

5 DRIVERS' LICENSING SYSTEM, VEHICLE INSPECTION AND TRANSPORT OPERATION

5.1 Drivers' Training, Testing and Licensing

Based on analysis made for a sample of 2001 traffic accident data collected by People's Police Academy, it shows that in approximately 66% of recorded accidents, driver error was a contributory factor in some form or another. Therefore, the driver error is one of the urgent issues to address the problem of road traffic safety. Thus, driver training and testing should be at the forefront of any program designed to reduce road accident figures. In this section, the existing issues are identified in the sector of driving training, testing and licensing.

1) Issues and Expectations from this Sector

(i) Present Issues related to Driver Training, Testing and Licensing

(1) Composition of Vehicles on the Road

Based on the registered vehicle number in 2006 by MOT, around 95% of people use M/C and only 5% of the people drive a car, truck or bus. And since transport behavior is critical in addressing traffic safety problems, unless an adequate education for M/C driver will be implemented, the number of traffic accidents will not decrease.

(2) Characteristics of Traffic Accidents

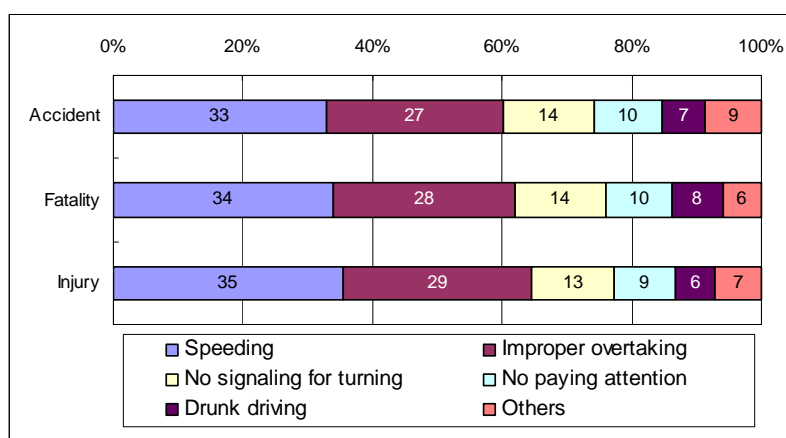
Figure 5.1.1 shows the traffic accidents by driving error. More than half of driving error is a risk taking behavior such as speeding, improper overtaking and drunk-driving. For these drivers, it is necessary that they be provided information not only on traffic rules and regulations but also knowledge of vehicle characteristic and risk forecast behavior. This is particularly true for serious accidents caused by trucks and buses in the rural areas which were usually caused by these risk-taking behaviors. In addition, improvement of training and testing system for truck and bus drivers is required.

Beginner drivers commonly commit errors such as not signaling when turning and not paying attention which account for more than 20%. Thus, adequate driver training and testing system is very important to reduce road traffic accidents.

(3) Traffic Accident by M/C

Traffic accident by M/C is significantly high as compared with other vehicle types. Aside from M/C being the majority owned by drivers, the high volume of traffic accident caused by M/C may also be attributed to M/C drivers' inadequate knowledge on traffic rules and regulations, particularly in the case of student M/C drivers. Therefore, an adequate and effective driver training and testing system of the M/C licensing system can definitely contribute to the reduction of traffic accidents.

Figure 5.1.1 Traffic Accident by Driving Error



Source: Police Academy

Table 5.1.1 Number of Road Traffic Accident by Vehicle Type

	Light Injury		Serious Injury		Fatality	
	%	No.	%	No.	%	No.
Small car	2.9%	146	1.0%	25	1.2%	28
Passenger car	4.0%	197	2.5%	64	8.4%	193
Truck	10.3%	513	3.0%	76	7.3%	168
Motorcycle	74.3%	3,684	81.9%	2,107	80.3%	1,854
Rudimentary vehicle	8.0%	395	11.2%	289	2.7%	63
Other vehicle	0.5%	24	0.5%	13	0.2%	4
Total	100.0%	4,959	100.0%	2,574	100.0%	2,310

Source: Police Academy

(4) Overloading and Over-seating Capacity

The overloading of trucks and over-seating capacity of buses are very serious road traffic violations in Vietnam, especially in the rural areas. Therefore, it is required that not only the knowledge of traffic rules but also dangerous driving conditions be included during the driver training stage.

(5) Traffic Safety Awareness in Vietnam

Based on interviews with and survey to concerned organizations, the existing traffic safety awareness of drivers is low in Vietnam. This is a therefore one of the urgent issues to be addressed in road traffic safety. Thus, an adequate driver training and testing system should be at the forefront towards improving traffic safety awareness.

(ii) Expectations from Driver Training, Testing and Licensing

As abovementioned, adequate driver training and testing systems are important to ensure road traffic safety. By proper training, all new drivers will hopefully acquire appropriate driving skills necessary which will result in immeasurable long term economic and social benefits arising from a more responsible attitude towards driving. In addition, the need for an effective driver training and testing system is necessary in Vietnam for the following reasons:

- (1) The mixture of M/C, car and non-motorized modes with an inadequate road

network and hierarchy, and poor traffic control contribute to a difficult driving environment.

- (2) The rapid increase in motorized vehicle and student and beginner drivers will result in a proportionate increase in accidents.

2) Current Drivers' Licensing System

(i) Drivers' Licensing Administration

Since the issuance of Decree No. 36/CP dated 29 May 1995 by the Government, MOT directed the Personnel Organization Department to coordinate with VRA in working with related organizations such as Education & Training Ministry, which was later transferred to Ministry of Labor & Invalid Solidier and Social Affairs, in the implementation of the drivers' training management. Initially, evaluation and issuance of Permission Certificate for driver training units is the responsibility of MOT, while VRA manages the driver testing and issuance of drivers' license. Very recently, however, a new decision related to drivers' licensing system was issued in November 2007.

(ii) Classification

Figure 5.1.2 shows the classification of drivers' licenses in Vietnam, divided into 10 vehicle types and based on the new Decision of the MOT No. 56/2007/QD-BGTVT issued on November 2007. Drivers of M/C which has engine size of less than 50cc do not need a license to drive. B1 license holder has to renew every 5 years while more than B2 types are required to renew every 3 years. However, for A1, A2, A3, and A4 license holders, renewal is not necessary.

(iii) Facility and Equipment Administration











(1) Classroom for teaching

A classroom is required for use during teaching sessions on road traffic law, automobile structure, transport knowledge, and driving technique. In addition, videos, cassette, VCD, and projector are also needed for a more effective teaching of driving techniques.

(2) Training Vehicles

There are sufficient training vehicles corresponding to class of driving license and number of trainees. Most of the vehicles are owned by the training centers, and about 30% are being leased by the training center. The vehicles must have registration certificates; an installed sub brake system; there must be shelter, banks for trainees, license for training vehicle, and a sign "training vehicle" shall be hanged on and provided by Provincial Transport Department, Provincial Transport and Public Works, or VRA.

Table 5.1.2 Classification of Driver's License

Vehicle Type		Specification		Note
A1	M/C	50 cc to 175 cc		
A2	M/C	All M/C		No limit of cylinder capacity
A3	Three-Wheeler Vehicle	Xe Lam, Xich lo		
A4	Tractor	Less than 1,000kg		
B1	Car & Small Truck	Less than 9 seat, Loaded capacity is less than 3,500kg		
B2	Special Car (Crane Truck)	Lifting Capacity: more than 3,500kg		
C	Large Truck	Loaded Capacity: more than 3,500kg		
D	Small Bus	10-30 seats bus		
E	Large Bus	More than 30 seats bus		
F	Large Vehicle	All Vehicle		

Source: Decision of the MOT No. 56/2007/QĐ-BGTVT

(3) Training Ground

There are training grounds that are owned by driver training centers; others meanwhile are leased long term for 3 years upwards, with minimum area for each class, such as for motorcycle is 500m², vehicle class B is 5,000m² and other higher classes is 8,000m². On the ground, there are sufficient assumed traffic circumstances with road traffic signs such as starting position (departure), vehicle stopping (end), location for straight paths, perpendicular road, road crossing, railway crossing, pedestrian road ("zebra" road); positions for forwarding, reversing on zigzag road and for moving in and out of garage. There are also different road conditions such as rough roads, heavy roads, crossing narrow bridge, crossing spill way, sloping up and down.

(4) Availability of Training Roads

Driving on actual roads which are selected public roads suitable to training program and approved by PTD or VRA.

(iv) Drivers' Licensing Program

(1) Training Objectives and Program

Training required to obtain a driver's license for motorcycle drivers are as follows: For A1 level, 10 hours (theory: 8, practice: 2); for A2 level, 32 hours (theory: 20, practice: 12) and for A3-A4 levels, 112 hours (theory: 52, practice: 60). Table 5.1.3 shows the content areas for M/C driver's training. The required driving practice distance for A3 class and higher is 100km while none

is required from A1 and A2 trainees.

Table 5.1.3 Drivers' Licensing Program (M/C)

		Unit	Level		
			A1	A2	A3-A4
A	SUBJECTS				
1	Law on land road traffic	hour	6	16	32
2	Configuration and common repairs	hour			12
3	Transport professional skills	hour			4
4	Driving skills	hour	2	4	4
5	Driving practice	hour	2	12	60
	- Hours of driving practice/number of trainees	hour	2	12	12
	- Km of driving practice/number of trainees	km			100
	- Number of trainees/1 vehicle	person			5
6	Hours/training course	hour	10	32	64
7	Total number of 1 training course	hour	10	32	112
B	TRAINING TIME				
1	Days of actual training	day	2	4	14
2	Holidays, opening and closing days	day			1
3	Plus days/training course	day	2	4	15

Source: Decision of the MOT No. 56/2007/QD-BGTVT

The drivers' licensing program for car drivers has more subject areas than that of M/C, as shown in Table 5.1.4. Applicants for a car's license have to take practice lessons of around 1,000km in the training center. In addition, subject areas include not only law on land road traffic, configuration and common repairs and driving skills but also driving etiquette. The total training time amounts to more than 3 months, and with the issuance of a new decision, the lesson hours for driving etiquette has been increased.

Table 5.1.4 Drivers' Licensing Program (Car)

		Unit	Level		
			B1	B2	C
A	SUBJECTS				
1	Law on land road traffic	hour	80	80	80
2	Configuration and common repairs	hour	20	28	28
3	Transport professional skills			20	20
4	Driving etiquette	hour	12	16	16
5	Driving skills	hour	24	24	24
6	Driving practice	hour	480	480	800
	- Hours of driving practice/number of trainees	hour	96	96	100
	- Km of driving practice/number of trainees	km	960	960	1000
	- Number of trainees/1 vehicle	person	5	5	8
7	Hours/training course	hour	232	264	268
8	Total number of 1 training course	hour	616	648	968
B	TRAINING TIME				
1	Revision and examination to end the course	day	3	3	3
2	Days of actual training	day	78	81	121
3	Holidays, opening and closing days	day	14	14	21
4	Plus days/training course	day	95	98	145

Source: Decision of the MOT No. 56/2007/QD-BGTVT

Drivers cannot directly obtain license higher than D level. Additional training, as well as driving experience, is required before one can level up, as shown in

Table 5.1.5.

Table 5.1.5 Leveling-Up for Drivers' Licensing Program (Car)

		Unit	Level						
			B1 to B2	B2 to C	C to D	D To E	B2, C, D, E to F	B2 to D	C to E
A	SUBJECTS								
1	Law on land road traffic	Hour	16	16	16	16	16	16	16
2	New knowledge of vehicles of the new level	Hour		8	8	8	8	8	8
3	Transport professional skills		24	8	8	8	8	8	8
4	Driver's ethics	Hour	12	16	16	16	16	16	16
5	Driving practice	hour	60	160	160	160	160	320	320
	- Hours of driving practice/ number of trainees	hour	12	20	20	20	20	32	32
	- Km of driving practice/ number of trainees	km	150	240	240	240	240	380	380
	- Number of trainees/1 vehicle	person	5	8	8	8	8	10	10
6	Hours/trainees/training course	hour	64	68	68	68	68	88	88
7	Total number of 1 training course	hour	112	208	208	208	208	376	376
B	TRAINING TIME								
1	Revision and examination to end the course	day	2	2	2	2	2	2	2
2	Days of actual training	day	14.5	26	26	26	26	47	47
3	Holidays, opening and closing days	day	3	4	4	4	4	8	8
4	Plus days/training course	day	19.5	32	32	32	32	57	57

Source: Decision of the MOT No. 56/2007/QĐ-BGTVT

(2) Teaching Materials

The teaching materials are issued by VRA for all curriculums of driver training program as well as the software in the learning-testing centers which are used at the end of each curriculum of the training course.

(3) Teaching Staff

They should be capable, professional and skilled teachers. Those responsible for practical driving are trained on a special course conducted by VRA.

(v) Process for Acquiring License

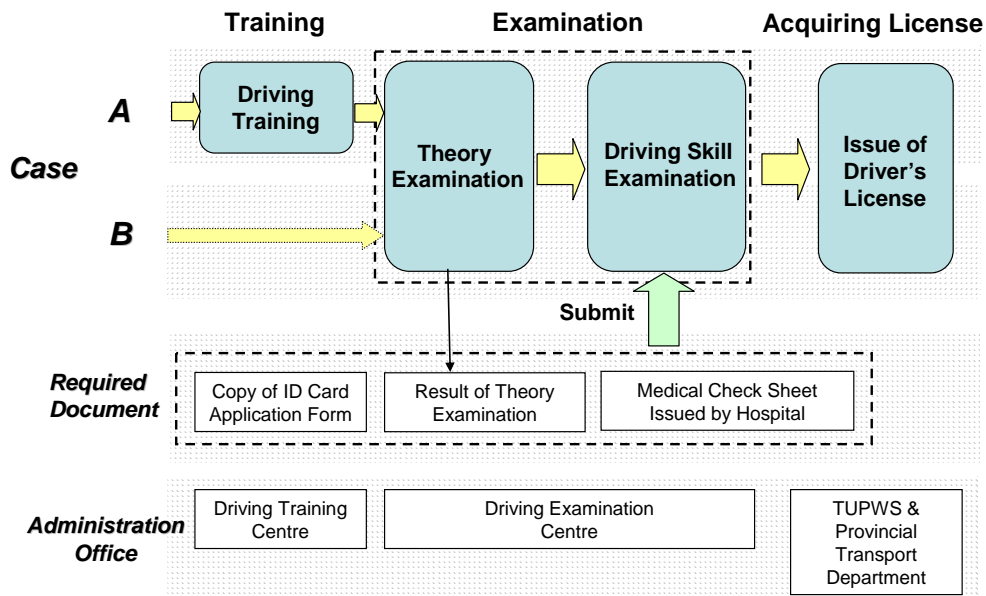
(1) M/C

Figure 5.1.2 shows the process of acquiring a license to drive a M/C. In general, before taking the required test to obtain an M/C license, the applicants have to take driving lessons under the driver's examination center of TUWPS and the provincial transport department. However, some of these applicants undergo self-study resulting to inadequate preparation for most of M/C drivers.

