergency centers in designated rest stations along national roads.

(3) Provide appropriate first aid techniques or post-mortem to accident victims

- Strengthening capacity of the provincial hospitals to receive and provide first aid treatment to the victims of mass casualty accident (with over 50 victims) with available resources. When necessary, support mobile team will be requested from central and regional hospitals in the region.
- Training for leader and key staff of the local government and the local health unit on proper handling process during an emergency especially when many

victims are received in the hospital all at the same time (e.g. triage, first aid, hospital security, recording/reporting system, press releases to the mass media, logistic management, etc.).

(4) Organization of a disaster medical assistance team (DMAT)

A DMAT in all central and regional hospitals staffed with specialists equipped with modern medical equipment and ready to support the provincial and district hospitals when mass casualty accident occurs.

3) Organization and Resource Development

(i) Accident and Injuries Prevention Project

Ongoing project supported by WHO which focused on 7 provinces may be replicated to any other provinces, if not nationwide. This project will continue to receive support from WHO and other international agencies (SIDA). Estimated cost is USD800,000 for the period 2009-2012.

(ii) Strengthening Medical Emergency System Project

This includes 3 subcomponents with total budget of USD2,000,000.

(iii) Establishment of Two Data Centres on Accident Victims in Health Facilities

Proposed to be established in Hanoi and HCMC with an estimated cost of USD250,000.

4) Implementation Strategy

(i) Period 2008-2010 (Preparatory Phase)

- (1) Maintaining the number of fatalities caused by traffic accidents similar to that of 2007.
- (2) Establishment of the initial emergency including 115 emergency system in 20 focus provinces belonging to the central government and 8 selected regions.
- (3) By year 2010, there would have been 10 hospitals upgraded both in terms of specialists and medical equipment including ambulances.
- (4) Completion of overall plan on human resources training for medical emergency until the year 2020.

(ii) Period 2011-2012 (Start of Implementation Phase)

- (1) Reduction by 10% of number of fatalities in hospitals (based on 2007 data) resulting from traffic accidents per 100,000 population.
- (2) Establishment of initial emergency system (including 115 emergency system) in 50% of the provinces of the country.
- (3) Upgrading of additional 20 hospitals in the central and provincial levels, both in specialists and medical equipment (including ambulances), thus total number of upgraded hospitals will be 30 by end of this period, equivalent to 45% of provincial hospitals in the whole country.
- (4) Establishment of 3 training centers on health emergency in the 3 regions: North, Central coastal and South of Vietnam.

(iii) Period 2013-2015

- (1) Reduction by 30% fatality rate of traffic accident victims per 100,000 population in the hospitals.
- (2) Establishment of the emergency system (including 15 system) in all provinces and cities in the whole country.
- (3) Upgrading of an additional 20 more provincial hospitals both in terms of specialists and medical equipment (including ambulances), bringing the total number of upgraded hospitals to 50 (or 80% of total number of hospitals in the country).
- (4) Operation of training centers which successfully produces emergency doctors for the 115 emergency system and ICU in hospitals.

(iv) Period 2016-2020: Goals (Target completion by year 2020)

- (1) 100% of the provincial hospitals have been upgraded; staffed with adequately skilled human resources and has appropriate medical equipment to provide first aid and emergency treatment to victims of mass casualty accidents of at least 50 victims. District hospitals have capacity to provide first aid and emergency treatment to up to 20 victims of traffic accidents. Fatality rate of victims at hospitals is reduced by 50% based on 2007 data ($< 0.5/100,000$ population).
- (2) Fully developed and functional emergency network that provides early response and emergency treatment to the victims; community members are more proactive in providing first aid treatment and transfer of victims to the hospitals.
- (3) 115 health emergency system coverage in all areas of the provinces/cities based on close collaboration with the public, private, and military hospitals. All district hospitals have out-patient emergency team equipped with medical equipment and ambulances to provide first aid and transfer the victims to the hospital.
- (4) Emergency training system integrated in all medical schools to upgrade skills of the health workers employed by the 115 system and hospitals, as well as training to the community.
- (5) Institutionalization and implementation of a national insurance system to ensure coverage for 100% of traffic accident victims.