(2) Car

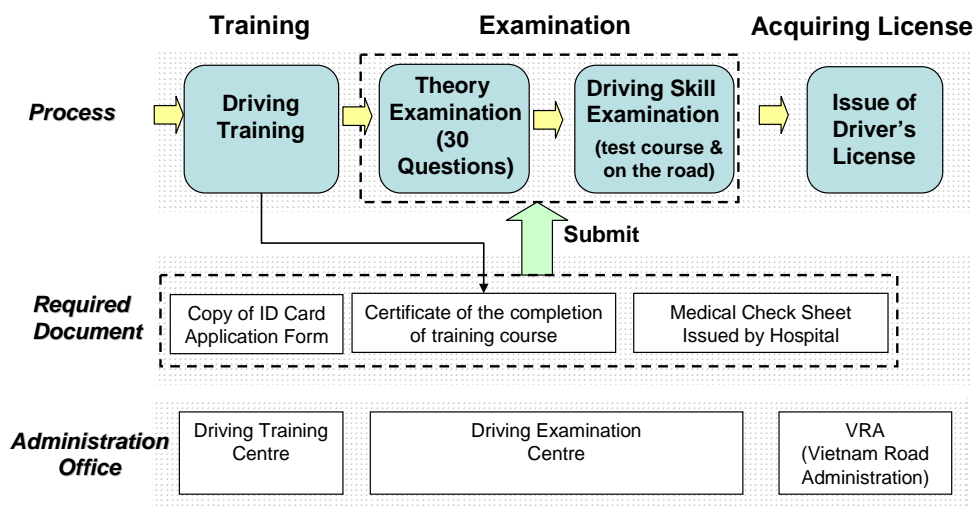
Primary requirement is taking lessons on road traffic law, knowledge of vehicle, driving etiquette, driving practice, etc. in the drivers' training center. Upon completion of required number of training hours, the applicant then has to pass a driving examination (both in theory and driving skills examination) to get his/her car driver's license.

Figure 5.1.2 Process for Acquiring M/C License



Source: Based on interviews conducted by the JICA Study Team.

Figure 5.1.3 Process for Acquiring Car License



Source: Based on interviews conducted by the JICA Study Team

(vi) Comparison of Drivers' Licensing System in Vietnam and in Japan

(1) Classification of Drivers' License

Japan has a 2-grade drivers' licensing system for car drivers. Grade 1 License is for the general driver, which is further classified to 9 types. Grade 2 License is for professional drivers such as bus or taxi drivers. A 3-year driving experience is required before one can take a test to level-up to this grade. And acquiring this level is very difficult with success rate only at 20%.

For the M/C license, the less than 50cc class is divided into motorized two-wheeled vehicle license. The driver who has the normal motorcycle license 1 can ride 50cc – 125cc M/C, it correspond to A1 license in Vietnam.

Table 5.1.6 Classification of Driver's License in Japan

Grade	Classification	Minimum Age Requirement
Grade 1 License	• Oversized vehicle license	21
	• Middle-sized vehicle license	20
	• Normal driver's license • Special oversized vehicle license • Oversized motorcycle license	18
	• Normal motorcycle license 1 (50cc - 125cc) • Normal motorcycle license 2 (50cc – 250cc) • Small-sized special car license • Motorized two-wheeled vehicle license	16
Grade 2 License	• Oversized vehicle license • Middle-sized vehicle license • Normal driver's license • Special oversized vehicle license	21

Source: JICA Study Team

(2) Drivers' Licensing Program for M/C

Table 5.1.7 shows the comparison of training time and curriculum contents for M/C driving training in Vietnam and Japan. The total training time in Japan is 3.6 times higher than that of Vietnam. In addition, the Japanese curriculum includes not only road traffic law and driving skill but also repair, driving etiquette, knowledge of traffic accident, dangerous situation forecast, and first-aid practice.

Table 5.1.7 Comparison of Training Time and Contents for M/C Driving in Vietnam and in Japan

		Vietnam	Japan
		A1	Normal M/C license 1
Size of M/C		50cc – 175cc	50cc – 125cc
Theory	Law on land road traffic	6 h	9 h
	Configuration and common repairs		2 h
	Driving etiquette		2 h
	Driving skills	2 h	7 h
	Knowledge of Traffic Accident		2 h
	Dangerous Situation Forecast		1 h
	First-aid Practice		3 h
	Sub. Total	8 h	26 h
Driving practice		2 h	12 h
Total Training Time		10 h	38 h

Source: JICA Study Team

(3) Driver License Program for Car

Table 5.1.8 shows the comparison of training time and curriculum contents for car driving training in Vietnam and Japan. Unlike the case of M/C, the training time in Vietnam is significantly higher as compare with that in Japan. In addition, there are substantial differences in the training content of M/C and Car in Vietnam. On the other hand, Japan has basically the same theoretical contents for both M/C and Car training.

Table 5.1.8 Comparison of Training Time and Contents for Car Driving in Vietnam and in Japan

		Vietnam	Japan
		B1	Normal driver's license
Theory	Law on land road traffic	80 h	9 h
	Configuration and common repairs	20 h	2 h
	Driving Etiquette	12 h	2 h
	Driving Skills	24 h	7 h
	Knowledge of Traffic Accident		2 h
	Dangerous Situation Forecast		1 h
	First-aid Practice		3 h
	Sub. Total	136 h	26 h
Driving practice		96 h	34 h
Total Training Time		232 h	60 h

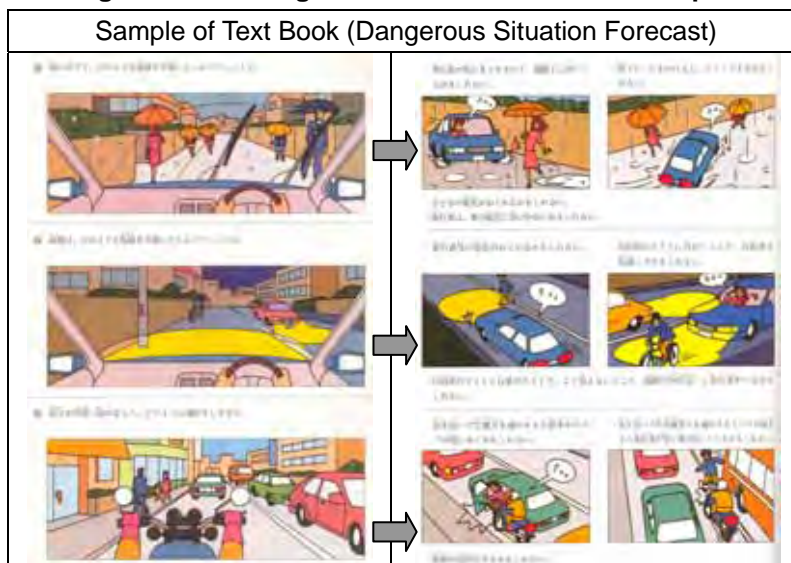
Source: JICA Study Team

(4) Introduction of Specialized Subjects in Japan

There are some specialized subjects in Japan, as shown the Figure 5.1.4. In the dangerous situation forecast lesson, a driver discusses with the teacher and other drivers on the dangerous situation in any condition. Through this kind of training, a driver acquired the necessary risk perception skill necessary to instill the risk-avoidance behavior.

The practice of first-aid is also another specialized subject (Figure 5.1.5).

Figure 5.1.4 Dangerous Situation Forecast in Japan



Source: Driving Text Book in Japan

Figure 5.1.5 Practice of First-aid in Driving School



Source: Driving School in Japan

3) Current Situation in Drivers' Training Centers

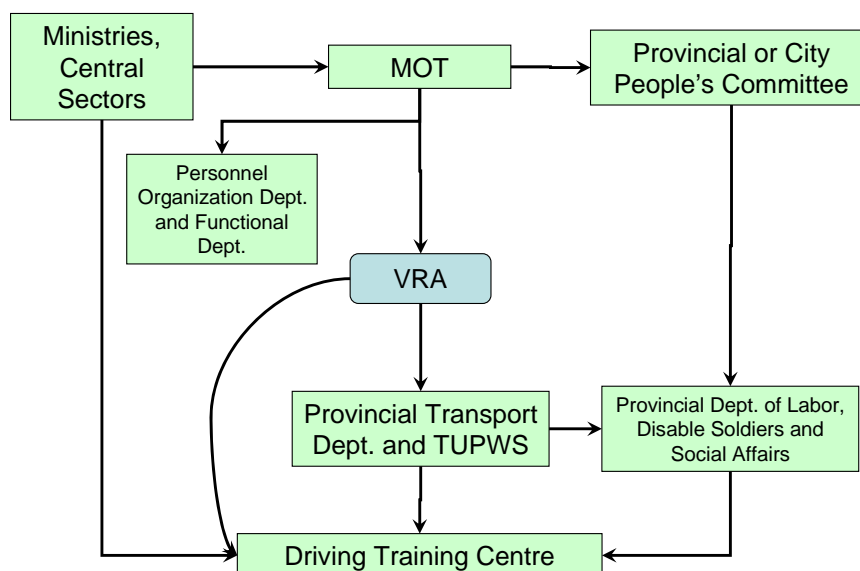
(i) Administration of Drivers' Training

As already mentioned in earlier subsection on Driver Licensing Administration, Decree No. 36/CP dated 29 May 1995 basically provided the framework for drivers' training management, where, initially, evaluation and issuance of Permission Certificate for driver training units is the responsibility of MOT, while VRA manages the driver testing and issuance of drivers' license.

Since then, the road traffic law has been validated and in Decision No. 4353/2001/QĐ-BGTVT dated 18 December 2001, the MOT devolved to VRA the right and responsibility to manage the entire drivers' training and licensing system, in coordination with the Provincial Transport Department, Provincial Transport and Public Works Department and Management organization of training centers.

There are at present two types of drivers' training centers, the Public and Private training centers, which have very different system of financial management.

Figure 5.1.6 Overall Structure of Drivers' Training Management



Source: VRSP: Updated Information on Driver Training System and Driving Permission Management – Hanoi July 2007

(ii) Training Program

(1) Curriculum for MC

Vietnam regulation requires 10 hours of training to obtain an M/C driver's license as compared with Japan's required minimum of 38 hours (26 hours for theory study and 12 hours for driving practice). Given that the majority of motor vehicles in Vietnam is the M/C, the present training curriculum is found to be insufficient to provide adequate training. Another observation is that cost for training (70,000VND/Person) seems to be very cheap as compared with the examination fee (100,000VND).

(2) Textbook for M/C Driving

The textbook used for M/C drivers' training is issued by the VRA. Although the text book includes the necessary laws on road traffic such as traffic rules and traffic signs, the textbook still lacks content on driving etiquette, general features and characteristics of M/C as well as topics on protection of pedestrian or risk forecast. Therefore, the least that can be done for the M/C textbook is to improve it to be of the same quality as that of the car textbook.

(3) Curriculum for Car Driving

As already mentioned, to obtain a car driver's license in Vietnam, one must undergo 232 hours training based on the regulation. Further, in the new decision, training time for driving etiquette was increased. Thus, it seems that the curriculum for car driving is substantial.

The cost of training is 3,800,000 VND/person as set by law (circular 26 by MOF, 26/4/07). However, based on interviews conducted with representatives of the training center, this training fee is still very low to cover rising cost per student. In particular, due to rising cost of fuel, cost per student is increasing since the student driver has to practice 1,000km in the case of B1 license.

(4) Text Book for Car Driving

There are so far five text books published by VRA on car driving. The contents of the textbooks are shown in Table 5.1.9.

Table 5.1.9 Contents of Textbooks for Car Driving

Text Book	Contents
Law on land road traffic/ 300 Questions for Driver Licensing Test	These books have 300 questions related to law on land road traffic.
Driving Techniques	<ul style="list-style-type: none"> • Positions and functions of main components in the control panel • Driving on different roads • Transport of goods by trucks and using some auxiliary components of transport vehicles • Automobile controlling mentality • General driving practice
Driving Etiquettes	<ul style="list-style-type: none"> • Basic lessons on good conduct and behavior • Driving etiquette
Design and Common Repair for Automobiles	<ul style="list-style-type: none"> • General introduction of automobiles • Automobile engines • Underneath of automobiles • Automobile electricity • Workshop regulations and safety techniques, using tools • Technical maintenance of automobiles • Repairing common errors

Source: VRA, 2004.

(5) Curriculum for Truck and Bus Driving

VRA also published a text book on professional knowledge of transport. This book includes information on proper loading for truck and transport of goods and passengers.

Table 5.1.10 Contents of Text Book for Professional Driver

Text Book	Contents
Professional Knowledge of Transport	<ul style="list-style-type: none"> • General concepts of automobile transport • About goods and passenger transport • Transport procedures • Driver's working process

Source: VRA in 2004

(iii) Driver Instructors in the Training Centers

The driver instructor has a teaching certificate issued by VRA. Before they obtain a certificate, they have to comply with required teaching activities and driving experiences after they graduated from university. To qualify as B1 and B2 driver instructor, 3-year experience is required, and to become instructor for C types or higher, at least 5-year experience is required. At present, it is observed that the quality of instructors is not so good because despite the new technology for M/C and cars, there is no adequate and periodical re-training system conducted for instructors.

(iv) Existing Equipment and Facilities in Drivers' Training Center

Figure 5.1.7 shows the existing state of equipment and facilities in the drivers' training centers. The training centers have the required equipment and facilities such as a classroom, computer for both training and examination, driving course and driving simulator. However, facilities in some training centers have become obsolete. Thus, regular upgrading and updating of training facilities is required. For example, the driving simulation exercise can also include content on pedestrian crossing, intersection, parking, etc. Evaluation of driver's technical skill can also be conducted. Thus, new facilities can contribute to the efficiency and effectiveness of the drivers' training in general.

Figure 5.1.7 Drivers' Training Center



Source: JICA Study Team

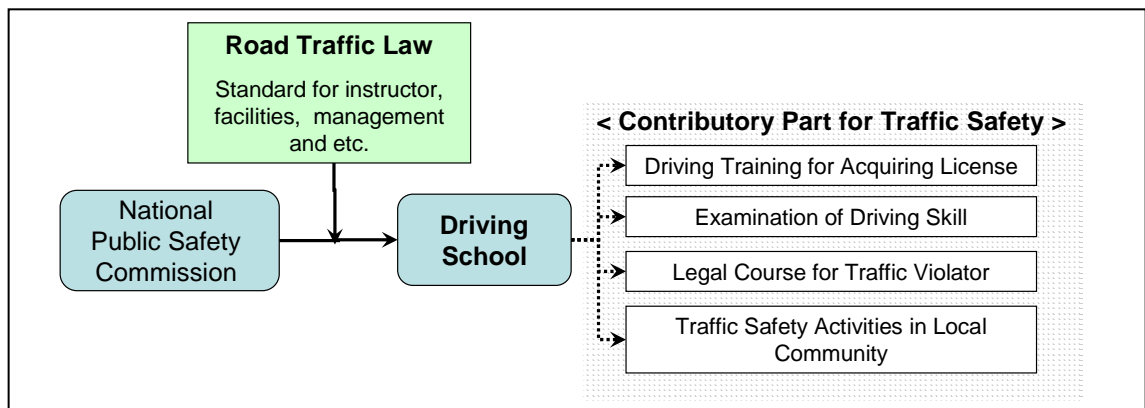
At present, there are 168 driving training centers in Vietnam. However, the training centers are only concentrated in big cities such as a Hanoi, Danang and Ho Chi Minh while the provinces, especially in the rural areas, do not have enough number of training centers. In fact, some of the provinces do not have a single drivers' training center. This situation the more leads to unlicensed drivers in the rural area.

(v) Background on the Driving Schools in Japan

(1) Role of Driving School

As of 2007, the National Public Safety Commission of Japan has 1,388 authorized driving schools in the country which not only provides necessary drivers' training but also the examination of driving skills. The driver therefore only takes a theoretical examination in the testing centers after they graduate from the driving school. In addition, just recently, the driving schools also started conducting short refresher courses for traffic violators and provide traffic safety education for children and older persons. Figure 5.1.8 shows the role of driving school in Japan.

Figure 5.1.8 Role of Driving School in Japan



Source: JICA Study Team

(2) Contents of Driving School

Figure 5.1.9 shows an example of a driving school in Japan. In the case of M/C training, a 2-course program is conducted: the first requires the M/C driver practice to practice in the course using an M/C while the second requires the driver to practice using a car in both M/C and car courses. In general, Instructors conduct the lessons using multi-media presentations and a driving simulator. Such interactive style of teaching makes learning more interesting for students, while making teaching more efficient and effective.

(3) Textbooks used during Training

Textbooks in Japan contain a lot of graphics and figures for lessons to be understood more easily.

(4) M/C driving training simulator

This simulator is effective and efficient for M/C drivers' training. At present, Thailand is studying the possibility of introducing this training facility where the simulator can be programmed to include content on pedestrian crossing, intersection, parking, etc. Evaluation of technical skill in driving can also be conducted.

Figure 5.1.9 Driving School in Japan



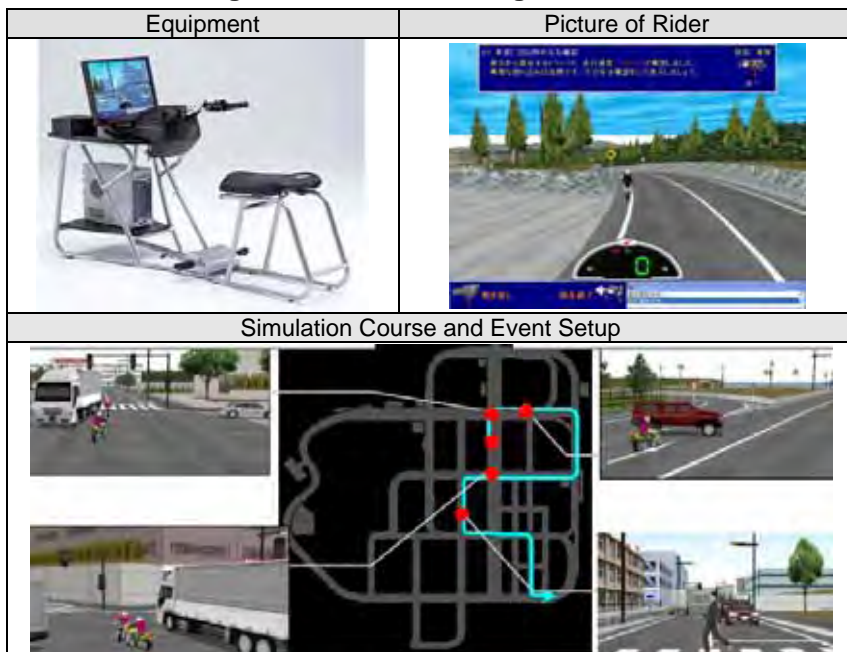
Source: JICA Study Team

Figure 5.1.10 Sample of Textbook in Japan



Source: Driving School in Japan

Figure 5.1.11 M/C Driving Simulator



Source: Study of Nihon University in Japan 2006

4) Current Drivers' Testing System

(i) Guidelines

According to the directive issued by MOT, after training completion from the drivers' training center, the driver has to pass a driving test before obtaining a driver's license.

The test is basically conducted to check driver's theoretical understanding on road traffic rules as prescribed by the road traffic law together with driving-related subject areas such as driving techniques, maintenance of vehicle, transport profession, etc. In addition, another important aspect that is being evaluated is practical understanding of vehicle operation and control under typical circumstances of road traffic such as passing intersection and pedestrian crossing, narrow road, curves, turning, sloping up and down, and driving on public road for 2 km.

(ii) Administration of Driver Testing

Testing and issuing of drivers' licenses is within the mandate of the transport sector. And this responsibility has been devolved fully by MOT to VRA.

To implement these tasks, VRA studied the process and instituted a comprehensive legal document system which provides directions and guidelines on implementation by Provincial Transport Dept., Provincial Transport and Public Works and other concerned agencies. The document system includes examination questions, testing procedure and uniform testing forms, conditions of testing attendances, standard of testing staff and training for personnel, etc. In addition, the VRA submits recommendations to MOT on a regular basis on how to improve and supplement management of drivers' training and testing, how to make drivers testing and license issuance more efficient and various other provisions on inspection, control and violation aspects.

(iii) Drivers' Testing Centers

(1) Car

There are a total of 41 driver testing centers nationwide, much lesser than the number of drivers' training centers. While new private testing centers are being established recently in the big cities, establishment in the rural areas is not feasible from the financial perspective.

(2) M/C

MOT, VRA assigned DOT and TUPWS to establish testing centers for Grade 3 (for A1-A4) at the district level. At present, M/C driver testing is being conducted at the district levels.

(3) Driver's Testing Course

Figure 5.1.12 shows a general driving course layout used during drivers' testing. The course used for car driving has the following test items: (i) Starting Line, (ii) Stop for Pedestrian, (iii) Stop/Start on the Slope, (iv) Passing Crank Course (Narrow way), (v) Passing Intersection, (vi) Passing Zigzag Course

(Narrow way), (vii) Parking, (viii) Passing Railway Cross section, (ix) Change Gear, speed up to 30 (km/h), and (x) Finish Signal. The examiner is able to check driver's driving skill as well as level of knowledge on road traffic law. On the other hand, the space for M/C is limited, thus only the basic driving skill is being tested. Testing is conducted by a driver examiner who is required to have at least 3 years driving experience and a general teaching certificate issued by MOET.

(iv) Test Items

(1) M/C

There are 2 kinds of tests for of M/C drivers: a theory test and a skills test. A medical certificate or clearance to be issued by authorized hospitals is required to be submitted.

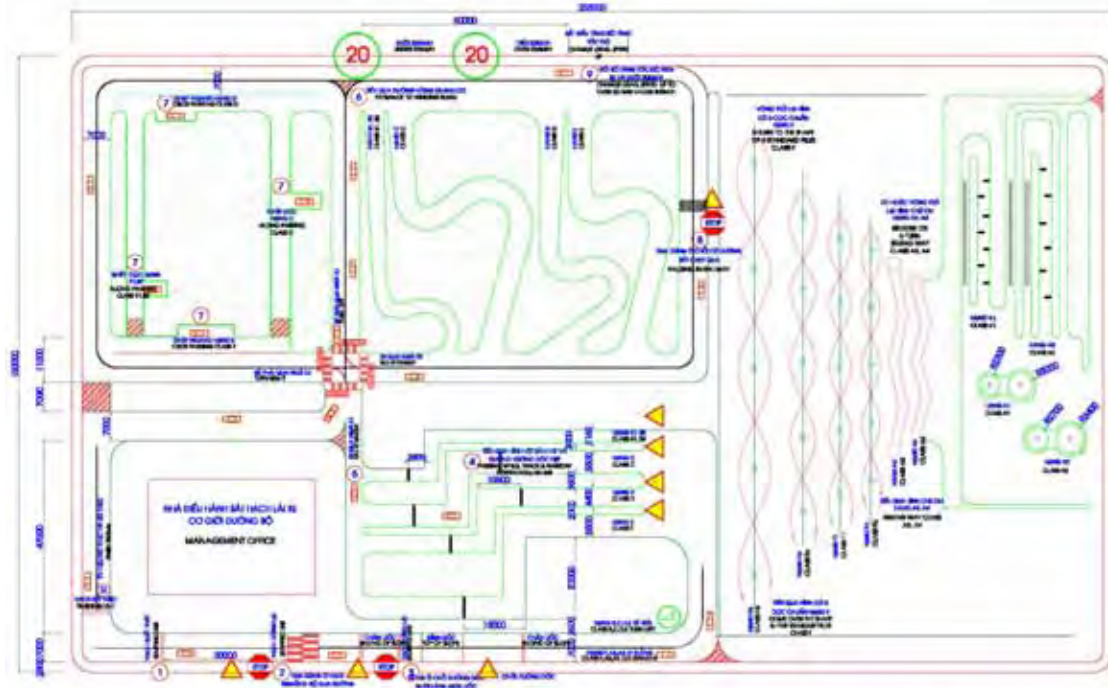
- (a) Theoretical Test: The textbook for M/C is issued by Transport Publishing House. The questions are selected at random.
- (b) Driving Skill Test: Only basic driving skills test using the curve way (type of word of eight), narrow straight way, zigzag way, and hump way in the limited parking spaces. Compared to car driving testing, this is relatively easy. Thus, as expected, the ratio of successful examinees is significantly high at around 90%. The driving test course for M/C is shown in the Figure 5.1.13.

(2) Car

There are 3 kinds of tests for Car drivers: theory and driving skills test on testing course and public road. Like in the case of M/C, a medical certificate/clearance is required.

- (a) Theoretical Test: VRA has prepared guidelines for implementing the testing method on PC since the end of 1998 with a set of optional test questions. A total of 30 questions are selected at random from the following 300 questions.
- (b) Driving Skill Test on Test Course: As already mentioned, there are 43 test items being examined. The driver drives according to the instruction of the computer, and data, based on performance, is transmitted to the administration building where the score is automatically marked. However, it seems that the test items are not adequate from safety perspective since the grading system does not take into consideration the driver's behaviour such as mirror check when turning at intersections.
- (c) Driving Skills Test on Public Road: Lastly, the driver's skills are tested by driving 2km on a public road with the examiner.

Figure 5.1.2 Course Layout for Driver Testing in Vietnam



Source: VRA.