4 INSTITUTION AND RESOURCE DEVELOPMENT STRATEGIES

4.1 Planning Approach and Priority Issues

In order to ensure the sustainability of the traffic safety policy and to continue effective and efficient countermeasures, it is necessary to develop (1) institutional infrastructure, (2) human resource and (3) financial resource.

Three institutional development programs shall be discussed in the succeeding subsections with the respective program components:

- (i) Administrative Enhancement Program

- Enhancement of NTSC
 - Provincial/City Traffic Safety Committee
 - Traffic Safety Department/Unit in the Transport Department
 - Legalization of NTSC and Traffic Safety Plan
- (ii) Research and Development Program
- Traffic Safety Center Development
 - Traffic Safety Database Development
- (iii) Resources Development Program
- Traffic Safety Foundation Development
 - Vehicle Tax System and Other Fund Sources
 - Traffic Safety Human Resource Development

4.2 Administrative Enhancement Program

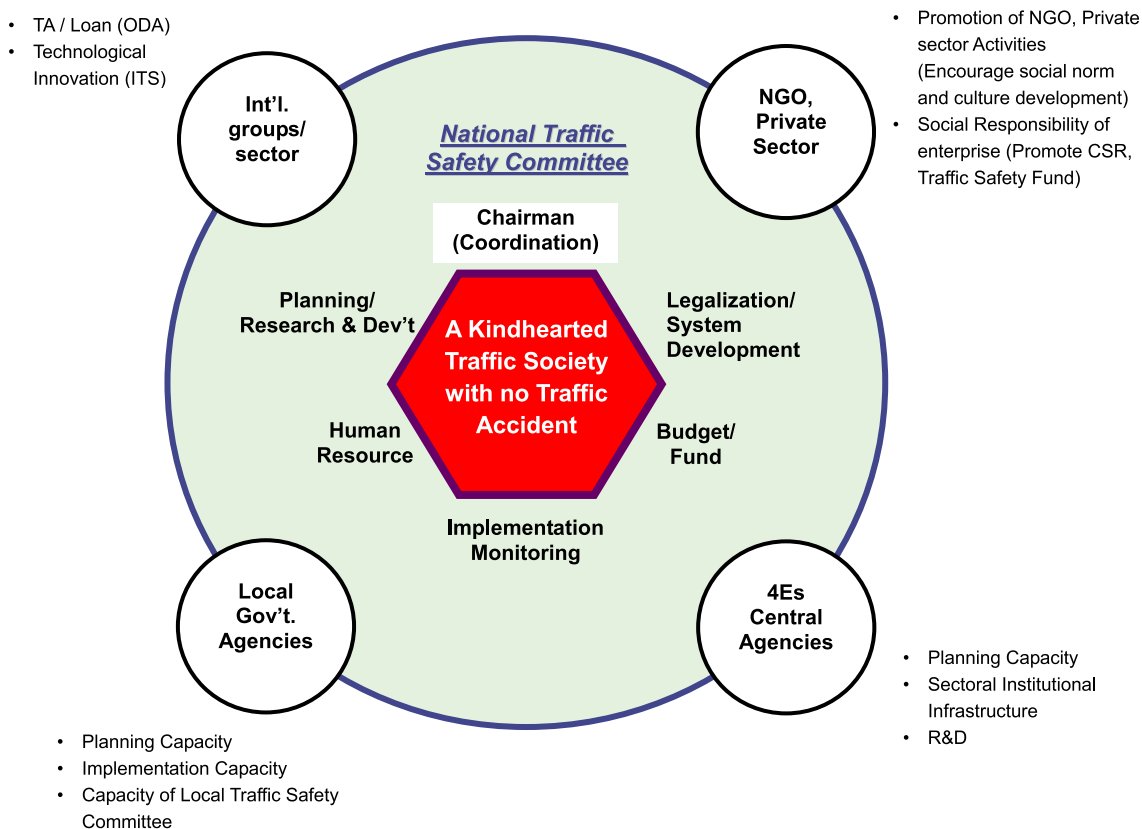
1) Ideal Core Organization for Traffic Safety Development

One of the objectives of the program is to enhance the responsibility and function of National Traffic Safety Committee for sustainable traffic safety development in Vietnam. And critical to the success of the comprehensive traffic safety measures is for a core agency to ensure that the 4C (Communication, Cooperation, Coordination, and Corroboration) among the agencies and organizations involved in any traffic safety projects and activities are present.