Figure 5.1.3 Testing Course for M/C



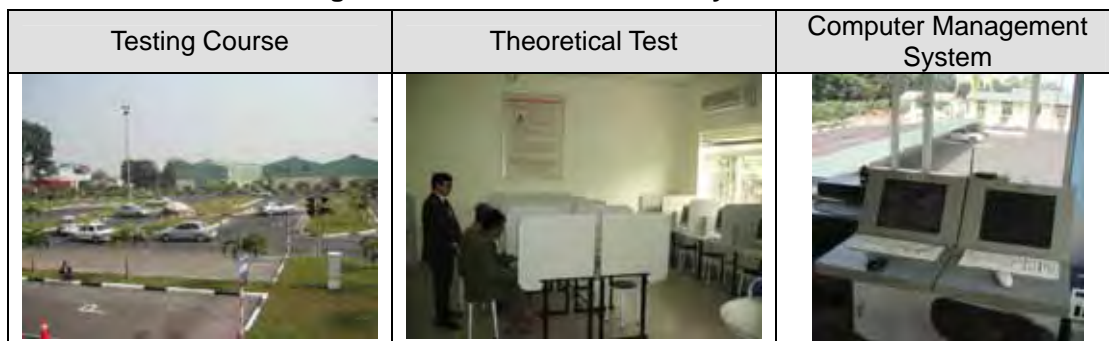
Source: JICA Study Team

Table 5.1.11 Content of 300 Questions for Theoretical Test on Car

No.	Topic	No. of Questions	%	Question No.	Basis for Complying
1	General concept	18	6.0	1 to 18	Vietnam Road Traffic Law (VNRTL)
2	Rules of road transport	68	22.6	19 to 86	Vietnam Road Traffic Law
3	Operating speed on road	13	4.4	87 to 99	According to reputation of MOT
4	Driving technique	06	2.0	100 to 105	Teaching material and VNRTL
5	Structure and maintenance of vehicle	26	8.6	105 to 131	Professional teaching material
6	Transport knowledge	19	6.4	132 to 150	Teaching material and document of VRA
7	Signal signs	100	33.3	151 to 250	VNRTL
8	Model	50	16.7	251 to 300	VNRTL and signs system
Total		300	100		

Source: VRA

Figure 5.1.4 Examination Facility for Car



Source: JICA Study Team

(v) Background on the Drivers' Testing System in Japan

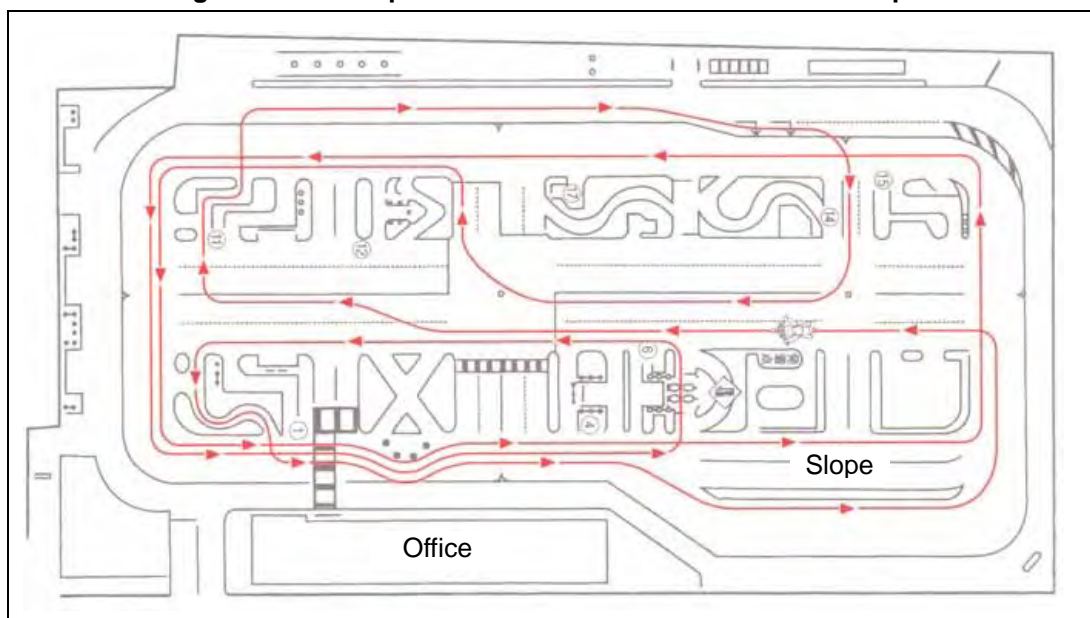
(1) M/C examining course

A sample M/C testing course in Japan is shown in Figure 5.1.15 where around 100 test items are included in the test. Also on this same course, an M/C driver can take a test using a car.

(2) Acquisition of Grade 2 License

As already mentioned, a bus and truck driver is required the acquisition of not only a regular license but also a grade 2 license. Additional training on first-aid is being provided by the National Public Safety Commission after acquiring this license.

Figure 5.1.5 Sample of Examination Course for M/C in Japan



Source: Instruction Manual by OGU Driving School in Japan

5) Summary of Issues

Based on the above discussions, the following is a summary of existing issues in the drivers' training, testing and licensing system by vehicle type:

(i) General

(1) Improvement of Text Contents

Based on the characteristics of traffic accident in Vietnam, although the driver has driving skills in general, they lack adequate knowledge on driving etiquette and traffic rules and regulations. In addition, quality of textbooks should be improved to make them not only substantial and relevant to traffic safety but also easier to understand. In particular, it is worth considering the inclusion of relevant contents such as dangerous situation forecast and basic knowledge on how to administer first-aid. These additional contents are expected to significantly contribute to the decrease in number of traffic accidents.

(2) Training and Testing Centers in the Rural Areas

Recently, due to demand in the big cities and other urbanized areas, there is an increasing number of drivers' training and testing centers which are being operated by the private sector. Unfortunately, however, such is not the case in provinces where people living in the rural areas cannot easily access training and testing facilities. This situation results in the increasing number of unlicensed drivers in the rural area.

(3) Periodical Re-training for Instructors and Examiners

As already mentioned, it is necessary to conduct regular re-training for instructors and examiners to update and upgrade their skills in accordance with the new technology in the transport sector.

(4) Driver's License System for Foreigners

Since Vietnam has not yet participated in the "International Motor Traffic Treaty and Geneva Article", at present, obtaining a driver's license for M/C or a car is very easy for a foreigner who already holds a driving license from their home country. They are only required to submit an application form and copies of the license and passport when they apply for a license in Vietnam. And given the rapid economic growth of Vietnam, it is anticipated that there will be increasing number of foreigners, thus foreigner drivers. Therefore, it will eventually become necessary that some form of instruction on traffic safety will be required since Vietnam has its own set of traffic rules as well as driving culture and behavior.

(ii) M/C

Since M/C is the majority of motor vehicle being used in Vietnam, the number of traffic accident by M/C is significantly high. Thus, M/C driver education is a very critical and urgent issue to address traffic safety in Vietnam.

(1) Improvement of Training Curriculum for M/C

The required training time for M/C driving remarkably low compared with that of Car, only about 25% of training time provided in Japan. Therefore, it is necessary to increase the training time as well as improve the curriculum.

(2) Improvement of Testing Methodology for M/C

Skills test is only focused on basic driving skills using the curve way (type of word of eight), narrow straight way, zigzag way, and hump way in the limited parking spaces. The following test items are at the very least needed to be included: (i) how to put on the brake, (ii) driving technique on a slope, (iii) how to drive at intersection, and (iv) speed control.

(3) Periodical Training for M/C Driver

Although the training contents are gradually being improved, some of the M/C drivers however did not receive adequate training during the time they applied for a license. Thus, a periodical training for M/C drivers is necessary to update and upgrade their knowledge and skills. Therefore, it will be necessary to establish a renewal system of the M/C license in coordination with the police for its implementation.

(4) Appropriate licensing or instruction/training system for Drivers of less than 50cc class

There is at present no guideline for M/C drivers of less than 50cc class. It is however assumed that the number of high school student users will increase in the near future; thus, an appropriate licensing or instruction/training system will be required in the drivers' training centers or enhanced traffic safety education in the school levels.

(iii) Car

Enhancement of Testing Method: There are at present 43 test items for driving skills testing. However, the test items are found not to be adequate from safety perspective since the grading system does not take into consideration the driver's behavior such as mirror check when turning at intersections.

(iv) Professional Driver (Bus and Truck)

Special Content for Truck and Bus Drivers: For drivers requiring a grade 2 class license, it is recommended that additional training on first-aid and lessons on dangerous situation forecast to avoid accident be added as supplemental content.

5.2 Vehicle Inspection

It is not uncommon that the cause of traffic accidents in Vietnam are vehicle defects since some of the vehicles being used here are imported and second-hand from developed countries, and thus, may not have been subjected to strict vehicle inspection before use in Vietnam. In addition, while vehicle inspection centers located in the big cities have adequate equipment, the shortage of equipment, facilities and maintenance skills of vehicle inspection are often lacking in the rural areas. Therefore, vehicle condition is considered as one of the urgent issues on traffic safety.

An adequate vehicle inspection system will be necessary to develop a safety culture among vehicle operators, owners, and users. Moreover, it will be expected that sharing of vehicle inspection data and good coordination between related agencies such as a traffic police and road administration, can contribute in addressing the problem of road

traffic accidents. This subsection analyzes the present conditions and issues affecting vehicle inspection.

1) Prospects of Vehicle Inspection

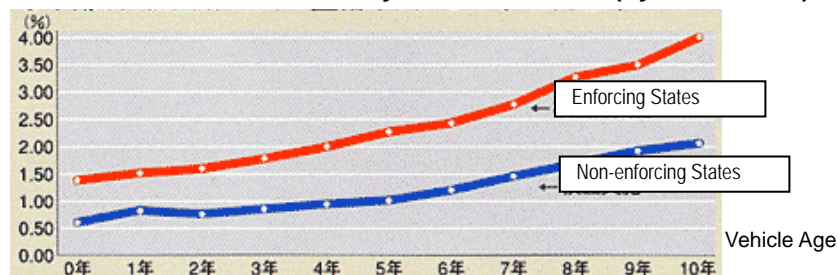
(i) Experience in the other Countries

Vehicle inspection system is different across countries and regions. In the United States of America, implementation of vehicle inspection depends on the states. The following figure shows the traffic accident ratio by “enforcing states” and “no enforcing states” in the USA. The vehicle inspection system has contributed in the reduction of poor vehicle conditions. Moreover, both traffic accident ratio and defective vehicle ratio tend to increase as the vehicle grows older, as shown in Figure 5.2.1 and Figure 5.2.2. This means that inspection system for old vehicles is very important. Thus, an adequate vehicle inspection system is essential for road traffic safety.

(ii) Traffic Accident and Vehicle Condition in Vietnam

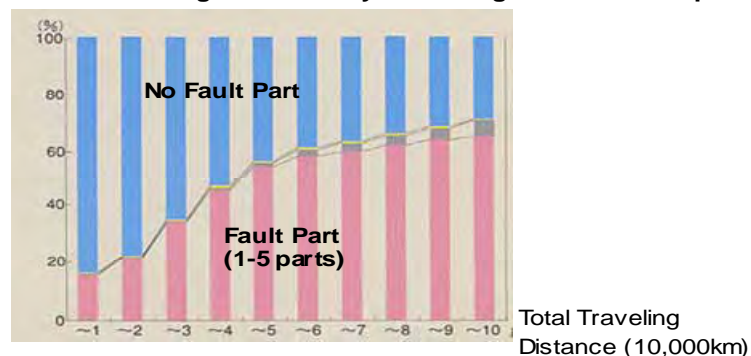
As already mentioned, the characteristics of traffic accident by vehicle condition are determined by coordination between vehicle inspection related administration and traffic police in developed countries. Moreover, the common ownership of inspection data can contribute to the efficient police enforcement of traffic regulation on illegal vehicle. Unfortunately, such coordination mechanism is still lacking in Vietnam thus the causal relationship between traffic accident and vehicle condition is not yet very clear.

Figure 5.2.1 Traffic Accident Ratio by States in the US (by Private Car)



Source: GAO Report in America, July 1990

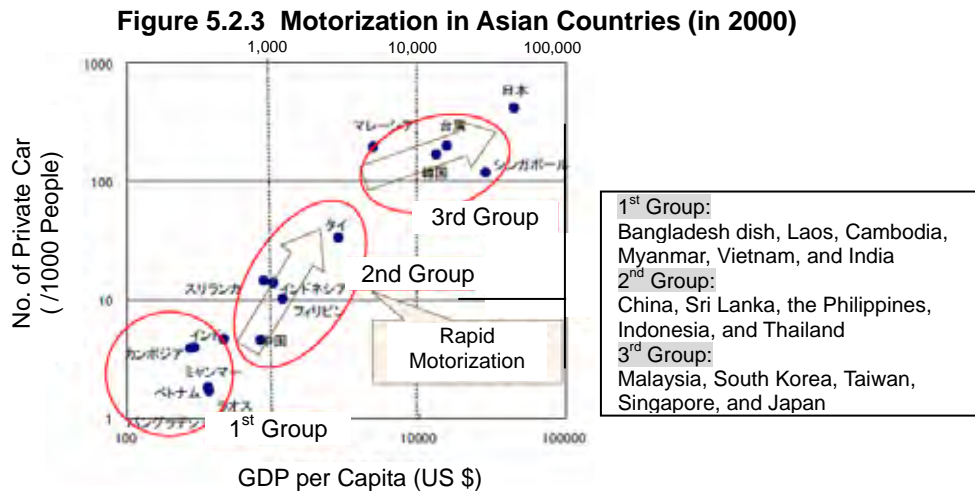
Figure 5.2.2 Defecting Car Ratio by Travelling Distance in Japan



Source: MOT, Japan, 1997

(iii) Correlation with Rapid Motorization

Figure 5.2.3 shows the relationship of car ownership and GDP (USD) in Asia in 2000. The motorization has 3 groups. Nowadays, the GDP in Vietnam is approximately USD723, and the economic growth ratio is estimated at around 7-8%. The number of vehicle has a present growth rate of 12–18%. Therefore, private car ownership is seen to rapidly increase in the near future. To respond to this rapid motorization, additional inspection facilities and technical inspectors will be required to meet the future demand.



Source: Environmental Issues in Asia from the viewpoint of Motorization, in 2004, JARI

(iv) Cooperation with Automobile Third Party Liability Insurance

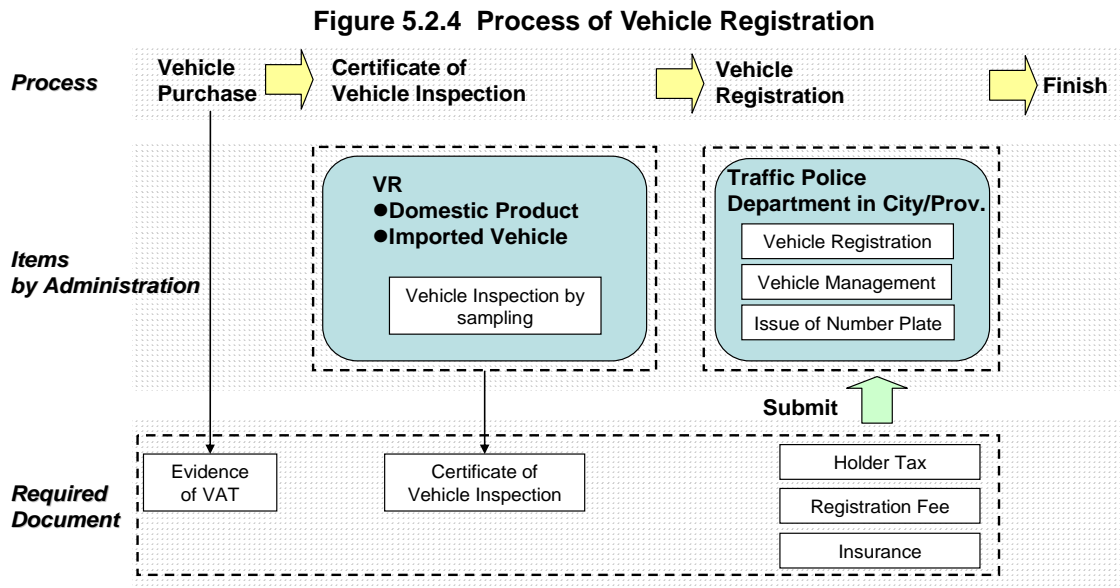
Periodical vehicle inspection system in Japan requires the vehicle owner to submit a vehicle insurance certificate. This system was established to ensure the provision of minimum compensation as relief measures for traffic accident victim. Thus, an adequate vehicle inspection system can contribute further to the various areas of traffic safety sector.

2) Overview of Vehicle Inspection in Vietnam

According to 36/CP of the Prime Minister dated 29 May 1995, the function of vehicle technical safety environmental protection (VTSEP) was transferred to MOT effective August 1995. MOT in turned assigned this to the Vietnam Register (VR) in terms of technical implementation and management all over the country. To satisfy the demand for vehicle inspection, under the assignment of MOT, VR together with local TUPWS and DOT have built a system of vehicle inspection in the whole country.

(i) Vehicle Registration (Initial Inspection)

The process of vehicle registration is shown in the Figure 5.2.4. When a person buys a new vehicle in Vietnam, he/she has to go through the vehicle inspection and vehicle registration process. During initial inspection, VR manages both locally-made and imported vehicles. There are 5 required documents for submission during the vehicle registration process for all types of vehicles.



Source: Based on consultation by Study Team with government counterparts.

(ii) Periodical Inspection

VR manages all periodical inspections of 3-wheel vehicles, cars, buses and trucks. M/C is exempted from the present periodical inspection.

(iii) Coordination for Passive Safety of M/C

One cause of traffic accident is lack of durability of M/C. And there is no opportunity to give emphasis on the defects since these becomes apparent only when the accident occurs. Thus, it is necessary for VR and traffic police to coordinate with M/C maker to correct these defects, and thus eliminate substandard M/C in the market.

(iv) Coordination between VR and Traffic Police

The coordination mechanism between the VR and traffic police is inadequate. For example, the VR does not receive traffic accident data from traffic police therefore the vehicle involved in an accident has to be inspected again.

(v) Transfer of Registration System

There is no system in place in Vietnam to transfer registration of a used vehicle. Thus, actual ownership of vehicles in Vietnam at present cannot be easily established. This leads to limitation in terms of enforcing penalties on traffic violators caught by traffic security cameras on the road.

3) Vehicle Inspection Standard

(i) Vehicle Inspector

Vehicle inspector must be an automobile engineer. Upon graduation from the university, they are trained and certified by the VR as vehicle inspectors. The required number of inspector by lane is decided by "standard for vehicle inspection, 22-TCN 226/2005". With the increasing rate of motorization at present, the demand for vehicle inspection is increasing accordingly, thus the need to train and

certify more inspectors to meet demand in the future.

(ii) Vehicle Procedures and Cost

Fees for vehicle inspection are stipulated by MOF and are shown in Table 5.2.1. The fee for granting certificate of VTSEP is 20,000 (VND / time).

Table 5.2.1 Inspection Fee by Vehicle Type

Vehicle Type	Fee (VND/Unit)	
Truck	Over 20 ton	300,000
	7 - 20 ton	200,000
	2 - 7 ton	180,000
	Under 2 ton	150,000
"Bong sen", "Cong nong"	100,000	
Trailer, semi-trailer	100,000	
Passenger Bus	Over 40 seats	200,000
	25 - 40 seats	180,000
	10 – 24 seats	150,000
Car (under 9 seats)	120,000	
3-wheel "xe lam", motor "xich lo"	50,000	

Source: Standards on technical safety and environment protection for motor vehicle (22TCN 226-2001)

(iii) Vehicle Inspection Cycle

Vehicle inspection legal document is issued at the ministry level. The inspection cycle varies for each vehicle type and age of vehicle. In the case of vehicles used for transport business, vehicle inspection is conducted every year after the first cycle. When a vehicle of any type enters its 7th year, it is required to undergo inspection every six (6) months. The cycle for passenger buses however are shorter than other types of vehicle. While Vietnam's vehicle inspection system is comparable with other neighboring countries, however, the M/Cs in Vietnam are, at present, not required to undergo periodical vehicle inspection.

(iv) Technical Inspection Standard

The inspection items are decided by "Decision No. 4134/QD-BGTVT" and consist of 55 inspection items. Based on the Japanese safety standard perspective, the technical inspection items in Vietnam are satisfactory. However, VR does not have a "vehicle safety test center" that serves as an evaluator for type of approval. Thus, establishment of this center will be critical to vehicle safety in the near future.

(v) Standard for M/C

The VR has approximately 75 standards for M/C. This includes the detailed parts of M/C such as a brake system, rear mirror, spoke, etc. Despite this seemingly comprehensive technical standard system for M/C, it seems that one of the main causes of traffic accidents in the rural areas is due to defective M/C. For this reason, the establishment of a "vehicle safety test center" becomes more critical in the near future. In addition, since the number of imported M/C in the last 3 years has been increasing, this test center can further contribute in ensuring the quality of M/C.

Table 5.2.2 Cycle of Vehicle Inspection by Type

Vehicle Type	Cycle (Months)	
	First cycle	Periodical cycle
Truck		
- Imported and new, locally-manufactured	24	12
- Modified and imported	12	6
Car		
- Imported and new, locally-manufactured		
- For transport business use	24	12
- Not transport business use	30	18
- Modified and imported		
- For transport business use	18	6
- Not transport business use	24	12
Passenger Bus (over 9 seats)		
- Imported and new, locally-manufactured		
- For transport business use	18	6
- Not transport business use	24	12
- Modified and imported		
- For transport business use	12	6
- Not transport business use	18	12
3-wheel Motor Vehicle		
- Imported and new, locally-manufactured		
- For transport business use	24	12
- Not transport business use	30	24
- Modified and imported		
- For transport business use	18	6
- Not transport business use	24	12
Vehicles manufactured at least 7 years ago	-	6

Source: Standards on technical safety and environment protection for motor vehicle (22TCN 226-2001)

Table 5.2.3 Assessment Items for Technical Inspection Standard

Category		Item	Inspection Item
Passive Safety	Passenger protection	Seat belt	○
	Body	Body (Bumper, roof and door)	○
		Glass	○
Active Safety	Visual characteristics	Visual field (Back Mirror, wiper)	○
		Light, reflector	○
	Information transmission	Winker, klaxon	○
	Driving characteristics	Steering	○
		Tire	○
		Brake	○

Source: JICA Study Team



ADAC [Introduction of Role of Vehicle Safety Test Center] ADAC, an automobile club in Germany, did the collision test for a car made in China. The test resulted in their discovery of a critical, defective part of the car. In the offset collision test at 64 km/h, the damage on the car reached the cabin, meaning, the safety air bag could not resist the damage. In addition, the dummy doll on the driver's seat sustained grave damage. This made Germany be more critical of and reconsider the standard of imported cars from China. Such testing system is therefore expected to enhance further the quality and safety features of both of M/C and car.

Source: ADAC (All Gemeiner Deutcher Automobil Club)

(vi) Result of Inspection

In the past three (3) years, there was about 20% of total number of inspected vehicles which were determined to be substandard and unsafe. This is quite a staggering number which necessitate more close monitoring from the inspection units of these particular vehicle models in general, or substandard part in particular, and the repair shops which will be expected to repair these vehicles after years of use.

Table 5.2.4 Inspection Fee by Vehicle Type

Year	No. of Inspected Vehicles (Unit)	No. of Vehicles that meet the standard (Unit)	Share of Substandard Vehicles (%)
2005	885,271	706,528	20.2%
2006	979,359	785,824	19.8%
2007 (until end of June)	552,848	447,179	19.1%
Total	2,417,478	1,939,531	19.8%

Source: VR

4) Equipment and Facilities

There are 84 inspection units (94 inspection locations) and 117 inspection assemblies in Vietnam in 2006 which are being operated and managed by the VR, TUPWS and private companies.

Recently, private companies started the establishment of vehicle inspection units in the surrounding big cities. Most of these inspection facilities are made in Germany (MAHA and BEISSBARTH). Establishment of vehicle inspection units are guided by the "Decision on Standard for Vehicle Inspection 22-TCN 226, 2005". This decision includes the guidelines on location, required area, land condition, facilities, office equipment, and human resources condition.

(i) Facilities Required in a Vehicle Inspection Unit

The following facilities are required: (i) Brake Tester, (ii) Exhaust Gas Analyzer, (iii) Exhaust Smoke Tester, (iv) Head Lamp Tester, (v) Sound Level Meters, (vi) Slid-Slip Tester, (vii) Axle Play Detector, (viii) Electric Generator (in case of electricity interruption), (ix) Weighing Device, and (x) Lifting Device to check under the body of the vehicle, or in case not available, a checking trench.

(ii) Existing Facilities

The existing facilities for vehicle inspection vary in each city/province. Table 5.2.5 provides a sample of vehicle inspection facilities in selected cities and rural provinces. Vehicle inspection units in rural provinces do not have enough facilities when compared with the cities. Therefore, it is deemed necessary that not only a regulation be prepared but also an implementation plan must be drawn up to introduce necessary facilities for all vehicle inspection units.

Figure 5.2.5 Existing Facility of Vehicle Inspection Unit in City



Source: JICA Study Team

Table 5.2.5 Vehicle Inspection Facilities by City & Rural Province

City, Prov. (Unit)	Brake Tester	Exhaust Gas Analyzer	Exhaust Smoke Tester	Head Lamp Tester	Sound Level Meters	Slid-Slip Tester	Axle Play Detector	Electric Generator	Weighing Device	Lifting Device
1 Haiphong	3	3	3	3	3	3	2			3
2 Danang		3		2	1	2	2	1	1	2
3 Ho Chi Minh	2	3	2	2	2	2	2			
4 Can Tho										
5 Kao Cai	1	1	1	1	1			1		
6 Quang Tri	1		1	1	1					
7 Lam Dong	2	1	1	2	2	2	2	2	1	
8 Kien Giang	1	1	1	1	1	1			1	
9 Quang Ninh	1	1	1	1		1	1		1	1
10 Nghe An	2	2	2	2						

Source: Survey on Traffic Safety Features in Selected City and in Selected Rural Province

(iii) Inspection Data Management

VR is responsible in managing an electronic database on vehicle conditions of cars, buses and trucks. However, some of the vehicle inspection centers do not have electronic database management in place which makes VR's objective of ensuring an updated and comprehensive database difficult to achieve.

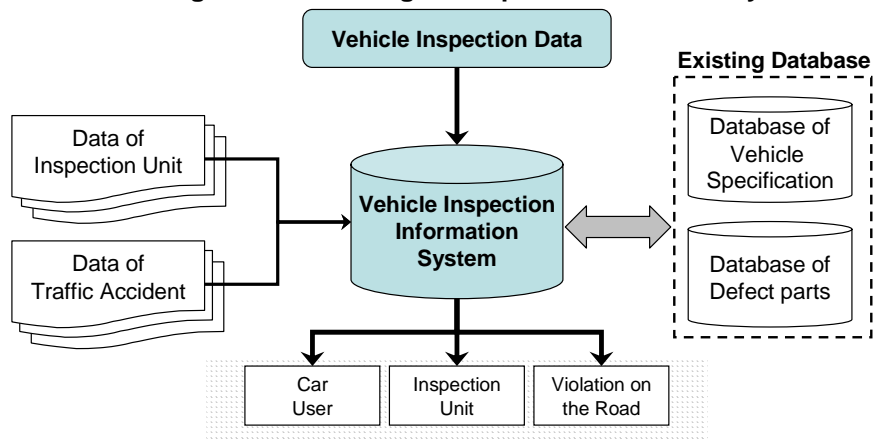
This, it is necessary for all inspection centers to have their respective database management and for them to be interconnected with the VR database system to ensure a smooth, efficient, and seamless database system. If this will be successfully implemented, such system can lead to significant improvement in the quality of vehicles in the whole country. At present, VR is undertaking an inspection networking software project which is expected to be completed this year.

(iv) Introduction of Inspection Database System in Japan

Figure 5.2.6 illustrates the intelligent inspection database system in Japan. The vehicle inspection information system is established based on various data such as vehicle inspection data, inspection units data, traffic accident data, and existing database. This systems results in the following:

- Strengthening of guidance and management
- Protection from illegal inspection
- Guide in implementing traffic violation on road
- Use to determine defective parts

Figure 5.2.6 Intelligent Inspection Database System



Source: JICA Study Team

5.3 Transport Management

1) Transport Regulation

It is clearly understood that transport activities are closely linked with the traffic safety. The Road Traffic Law 2001 confirms that “Passenger and cargo transport by road is a conditional activity as provided for by law and has to be closely administered so as to ensure the road traffic safety order” (Article 59). Articles 60-67 clearly specify this condition.

Decree No 110/2006/NĐ-CP dated 28 September 2006 on conditions for road transport activities specifies six (6) types of transport activities by motorized vehicles: (i) passenger transport on fixed route, (ii) passenger transport by bus, (iii) passenger transport by taxi, (iv) passenger transport by contract, (v) tourist transport, and (vi) cargo transport.

These two documents are the highest legal framework of state management on transportation. They have made a great contribution in ensuring transport demand and traffic safety and order. However, due to the rapid economic development in the country, some transport activities have not been fully regulated or some regulations become obsolete and thus, not feasible for execution (such as Article 60 of the Road Traffic Law stipulating the working time of drivers).

In terms of organization structure, the Transport Department of MOT is mandated to execute the state management function. In the provinces, the Transport Section under the Provincial Transport Department is responsible for this function.