Figure 4.2.1 illustrates a desirable and ideal core organization in the central government which will be responsible in promoting comprehensive traffic safety measures. To achieve its traffic safety development policy, A Kindhearted Traffic Society with no Traffic Accident, it shall require five main functions, as follows: policy development, planning/R&D, preparation of fund and human resource, implementation and monitoring of the safety measures, and finally, coordination among the concerned ministries and agencies. Another important function is to provide linkages with other sectors, such as local government agencies and NGO/private sector organizations, as well as international donors.

Another important function is to provide linkages with other sectors, such as local government agencies and NGO/private sector organizations, as well as international donors. To be more precise, this core organization should be National Traffic Safety Committee. Further discussion of the enhancement of National Traffic Safety Committee as well as its legalization will be made in following sections.

Figure 4.2.1 Model Core Organization in the Central Government for the Sustainable Traffic Safety Development



Source: JICA Study Team

2) Enhancement of Traffic Safety Committee

(i) National Traffic Safety Committee

The main responsibility of the NTSC is to coordinate among relevant agencies and organizations for effective implementation of traffic safety measures and to provide appropriate suggestions to Prime Minister of Vietnam. In order to ensure the sustainability of traffic safety development, it is necessary to enhance the functions of the NTSC for it to have the sufficient capacity as the core organization of traffic safety development already mentioned. Therefore, it is important to define which of NTSC's functions should be enhanced. Final goal of the enhancement program is to develop a proposed desirable organization structure. However this is a long term goal since the organizational functions and structure shall be upgraded from time to time according to the needs and based on the social-economic development stages and situations.

The main proposal for the NTSC strengthening program is the establishment of a National Traffic Safety Authority which will be capable of developing policies and strategies as well as support implementation under the supervision of the committee. The Authority will be formulated based on the current organizations including Executive Office and TSPMU, and will conceptually be divided into six departments as shown in Table 4.2.1.

Table 4.2.1 Proposed Function for National Traffic Safety Authority

Department	Section	Functions
■ General Affairs	• Office of Committee	✓ Organize NTSC meetings
	• Administration	✓ Account, Personnel, others
■ Department of Comprehensive Traffic Safety Development	• Planning and Development	✓ Traffic safety policy and strategies ✓ Development of comprehensive traffic safety program ✓ Development of Master Plan and Action Program ✓ Preparation of the yearly evaluation reports (Traffic safety white paper)
	• Traffic Safety Culture Development	✓ Most of the safety countermeasures will be implemented by the respective line ministries such as MOT, MOPS, MOET, and MOH. But Traffic Culture Development shall be managed by the National Traffic Safety Center in cooperation with local governments. ✓ The Center shall develop a training and development program and instructors. ✓ Implementation of programs will be promoted to NGOs, private entities and other community groups.
■ Department of Project Management	(setup for specific projects) • VRSP • JICA	✓ Administration, coordination among the concerned agencies ✓ Procurement ✓ Monitoring and supervision
■ Department of Local Traffic Safety	• Northern Region	✓ Provide guidance and advices to Provincial Traffic Safety Committees ✓ Provide financial support
	• Central Region	
	• South Region	
■ Traffic Safety Foundation and NGO Desk	• Traffic Safety Foundation • Relation Development	✓ (preparatory office for the foundation) After establishment ✓ Coordination of the foundation activities
	• NGO Desk	✓ Promotion of the NGO traffic safety activities ✓ Provide guidance and support
	• Publication	✓ Traffic Safety Information ✓ Traffic Safety White Paper, etc
■ Department of Human Resource Development		✓ Coordinate with educational institutions such as Universities, Police Academy and MOT Training Schools and implement training programs for Traffic Police, Inspectors and engineers. ✓ Trainers' training

Source: JICA Study Team.