2) Transport Situation

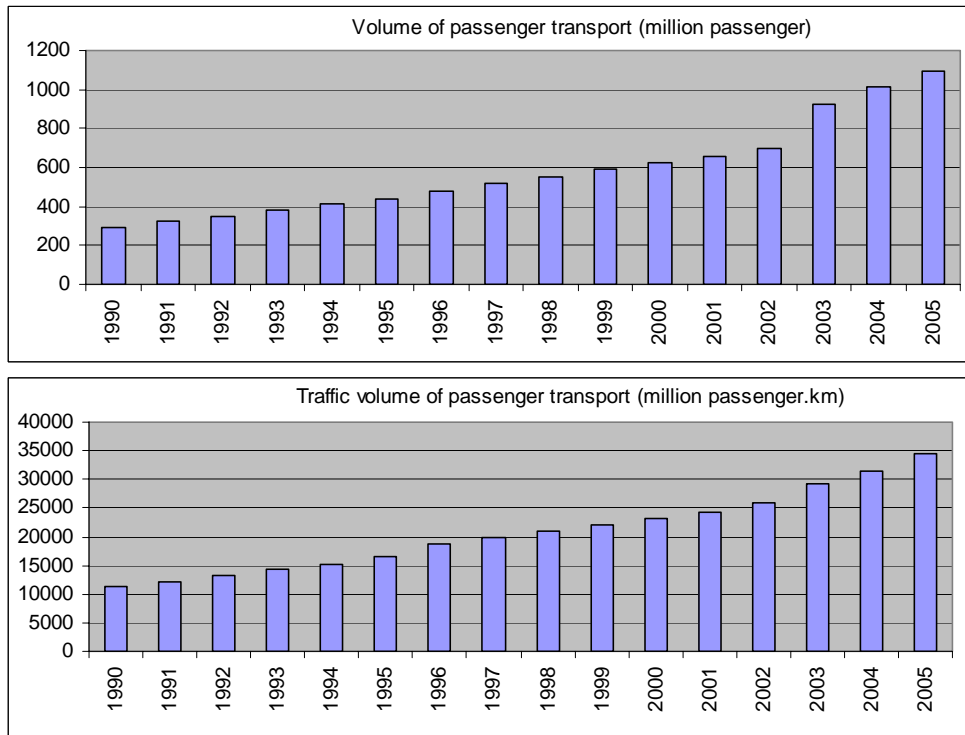
The rapid economic development has made the transport of passengers and cargoes increase rapidly (Figures 5.3.1 and 5.3.2). This also leads to a very complex situation in transport management. At present, the following are some urgent issues that need to be addressed:

(i) Reorganization of Transport Routes

Passenger transport is by fixed route which is either from commune to commune

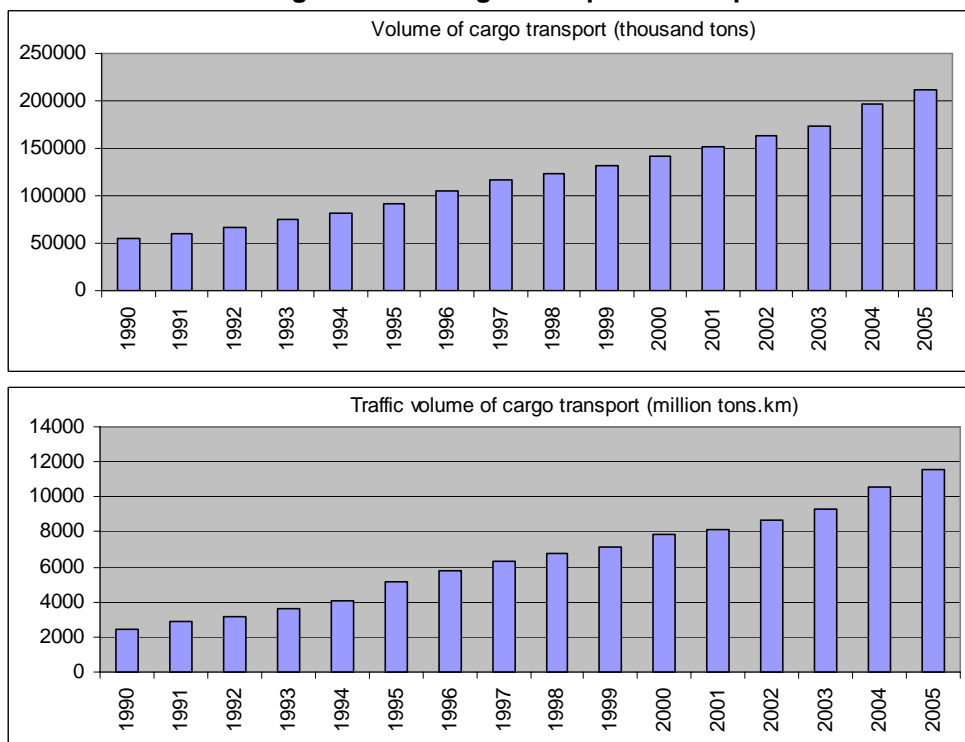
or district to district or for some routes, with transport distance of about 2,000 km, which proves to be difficult to manage. Recently, MOT has decided that the trip of inter-provincial passenger transport (over 300 km) should start and end at the province or district bus stations, and not at the commune stations.

Figure 5.3.1 Passenger Transport Development



Source: Statistic Directory 2006 – Statistic Publishing House

Figure 5.3.2 Cargo Transport Development



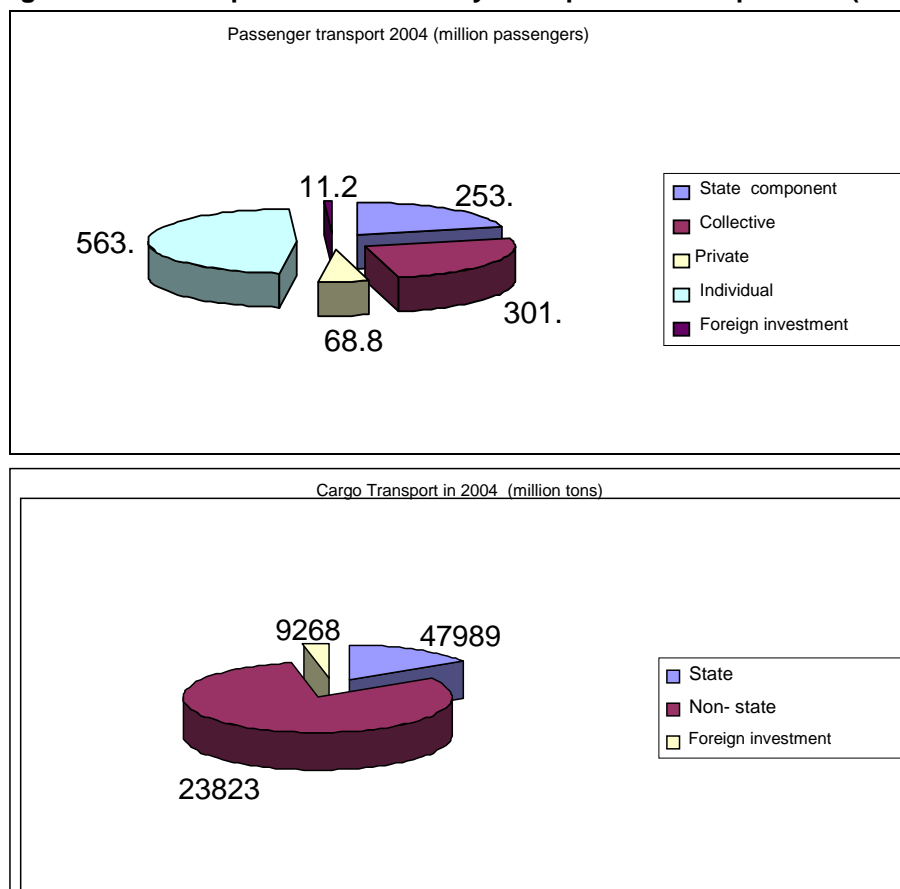
Source: Statistic Directory 2006 – Statistic Publishing House

(ii) Enhancing Responsibility of Operators in the Transport Sector Industry

In line with the policy decision of developing a multi-component economy, there are at present five (5) economic components with different levels of management in the transport sector. While this has provided advantageous in meeting the increasing transport demand of the economy, management of such a situation has not met the practical requirements and, as a result, traffic accidents usually happen.

Figure 5.3.3 shows the distribution of transport demand among the transport sector operators. It is remarkable that the transportation provided by state and foreign investments account for a very small market share.

Figure 5.3.3 Transport Demand Met by Transport Sector Operators (2004)



Source: Statistic Directory 2006 – Statistic Publishing House

There are 5 non-state transport operators with different levels of management in the transport sector industry (Table 5.3.1). Therefore, while encouraging the participation of non-state transport operators, it is more necessary to have stricter regulations to ensure traffic safety.

- For many privately-operated transport organizations, there is no one responsible for transport management. Thus, MOT plans to restrict long distance transportation ($\geq 300\text{km}$) only to organizations with legal personality.
- Many transport operators do not have employment contracts and insurance coverage for drivers and driver assistants. Normally, they hire drivers and driver

assistants on temporary basis to avoid any legally-binding responsibility. So there is almost no management of drivers and driver assistants. This results to very difficult coordination and organization mechanisms for the conduct of traffic safety education for drivers.

Table 5.3.1 Transport Management Mechanism in the Transport Sector Industry

Economic components	Internal Transport Management Mechanism
State economic component	Available, professional
Collective economic component	Normally available, professional
Private economic component	Normally not available
Individual component	Almost not available
Foreign investment component	Available, professional

5.4 Existing Problems and Issues

The following table shows a summary of the major issues on transport operation system. The issues seem to lie in the fact that the transport operation system is not always fit to the present road traffic condition. Due to the rapidly increasing rate of motorization, road traffic situation becomes more and more complicated brought about by mixed traffic. It is therefore necessary to develop the system accordingly.

Table 5.4.1 Summary of Major Issues on Transport Operation System

Driver Licensing & Testing	Overall	
	Improvement of Textbook Contents	The textbook should be improved so that its contents will be more understandable and informative on traffic safety concerns.
	Periodic Driver Training	Periodic training for drivers will be required in accordance with revisions on the new road traffic law and emerging road environment.
	Periodical Re-training for Lecturer & Examiner	Continuing skills and knowledge upgrade for instructors is necessary. Despite advancing technology available for M/C and automobiles at present, there is neither adequate re-training provided nor a periodic training system in place.
	Responsive to Future Demand	Transport operation has to meet the future demand and thus an adequate system will be required.
	Insufficient Training Fee	Training fees collected seems inadequate and must be adjusted accordingly especially since costs related to driving such as fuel prices are increasing.
	M/C	
	Improvement of Training Curriculum	The required number of hours for driver training for M/C is remarkably low compared with that of car.
	Improvement of Examination Method	Technical examination only tests the basic driving skill. Therefore, an improvement of the examination method is required.
	Targeting less than 50 cc class	It is expected that high school student drivers will increase in the near future. Hence, an appropriate licensing or instruction system is necessary.
	Professional Driver (Transport Company)	
	Management System for Truck & Bus Driver	Serious traffic accidents which have occurred in the rural area were caused by truck and bus. It is therefore necessary to develop appropriate countermeasures.
	Vehicle Inspection	Periodical Inspection for MC
Inspection Database System		Coordination between VR and traffic police is not adequate. Thus, enhancement of coordination will further contribute to a more efficient system which will uncover cases of protection from illegal inspection, traffic violation, defective parts, etc.
System for Renewal of Registration		Introduction of this system can result to new budget collection, which can be very useful in implementing improvements in the transport operation system.

Source: JICA Study Team.

6 TRAFFIC SAFETY ENFORCEMENT

6.1 Enforcement Organization and Task Force

The aim of traffic safety enforcement organizations is to ensure the implementation of all road traffic-related regulations as shown in Table 6.1.1.

Table 6.1.1 Prohibited Acts Stipulated by the Road Traffic Law (2001)

<ol style="list-style-type: none">1. Causing damage on road works.2. Illegal digging, drilling and/or cutting of roads; illegal installation of hurdles on roads; illegal opening of access roads/passages; land-grabbing and encroachment on road safety corridor; illegal dismantling, removal or vandalizing on road sign works.3. Illegal use of road beds, pavements.4. Use of motorized vehicles which failed to satisfy the technical safety criteria for operation on roads.5. Modifying the general structure, components and/or accessories of motorized vehicles to temporarily comply with technical safety criteria during inspection.6. Participation in or organizing of illegal vehicle races.7. Narcotics use by vehicle drivers.8. Driving under the influence of alcohol (alcoholic strength of over 80 mg/100 ml of blood or 40 mg/1 liter of breath) or other stimulants banned from use by law.9. Driving of motorized vehicles without driver's license as prescribed by law.10. Driving of motorized vehicles beyond the prescribed speed.11. Blowing of horn and continuous stepping on the accelerator; blowing of horn during prohibited time (from 22:00 to 05:00); blowing of hooter and/or using distant flash lights in urban and populated areas, except for emergency and other official vehicles on duty as provided for by this Law.12. Illegal transporting of dangerous cargoes or failure to abide fully to the regulations on transportation of dangerous cargoes.13. Employing transshipment or other evasion techniques to avoid detection of overload and/or oversized transportation.14. Fleeing the scene after causing accidents in order to evade responsibility.15. Deliberately refusing to rescue traffic accident victims despite the capacity to do so.16. Taking advantage of traffic accidents to assault, intimidate, pressure, provoke disorder, or obstruct the handling of case.17. Abusing position, power or profession to breach the Land Road Traffic Law.18. Other acts which pose danger to other road traffic participants.
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Source: Article 8, Road Traffic Law (2001)

Traffic violations are classified into six (6) groups:

- 1) Road traffic (e.g. observance of traffic signal; left- or right-turn, stopping and parking, etc.)
- 2) Road infrastructure protection, especially in road safety corridor encroachment protection;
- 3) Vehicles (e.g. technical inspections, safety equipments, etc.);
- 4) Road users (e.g. wearing of helmet by motorcycle drivers, driver's training, etc.);
- 5) Transport (passenger and cargo);
- 6) Others (e.g. illegal production of vehicle registration plates, illegal racing, etc.)