In most of the motorized countries, a National Traffic Safety Committee or an organization that has a similar function is established as a central coordination body. In Japan, the Central Traffic Safety Committee was formed in 1970, supported by the Traffic Safety Policies Act. At the same time, under this central committee, a local traffic safety committee is also established in each prefecture government. The central committee is chaired by the Prime Minister while the local committee is chaired by the governor of prefecture.

(ii) Provincial/City Traffic Safety Committee

While the NTSC will be involved more or less in policy making, the local traffic safety committees will however be expected to play a more comprehensive role:

from the preparation of safety measures to their implementation based on their respective local conditions.

It will be expected that local traffic safety committee will be enhanced in each province and city and will undertake responsibility of the traffic safety development. The first task of the committee would be to prepare local traffic safety action program based on the National Plan, which will be the first mutual collaboration between central agency and local governments.

In the local government level, fund and human resources will still be the significant issues, except in major urban areas such as HCMC and Hanoi, so that the target and basic strategies for the local traffic safety development are proposed as follows:

Target of the Master Plan: "By the year 2015, all Provincial Traffic Safety Committee and major City Traffic Safety Committee will be enhanced and Local Traffic Safety Action Program (2015-2020) will be prepared and implemented."

Proposed strategies for the enhancement of Local Traffic Safety Committee are:

- (1) Coordination with NTSC; major urban municipal governments shall enhance their own Traffic Safety Committee. And based on orientation of National Traffic Safety Strategies, respective safety committees shall prepare their action programs.
- (2) Provinces which had or may have the chance to be involved in WB-VRSP and JBIC Traffic Safety Project will be prioritized in the implementation of the traffic safety measures in line with those ODA projects.
- (3) Starting from major urban areas (Hanoi and HCMC) and any provinces where fund and human resources are available, activities of the proposed local traffic safety committees shall be put on track. The number of the total traffic accidents in the major urban areas shared a large portion of the national total; therefore, significant reduction on the number of fatalities will be expected.

3) Legalization of the Traffic Safety Development Plan

(i) Comprehensive Traffic Safety Development Plan

One of the main themes of this master plan is the development strategy on how to introduce and disseminate the importance of the comprehensive traffic safety program. Since traffic safety measures will be implemented from different sectors by different agencies and organizations, cooperation and collaboration mechanisms for this comprehensive program will be a critical issue. As already discussed, the first step to promote implementation of the comprehensive traffic safety program is to institutionalize the comprehensive approach, to define the responsibilities of the organizations as well as sharing of cost among concerned agencies.

This comprehensive program has basically two areas: one is for accident prevention and another is for post-accident measures. Comprehensive approach for the accident prevention will consist of the 3Es (Engineering, Enforcement and Education), although each measure will not always involve the 3Es (sometimes only requires 2Es or just one E, for example, education component for schools and

communities). More important issue however is who should take responsibility in the development and dissemination of the comprehensive approaches.

Comprehensive program for post-accident measures will discuss the medical emergency issues and treatment of traffic accident victim including accident and life insurance coverage.

The following strategies are proposed to promote the comprehensive traffic safety policy:

- (1) Traffic Safety Master Plan (Strategies) and its Action Program shall indicate need and necessity of the comprehensive traffic safety policy as a fundamental policy (can be one of the clauses of the Traffic Safety Policies Act or Road Traffic Law).
- (2) Implementation mechanism (implementation order) shall be prepared including responsibility of organization involved, particularly role of Traffic Safety Committee.
- (3) For new road construction projects (highways and expressways), Traffic Safety Audit or Traffic Safety Impact Assessment Law shall be introduced and if found to have adverse impact on traffic safety, appropriate measures shall be integrated as component of the road project.
- (4) Liaison council shall be established for periodical communication and coordination, and in the identification of target projects. Traffic safety standing group and activities in Hanoi may be disseminated to other municipalities.
- (5) Provincial or City Traffic Safety Committee should play a central function in the promotion and implementation of the comprehensive traffic safety program.