The Road Traffic Law (2001) has explicitly stipulated that the Traffic Police and

Transport Inspectors are the two key players of traffic enforcement. In addition, there are other supporting groups/manpower such as other police groups or traffic aides at basic administration level (as civil-defense unit, self-management group in ward/commune, volunteers, etc). Table 6.1.2 shows the General Task Assignments of respective traffic enforcement groups. In summary, the Traffic Police is responsible for ensuring smooth road traffic while the Transport Inspector is responsible for ensuring infrastructure protection, proper parking, etc.

Table 6.1.2 Enforcement Task Assignment

No	Enforcement Task Group	Key Force	Remark
1	Road traffic		Supported by Inspectors, other police groups or traffic aides
	Traffic control	Traffic Police	
	Traffic violation handling	Traffic Police	
	Traffic Accident	Traffic Police, Investigating Police	Supported by traffic aides
	Parking, stopping	Traffic Police, Inspectors	
2	Road Infrastructure protection	Inspectors	Supported by traffic aides
3	Vehicle		Transport Inspector is responsible for controlling quality of circulating traffic such as noise level, efficient gas consumption, etc. However, this is not yet implemented to date.
	Registration	Traffic Police	
	Inspection on the Works of Technical Inspection Units/ Stations	Inspectors	
4	Road Users		
	Circulation of traffic on road	Traffic Police	
	Inspection on Drivers' Training, Examination, License Issuance and renewal	Inspectors	
5	Transport (passenger and cargo)		Supported by other police groups or traffic aides
	Circulation of traffic on road	Traffic Police	
	In stations	Inspectors	
6	Others	Traffic Police, other police, Inspectors	

Note: Traffic Aides: Civil-defense unit, special group for urban order, self-management group in the ward/commune level, Volunteers, etc.

Source: The Study Team

6.2 Traffic Police Enforcement and Other Activities

1) Traffic Patrol and Control

The MOPS considers traffic patrol and control as their most important and key roles. There are two perspectives for "patrol and control": one refers to their literal meaning, that is, pure patrolling and controlling of traffic while the other perspective is that of an expanded role which is not limited to the patrol and control functions only but also includes other functions such as traffic management, violation handling and other traffic accident-related tasks. Based on the survey of the study team, most of interviewees consider that the MOPS actually undertakes the expanded role. But for purposes of discussion in this section, MOPS role will be limited to the former, except otherwise stated.

(i) General View

Traffic patrol and control is one of the contents of state management on traffic safety order, as well as the specialized mission of the traffic police.

Article 72 of the Road Traffic Law, that is, patrol and control by road traffic police, stipulates the following: “The road traffic police shall conduct patrols and control to check the people and their vehicles participating in road traffic, to apprehend violators of road traffic legislations and have these violators take responsibility before the law.”

In the Decision No. 1922/2006/QĐ-BCA (C11) dated 5 December 2006 issued by the Minister of the MOPS, tasks and powers of the road Traffic Police force regarding patrol and control were stipulated. This Decision reconfirms that the traffic patrol and control is carried out by the Traffic Police and that all traffic participants of a circulating or moving traffic are automatically under the jurisdiction of the Traffic Police. In addition, it stipulates guidelines for the Traffic Police in its implementation of traffic patrol and control such as (i) responsibilities and rights; (ii) uniform, equipment, weapons and other supporting tools; (iii) procedure in stopping vehicles; and (iv) the 3 contents on control: documentation requirements related to drivers and vehicle, technical safety of vehicles, and cargo and/or passenger transport.

The stipulated regulations in this Decision are fundamental guidelines, thus MOPS requires that every traffic police should know these regulations very well. During the survey conducted in the provinces, all traffic police interviewees concurred that they basically implement all the regulations in this Decision.

Traffic patrol and control has various objectives, as follows:

- To know exactly the current situation of traffic on road, especially the irregular situations;
- To identify traffic violators;
- To identify traffic accident situations, if any;
- To prevent situations that can negatively affect traffic safety and order;
- To help in the prevention of other criminal activities such as transport of illegal drugs and goods, etc.
- To identify problems in traffic management, infrastructure, etc.

Effective implementation of activities to meet these objectives has the Traffic Police consider Patrol and Control as one of routine activities of the traffic police.

(ii) Task Implementation

(1) Implementation Schemes

Traffic patrol and control requires extensive resources given the large coverage area and complexity of traffic situations. This has always been the perennial concern of Traffic Police leadership; that is, how to effectively organize and monitor traffic patrol and control given limited resources. While several schemes have been developed and implemented, the following are the two

major traffic patrol and control implementation schemes:

- Mobile patrol in combination with stationary checkpoint for controlling traffic: The mobile patrol has the advantage of timely identifying issues related to traffic and road conditions. While this can lead to immediate resolution of issues, it however also requires extensive resources such as manpower and equipment. On the other hand, the stationary checkpoint may be cost-efficient, but it also has very low level of effectiveness. Therefore, combination of these two would be more advantageous, but its effectiveness still depends on the quality of planning.
- Enforcement campaign is another scheme wherein traffic patrol and control can be implemented on a larger scale given a limited time period and with the participation of various police forces. The campaign usually focuses on one special topic such as the recent Helmet Wearing campaign required by the Government. While the campaign has very high impact on road users, it requires extensive manpower, time and financial resources.

(2) Traffic Patrol and Control Strategies

Traffic patrol and control strategies play very critical roles in ensuring an effective and safe implementation. Based on years of experience, the RRTPB has studied, analyzed, evaluated, and integrated the effective and necessary strategies for the traffic police force to successfully implement their patrol and control tasks, the most popular of which are (a) the pursuit of traffic violator to ensure safety of general public and (b) strict enforcement of traffic regulations such as speed limit; alcohol use while driving; bad driving behaviour; wearing of helmet and seatbelt; and illegal racing of vehicles.

(3) Traffic Police Force

Table 6.2.1 shows the traffic police force and other forces directly involved in traffic patrol and control. The following are worth noting:

- Majority of traffic police (about 70%) is directly involved in the expanded role of patrol and control.
- The rate of traffic police involved directly to patrol and control (in comparison with the total) is very high at the district (82%-87%) as compared with those at the municipal/provincial level (PC26).
- As Table 6.2.1 shows, there is an annual reduction in the percentage of involvement at the municipal/provincial level. This may be due to the re-orientation of assignments of traffic police forces where the patrol and control responsibility is slowly being devolved at the district levels while the PC26 concentrates more and more on planning and guidance activities.

Table 6.2.1 Traffic Police Force Involved in Traffic Patrol and Control

Year	Workforce of Traffic Police			Police Force Involved in Traffic Patrol and Control					
				Number			Percentage		
	Total	PC26	District	Total	PC26	District	Total	PC26	District
2007	11,857	5,601	5,703	8,286	3,083	4,958	69.88%	55.04%	86.94%
2006	10,744	5,238	5,003	7,690	3,065	4,398	71.57%	58.51%	86.91%
2005	9,901	5,016	4,374	7,053	3,103	3,714	71.24%	61.86%	84.91%
2004	10,272	5,495	4,254	7,287	3,676	3,494	70.94%	66.90%	82.13%

Source: C26

(iii) Observations

The present traffic police force organization, especially at the district level, is not yet the most suitable and unified model to address the present situation and requirements.

The MOPS understands the importance of documents that will serve as guidelines to the traffic police at all levels to carry out their functions, duties and organization. In addition, these documents on the arrangement of traffic police to carry out Traffic Patrol and Control are very important and should be enhanced and periodically updated to meet the changing nature of traffic conditions.

The organization of Traffic Patrol and Control is at present based on administrative provincial boundaries. It is not yet systematically organized, with some areas having very strong enforcement while others on the other hand have very weak enforcement force, and sometimes lacking. For example, NH5, which is 100 km long is being served by 4 patrol forces from Hanoi, Hung Yen, Hai Duong, and Haiphong, while the Bac Thang Long - Noi Bai in the same area, 2 patrol forces coming from Dong Anh District and Soc Son District serves this route. On the other hand, the Cam Pha - Mong Cai section on NH18, which is nearly 200 km long, is only served by 1 patrol team composed of 14 staff from the Quang Ninh traffic police.

Allocation of resources to ensure traffic safety is not yet rationally organized between the provincial and district traffic police offices. Provincial traffic police do not have the resources to cover the extensive administrative area while the district police do not yet have the capacity to effectively conduct traffic patrol and control due to lack of duty assignment (and thus experience) and the required equipment and facilities. In addition, some national highways run through towns and wards. And since there is no clear distinction between national highway and urban roads, some localities assign both the provincial and district traffic police forces.

Due to unclear duty assignment, district traffic police at some localities do not have distinct organization and are not equipped with necessary facilities; some are not provided with traffic police uniforms and still perform traffic safety and order roles.

2) Managing Traffic Violation

(i) General View

Appropriate handling of traffic violation is very critical and contributes to ensuring

traffic order. This is probably considered by the Traffic Police as one of its main functions and thus integrates it with patrol and control as one of its major roles.

The most important legal documents guiding traffic violation management is the recent Decree No. 146/2007/ND-CP dated 14 September 2007 on Handling Administrative Violations on Road Traffic. This Decree replaced Decree No. 152/2005/ND-CP dated 15 December 2005 with heavier monetary fines for a lot of violations. The Decree also stipulates additional penalties such as:

- Confiscation of material evidences or means used for administrative violations;
- Mandatory restoration into original state of altered road facilities due to administrative violations or the dismantling of illegally constructed works.

The Decree sets very high requirement for the enforcement force in its Article 4 by stipulating this Principle: “All administrative road traffic violation should be timely identified and immediately stopped. All succeeding behaviours violating traffic regulations should be controlled based on current regulations.”

Due to the low level of awareness of road users on proper road traffic behaviour, traffic violations are very common. The Decree divided these violations into six groups, as follows:

- (1) Violations on road traffic regulations;
- (2) Violations on road infrastructure regulations;
- (3) Violations on regulations for vehicles running on roads;
- (4) Violations on regulations for users of road/vehicle;
- (5) Violation on road transport regulations; and
- (6) Other violations.

Table 6.2.2 presents the source of authority to impose administrative penalties which is divided into three: Chairman of the People’s Committees, Police and Transport Inspectors.

Table 6.2.3 presents the scope of authority to administratively penalize violations which are considered reasonable and cover all necessary decrees. But as will be discussed in the observations subsection, in the majority of cases, only the Police and Inspectors at the lower levels exercise this authority.

Table 6.2.2 Decree 146 Authority to Impose Administrative Penalties

No	Source of Authority	Scope of Authority
1	Chairman of the People's Committee at all levels	To penalize violations within the scope of their localities' management.
2	Chief of Police at all levels	To penalize violations within the scope of their localities' management.
3	Road traffic policemen	To penalize violators (persons and vehicles) of land/road traffic order and urban traffic order and safety
4	Police tasked to maintain order; Quick-response police force; Mobile police and Social order administrative management police	To penalize violations stipulated at some points, clauses and articles of this Decree
5	Road traffic inspectors	To penalize violators (persons and vehicles) at parking stops/ areas as stipulated at related points, clauses and articles of this Decree

Source: Decree 146/2007/ND-CP

Table 6.2.3 Scope of Authority to Administratively Penalize Violations

No	Source of Authority	Scope of Authority				
		Impose Warning	Pecuniary Fine (VND)	Confiscate material evidences, means, valued up to (VND)	Suspension of right to use driver's license and other professional certificates ^a	Obligatory restoration into original state of altered road facilities due to administrative violations or the dismantling of illegally constructed works
1	Commune-level People's Committee Chairman	Yes	500,000	500,000	No	Yes
2	District-level People's Committee Chairman	Yes	20,000,000	Any	Yes	Yes
3	Province-level People's Committee Chairman	Yes	30,000,000	Any	Yes	Yes
4	People's police on official duty	Yes	100,000	No	No	No
5	Team leaders; chiefs of the police station	Yes	200,000	No	No	No
6	Commune-level police chiefs	Yes	500,000	500,000	No	Yes
7	District-level police chiefs ^c	Yes	10,000,000	Yes ^a	Yes	Yes
8	Directors of the provincial-level Police	Yes	20,000,000	Any	Yes	Yes
9	Director of RRTPB, of the Social Order Administrative Management Bureau	Yes	30,000,000	Any	Yes	Yes
10	Road traffic inspectors on official duty	Yes	200,000	2,000,000	No	Yes
11	Road traffic chief inspectors of the provincial/municipal level (of VRA)	Yes	20,000,000	Any	Yes	Yes
12	Road traffic chief inspectors of the ministerial level	Yes	30,000,000	Any	Yes	Yes

Note: ^a within the scope of their localities' management.

^b At various Decrees stipulated in the Ordinance on Handling of Administrative Violations dated 2 July 2002.

^c The Chiefs of the traffic police, social order police section, social order administrative management police section of the provincial/municipal Police; the chiefs of the special units, of the mobile police units of the company or higher levels operating independently have authority to penalize like the chiefs of district-level police.

Source: Decree 146/2007/ND-CP

(ii) Task Implementation

Table 6.2.4 shows the data on administrative violations handled by the Traffic Police from 2002-2006 which shows a sharp increase between 2002-2005, and a decrease in 2006. This may be explained by the fact that in 2006, the Traffic Police has enforced an increase in fines and strict measures such as temporarily holding of violating vehicles. Figure 6.2.1 illustrates this indicative effectiveness of enforcement measures.

Based on a sampling analysis of violation types for both car and motorcycles, the following are observed:

- Most popular violation types are speeding, overloading and problems with car safety equipments. These violations increase even with a high complexity in dependence to the activities of traffic policemen.
- It is very common for drivers to drive after drinking alcohol. However, the very low percentage of violations on drunk-driving further indicates the lack in effective strategies to strictly enforce this violation.
- The very large percentage of unclassified violations shows that the data collection and recording should be improved.