(ii) Traffic Safety Policies Act

An important issue of traffic safety policy development is not only how to effectively implement the measures in each sector, but also how to develop the comprehensive measures, ensure their sustainability, as well as develop a smooth and effective dissemination mechanism. Many government agencies from central to local levels shall be further involved into traffic safety development, thus, the functions and responsibilities among these agencies and organizations and mechanism of policy development should be clarified and finally legalized.

In Japan, the Traffic Safety Policies Act was established to ensure the sustainability of the policy developments. The Act includes establishment of the traffic safety committee in the central and local levels and their functions, as well as policy guidelines for the 5-Year Action Program. Based on the Act, Japan has implemented a series of action program since 1970, and at present, the Eighth Five-Year Plan is ongoing.

4.3 Research and Development Program

1) Traffic Safety Center Development

In order to ensure efficiency and effectiveness of the traffic safety policies and measures, many issues should be examined closely. While sectoral issues will be

handled by each respective sector, an organization solely responsible for intersectoral issues shall be a very indispensable element in the development of comprehensive traffic safety policies and measures, as well as for the sustainable traffic safety development. This is the rationale for the proposed Road Traffic Safety Center (name of the organization will be decided on by NTSC). This subsection will focus discussion only on the main framework of the proposed organization.

The desirable framework for the proposed traffic safety center is as follows:

(i) Mother Body: National Traffic Safety Committee

(ii) Functions:

- Examination and analysis of traffic safety policies
- Preparation of Master Plan and Action Program in cooperation with relevant organizations and agencies
- Development of a traffic safety database and its analysis including accident-violation data, traffic data, road inventory data, etc.
- Traffic Safety Audit
- Monitoring and Evaluation of the traffic safety measures
- Publication of Traffic Safety White Paper
- Research and development for new traffic safety measures
- Traffic safety human resource development
- Others

(iii) Source of Funding

National budget and other fund sources such as insurance, license renewal fees, etc.

2) Traffic Safety Database Development

Data on traffic accidents and traffic violations are invaluable not only to examine traffic safety countermeasures, but also to examine various policies related to socio-economic activities including governmental and provincial budget considerations.

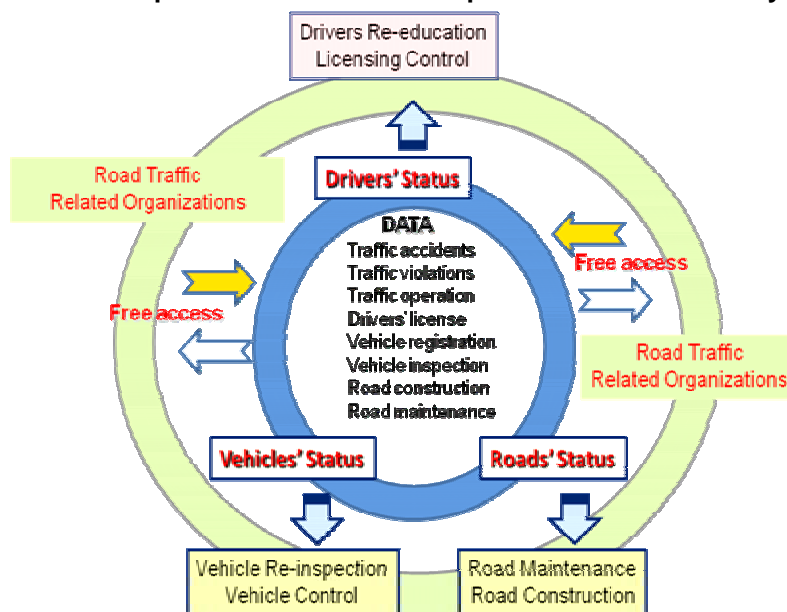
The data on traffic accidents and traffic violations provide a clear picture of the drivers' personal histories, information indicated as "Drivers' Status" which is the same as that in the driver's license.

Therefore, to effectively and efficiently implement traffic safety countermeasures from the "Drivers' Status" perspective, such as drivers' education and licensing control, a systematic and integrated management of the traffic accident and violation data together with that of the driver's license database is necessary and should be made available to all concerned agencies.

Similarly, the data on "Vehicles' Status" is also important in the examination of traffic safety countermeasures in terms of "Vehicle Status". Figure 4.3.1 shows the conceptual framework of comprehensive traffic safety database. In this figure, the comprehensive overall database consists essentially of the data representing "Drivers Status", "Vehicles

Status” and “Roads Status”. In particular, the database is consisted of data on traffic accidents, traffic violations, traffic operation, drivers’ licenses, vehicle registration records, vehicle inspection records, road construction, and maintenance record.

Figure 4.3.1 Conceptual Framework of Comprehensive Traffic Safety Database



Source: JICA Study Team.

The effects of countermeasures basically depend on strength of each component. However, a balance among these three components is ideal to obtain the optimum benefit from each proposed countermeasures of the 3Es perspective. This means that it is very important that when examining and developing countermeasures for a particular component (e.g. enforcement), careful consideration should also be given to the other components (i.e. education and engineering) to ensure implementation of practical and effective countermeasures.

Finally, in the development of the abovementioned database, it following should be clearly identified: what is the purpose, how will it be used, what kind of data is needed for input, what will be the output, etc. The system configuration may vary depending on purpose of usage.

4.4 Resources Development Program

1) Traffic Safety Foundation Development Program

The Road Traffic Safety Center is being proposed as a one-stop center for traffic safety policy developments while the Vietnam Road Traffic Safety Foundation is being proposed to aim at promoting traffic safety education and campaign with non-governmental organizations, volunteers and private companies such as automobile companies.

A desirable framework of the proposed Vietnam Road Traffic Safety Foundation is as follows:

- (i) Mission: Development of Kindhearted Traffic Safety Culture in Vietnam
- (ii) Mother Body: Affiliation to National Traffic Safety Committee (although

organizationally- and financially-independent)

(iii) Functions:

- Promotion of Traffic Safety Campaign
- Development of Education Programs and Materials
- Trainers' Training
- Safe Driving Training
- Collaboration with private sector for traffic safety
- Others

(iv) Expected Membership: Private Companies, NGOs, Educational Institutions and Individuals, etc

(v) Source of Funding:

Support and sponsorship from automobile industry and other private sector.

(vi) Proposed Organizational Structure:

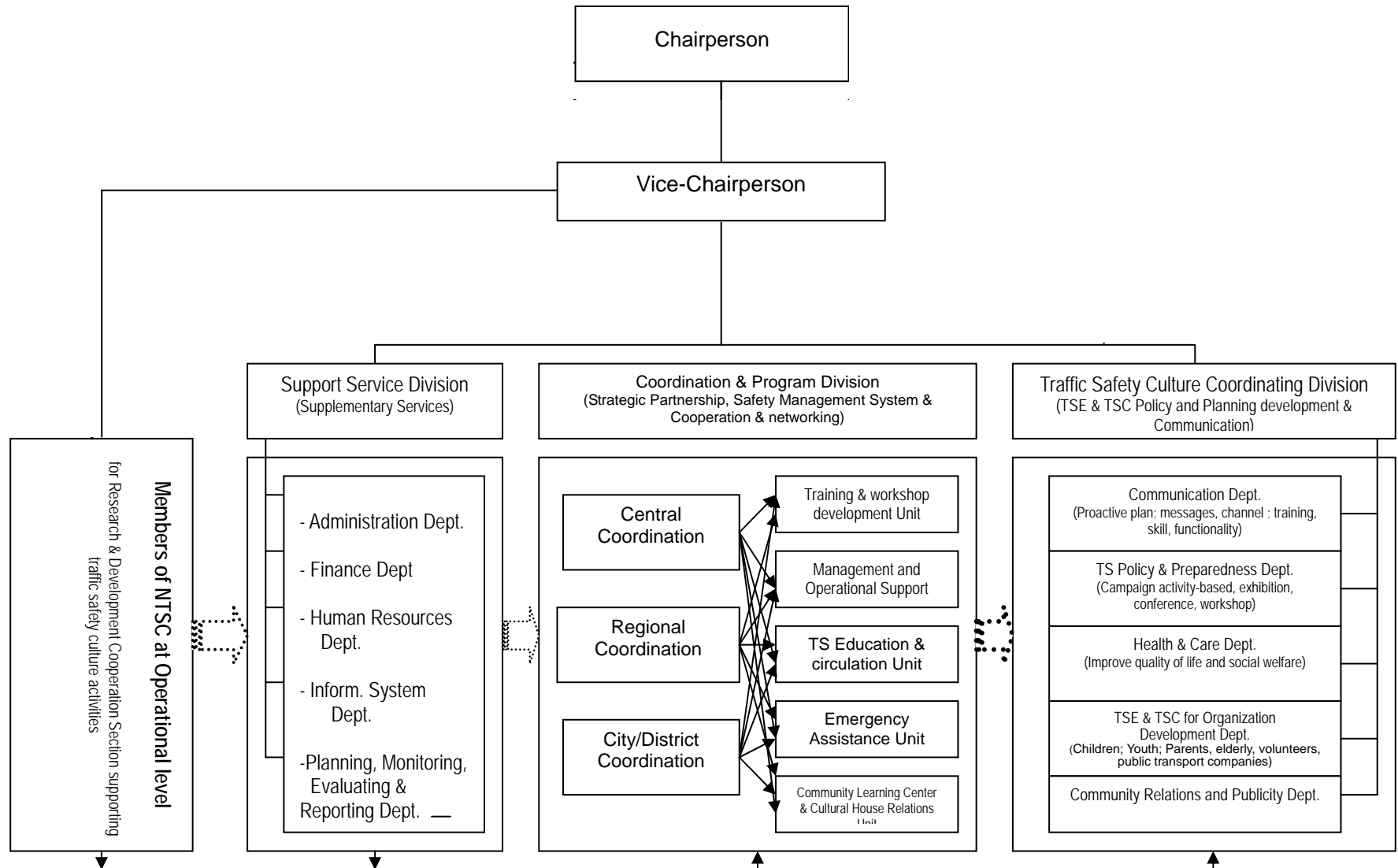
To improve road user behavior and to develop an inherent safe culture in the Vietnamese society, the concerned core agencies that must be involved directly are the Central Ideology and Culture Department, MOCI, MOET, in coordination with the MOT, MOJ, MOH, MOPS, and private sector such as automobile companies, insurance companies and other safety advocates with fundamental support from the community and general public. Figure 4.4.1 shows the proposed conceptual model of Organization Structure for the Traffic Safety Foundation.

However, it is understandable that due to the Government's present economic and social constraints, to realize comprehensive implementation of traffic safety education and propaganda programs, as well as campaign activities, it is necessary for the Government and the private sector to work together in coming up with a workable arrangement to support the aforesaid traffic safety culture activities.

The Government shall also promote voluntary efforts and activities of private organizations with traffic safety improvement by assisting them in carrying out various projects and events in training programs for traffic safety instructors and also providing them with information necessary for their activities. In particular, there should be a promotion of those traffic safety education programs or publicity activities in private organizations for volunteer traffic aides. These efforts should be made to establish training and curricula to train traffic safety instructors.

In addition, it is recommended that the Government shall set aside a percentage of the violation fees, insurance premium from insurance companies, gasoline tax, or other transport tax for use in traffic safety education and propaganda activities.

Figure 4.4.1 Conceptual Model of the Proposed Traffic Safety Foundation



Source: JICA Study Team

It is also recommended that there should be some sort of incentives to those who make donations or social contributions to the activities. As in many countries, tax-exemption for the social contributions will encourage private sector to be involved in traffic safety education and promotional campaigns. In the case of Japan, traffic safety-related activities are being supported by more than 150 private organizations such as Bus Associations, Motor Vehicle Manufacturer Association, Railways Associations, etc. These private entities support not only in the financing aspect, but also in terms of materials, facilities, and long-term volunteers for traffic safety education in schools, communities and households. Therefore, possibility of such incentive system for traffic safety education and campaign activities in Vietnam should be considered.

2) Fund Resources for Traffic Safety Development

(i) Options to Increase Current Main Funding Sources

As discussed in the Progress Report, the two main funding sources for traffic safety are the state budget and fund allocation from collected fees/fines.

(1) Despite the Government's other required sectoral expenditures to cover, state fund allocation for traffic safety is justified by at least two reasons:

- The huge economic losses as discussed above and negative social impact by traffic accidents: the expenditure for traffic safety has usually a high or very high EIRR of about 15-30%. This means that, in general, investments into traffic safety improvement is economically justified.
- Economical Value-added by transport and by traffic safety. In Vietnam, as in many other countries, the newly constructed/improved road has numerous value-added. One clear example is the land price along the road which usually increases remarkably. Similarly, the traffic safety measures could have various economical value-added. For example, smooth, safe and sustainable transport is one condition to attract investors, domestic and foreign.

(2) In accordance with the current Decree No. 146/2007/ND-CP, the Government imposes fines for violations with a standard amount of fine for each violation type 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.

(ii) Road User Charges

The most common road user charges that can be used for financing road safety measures are as follows:

- Road safety surcharges on motor fuel used on roads
- Surcharges on weight-distance charges
- Surcharges on compulsory vehicle insurance fees
- Surcharges on vehicle licensing fees
- Surcharges on road tolls
- Others

Table 4.4.1 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 vehicle insurance compulsory	Best related to road safety	High level of evasion
Surcharges on vehicle license fees	Low collection fee	High level of evasion
Surcharges on road tolls	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 20 July 2007.

(iii) Funding Demand and Effective Usage of Road Traffic Safety

Having identified the main sources for financing road traffic safety, two questions remain: How much should be spent on road safety? How can the available financial resources be used effectively?

It is understandable that the answer for these questions depend on the concrete conditions. The following discussions are concluded from international experiences (WB, GTZ, ESCAP etc.) and could serve as reference in the case of Vietnam.

In developed countries, one can expect to spend between 10% and 15% of cost of road construction, rehabilitation, improvement, and maintenance of road safety engineering measures. And more or less one quarter to one half of this amount on enforcement, and about 3-4% of the total expenditures on roads on road safety campaigns.

Many developing countries are faced with much higher road accident rates than developed ones but they often have a lot of problems with higher priority over traffic safety. Therefore, funds for road safety should only be raised gradually and in line with the improvement of the institutional and human resource issues that permit an effective and efficient spending of road safety funds.

Regarding the question on how can available funds be used more effectively, international experience¹ shows that the most important is to establish a strong enough agency to manage the available fund. It is advisable that this agency should

¹ The Road Safety Cent. GTZ, Germany 2006

have following main characteristics (so-called six characteristics of a second generation road safety fund):

- Sound legal basic with a road safety fund administration and clear rules and regulation;
- Strong oversight by a board with qualified and powerful members from the private and public sector and representing all important groups with vested interest in road safety;
- Agency which is a purchaser, not a provider of road safety works and services;
- Revenue incremental to the public budgets and coming from charges related to road use and channeled directly to the Road safety Fund bank account;
- Sound financial management systems with lean efficient administrative structure;
- Regular technical and financial audits.

3) Traffic Safety Human Resource Development

With the rapidly increasing and expanding motorization in the country, traffic issues such as increasing number of traffic accidents are expected to become more complicated and shall require additional staff that will have continuous upgrading of skills, knowledge and technical expertise. To ensure sustainable human resource development for traffic safety, the strategies that will be proposed are as follows:

- (i) Improvement of higher education system related to traffic safety
- (ii) Development of post-graduate program or training system, including international training
- (iii) Capacity development supported by ODA projects
- (iv) Promotion of research and development in the traffic safety sector
- (v) Encouragement of private consultants for traffic engineering and traffic safety, etc.

4.5 Implementation Strategy for Institutional Development Program

Table 4.5.1 shows the implementation strategy for the institutional enhancement including targets and milestones.