(iii) Observations

- (1) As already mentioned, Decree 146 mandates adherence to a very strict principle that administrative road traffic violation should be timely identified and immediately stopped. However, there's nothing much being done to implement this principle.
- (2) As being experienced at present in Vietnam, traffic violations can happen anywhere and anytime, with the number of violation very high and in varying forms. However, despite the extensive traffic regulations at present, there are very limited traffic police resources available. Traffic enforcement efforts must therefore be prioritized in accordance with local conditions. In any enforcement guideline¹, there is a recommended hierarchy of offences, as follows:
 - (a) Safety: offences that could lead to a road accident, i.e., speeding, signal violations, drunk-driving violations, and pedestrian crossing violations by drivers;
 - (b) Traffic management: offences that while not inherently dangerous do not facilitate smooth movement of traffic, i.e., illegal parking or buses loading and unloading passengers within a junction;
 - (c) Equipment: offences such as lighting or tire defects that could contribute to an accident but have a much lower correlation with accidents than do the safety offences; and
 - (d) Administrative: paperwork offences such as improper vehicle registration or transfer of ownership.

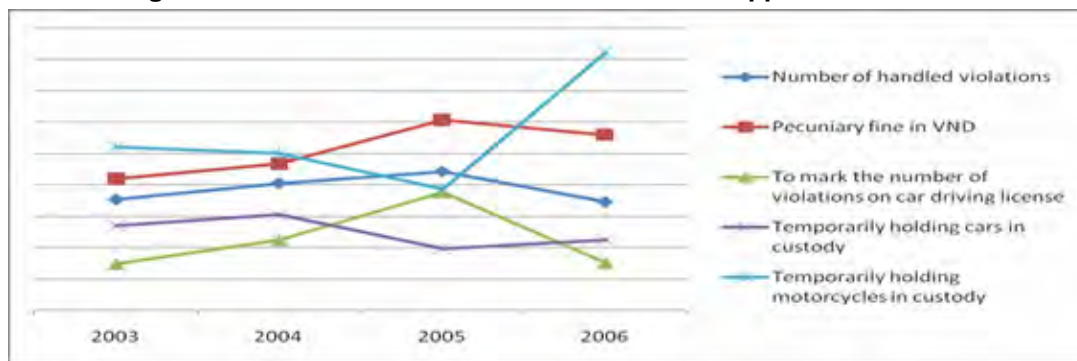
¹ For example, *ADB Road Safety Guidelines for Asia and Pacific Region*, p 4.11-3

Table 6.2.4 Administrative Violations Handled by the Traffic Police from 2002-2006

No	Item	Unit	2002	2003	2004	2005	2006
General							
1	Number of handled violations	Case	1,271,239	3,542,065	4,057,406	4,432,551	3,462,338
2	Pecuniary fine in VND	Billion	189.3	419.6	466.8	606.1	559.8
3	Suspension of right to use driver's license	Case	3,030	28,982	60,436	139,529	25,046
4	Marking the number of violations on car driver's license	Case	NA	146,936	223,023	377,345	150,494
5	Temporarily holding of cars in custody	Vehicle	NA	27,034	30,440	19,739	22,542
6	Temporarily holding of motorcycles in custody	Vehicle	NA	522,367	501,354	386,469	824,114
Sampling Analysis on Car Violations							
1	Driving without license	%	1.5	2.6	1	0.69	1.1
2	Over speeding	%	2.9	10.2	10.3	10.03	13.8
3	Drunk-driving	%	0.04	0.03	0.1	0.05	0.1
4	Not following police's instruction	%	0.5	0.7	1.7	1.7	0.6
5	Wrong number plate	%	0.4	0.08	0.4	0.01	0.07
6	Lack of registration certificate	%	0.5	0.1	0.2	0.04	0.1
7	Overloading (goods)	%	9.8	6.4	6.9	5.61	9.9
8	Overloading (passengers)	%	6.2	2.6	1.9	1.07	3.6
9	Not following traffic sign	%	3.6	0.4	NA	NA	3.7
10	Violation on vehicle safety equipment	%	18.5	11.3	10.9	10.8	10
11	Others	%	56.06	65.59	66.6	70	56.03
Sampling Analysis on Motorcycle Violations							
1	Driving without license	%	31	14.4	6.9	6.01	15.1
2	Over speeding	%	1	1.7	3.5	9.23	14.6
3	Drunk-driving	%	0.14	0.1	0.1	0.32	0.6
4	Not following police's instruction	%	0.6	0.4	0.7	0.74	1
5	Wrong number plate	%	0.7	0.2	0.2	0.12	0.2
6	Lack of registration certificate	%	5	1.1	1.1	0.89	1.6
7	Overloading (goods)	%	NA	NA	0.9	0.72	NA
8	Overloading (passengers)	%	14.7	6.8	5.7	5.8	10.8
9	Not following traffic sign	%	1	0.2	0.1	NA	8.6
10	Violation in vehicle safety equipment	%	0.7	2.3	1.7	1.52	3.9
11	Others	%	45.16	72.8	78.1	73.65	46.5

Source: Annual Report of R RTPB

Figure 6.2 1 Number of Handled Violations and Applied Fine Measures



Source: C26

- (3) Although illegally registered or unregistered vehicle should be fined, this violation does not necessarily result to high risk traffic accident as speeding, for example. Safety violations, or “moving” violations as they are sometimes called, should therefore be targeted to focus enforcement efforts at traffic violations most closely connected with road accidents. High-risk accident sites should also be targeted. As traffic regulations usually specify the maximum fine for each violation, safety violations should incur the maximum fine to highlight the seriousness of the offence.
- (4) It is observed that the traffic police force has the tendency to ignore violations incurred by pedestrian and of bicycle users with their attention focused on motorized vehicles and some self-made non-motorized vehicles such as rickshaw. This is why pedestrians and bicycle users have very high tendency to violate traffic regulations even in the presence of traffic police.
- (5) The scale of violations handled is usually indicated by the number of apprehended violators, amount of collected fines, etc. However, available data are not reflective of how efficient the handling of traffic violation is being conducted. It is clear that the higher number of handled violations does not mean the better or worse situation in ensuring the traffic order. It is necessary to set up indicators for evaluation of this activity.

Table 6.2.2 shows the extent of officials who have the authority to penalize administrative traffic violations. However, the actual situation is that majority of such violations are being handled only at the two lowest levels (policeman and team leader being on duty). Based on the survey conducted by the JICA Study Team, it was expressed that the provincial traffic police would like to undertake such tasks but are constrained by their limited resources (staff, room, legal guidelines/ document. etc.)

- (6) Traffic violation data can be very useful during policy-making, evaluation, analysis, research, etc. However, these data are not electronically available yet at present (where mostly traffic violation reports are filed on hard copy and with respective team-level. Some statistical data are reported to higher level when requested. Some of the police forces are already managing these data on several software such as FOXPRO, but is being used independently by respective teams, with no data exchange on network connection established.

In fact, majority of past data were lost and cannot be recovered. Thus, a nationwide electronically-operated database system which shall store traffic violation data is now very urgent. The RRTPB has plans of developing and installing such software for usage in 2008.

- (7) Decree 146 and all of its precedent legal documents includes warning as a traffic enforcement measure. It is observed that this measure is applied only in limited cases (such as some pilot projects of TRAHUD, to inform parents about violation of their children, etc.). There are instances that even a traffic enforcer's verbal warning proves to be effective also. Officially, however, based on the Ordinance on Handling of Administrative Violations dated 2 July 2002, the warning is applied for minor violations and should be in writing (Article 13). There are two identified issues here:
 - (a) What is considered as minor violation? To date, there are no guidelines to clarify what violations may be classified as minor.
 - (b) Some violations which may be classified as minor violations (e.g. not fastening of seatbelt, not wearing of helmet, sudden direction change of non-motorized vehicle, etc.) may result in very serious conditions when violation resulted to a traffic accident. Therefore, issuance of a warning or even penalizing but with small fines is therefore deemed inappropriate.
- (8) There are some weaknesses in the handling of traffic violation measures:
 - (a) Temporary holding of vehicle in custody may be an effective measure but its implementation poses constraints due to budgetary and logistic requirements such as tow trucks, parking spaces to keep the towed vehicles, etc. In addition, owner of towed vehicle with low value often do not bother to claim their vehicles.
 - (b) The present system of traffic violation report preparation which records the information such as violation, penalty level, etc. is generally slow. Normally, it takes a traffic police 15-20 minutes to make the traffic violation report which affects the patrol and monitor. This is also not an ideal situation during inclement weather conditions which further result to longer traffic report preparation.
 - (c) In Article 66, enforcing the decision of administrative punishment (Ordinances on administrative punishment 2002) and the Decree No. 146/2007/ND-CP and all precedent Decrees stipulated a very stringent measure of collecting traffic violation fines by "Deducting a part from salary, income or from bank account". However, to date, this measure has never been applied.

3) Traffic Accident Related Actions

(i) Background

Actions related to traffic accidents are complicated for they are closely connected with the health (and sometimes even life) of victims; responsibilities of the road user who caused the traffic accident; and loss of time, damage to personal property as well as monetary losses on affected persons. The potential severity of

effects of traffic accidents the more requires that any action should be carried out based on clear regulations and legal documents. The current, most important legal document now in relation to traffic accident is MOPS' Decision No. 768/2006/QD-BCA(C11) dated 20 June 2006 of on Task Assignments and Coordination Relations of People's Public Securities Forces in Dealing with Traffic Accidents.

There are three important contents to this Decision, as follows:

- Traffic Accident Classification;
- Traffic Accident Reporting system.
- Task Assignments in dealing with Traffic accidents;

(1) Classification of Magnitude of Accident

Magnitude of accident is based on damage to human life/health or property and is classified in accordance with Decision No. 768/2006/QD-BCA (C11) dated 20 June 2006 of MOP. The accidents are categorized into the following classifications, as shown in Table 6.2.5.

(2) Road Traffic Accident Reporting System

(a) Present System of Accident Reporting

In accordance with the Decree No. 14/2003/ND-CP dated 19 February 2003, Road and Railway Traffic Police Bureau of MOPS is responsible for reporting of road traffic accidents.

The present road accident reporting system begins with the traffic police accomplishing a two-sided form "Form-45GT" at the accident scene that is then forwarded to the national office of the Traffic Police, usually within one month after accident. Information from "Form-45GT" is manually totaled at provincial Traffic Police headquarters to give a one or two page summary on the number of reported accidents, fatalities and injuries, as well as a simple analysis on the cause, type of vehicle and type of road. The summary report is forwarded to the Traffic Police central office where it is consolidated and sent to NTSC. For accidents involving one or more fatalities, a "Hot Report" ("Form-44GT"), which is a summarized "Form-45GT", is sent to Traffic Police central office immediately in order to give factual information to police management.

Figure 6.2.2 illustrates the traffic accident reporting system, the process of which is described as follows:

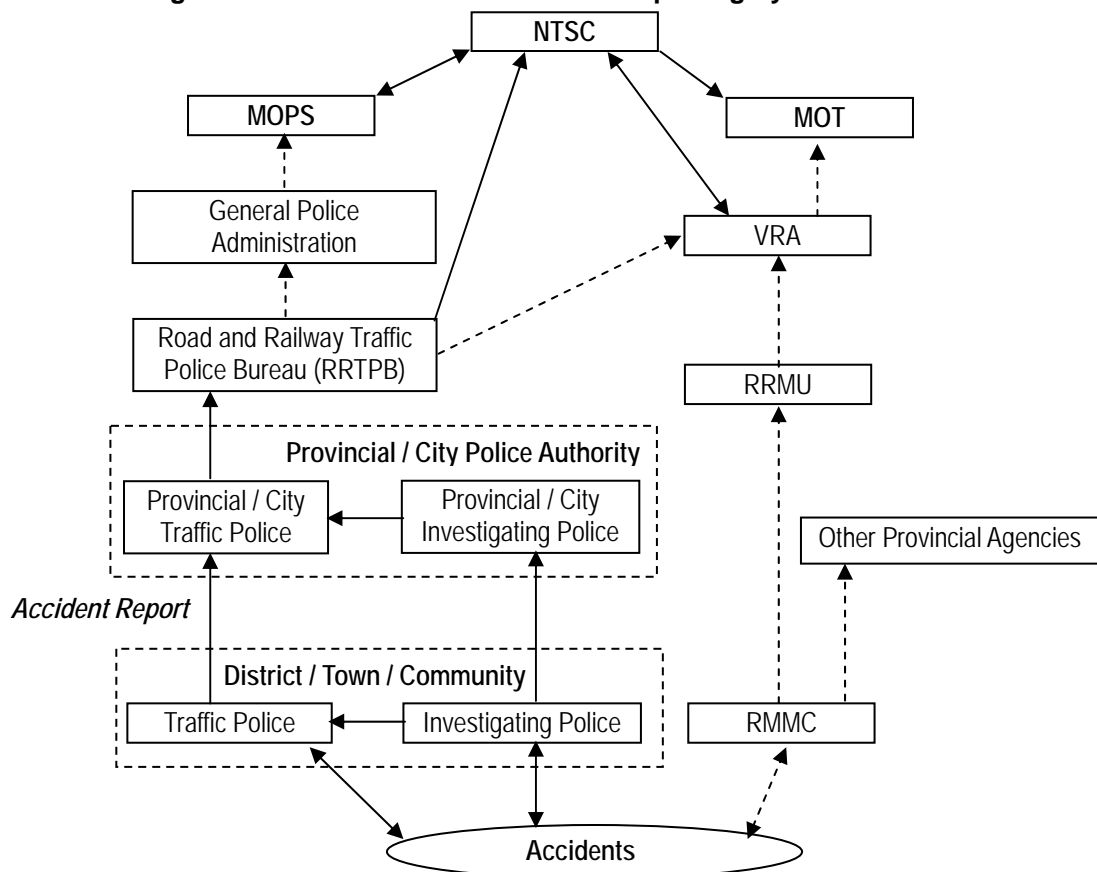
- i) When an accident occurs, people report either to the nearest police station or to the police on the road. In a number of cases, however, they settle the matter without involving the police.
- ii) At the accident scene, traffic police are responsible for giving emergency aid to victims, securing the scene and easing traffic congestion.
- iii) Accident information is relayed to the district or town traffic police or sometimes, directly to the city/ provincial police.

Table 6.2.5 Traffic Accident Classification by MOPS

Category	Criteria (any one in each category)
1. Extremely Serious	<ul style="list-style-type: none"> a) Resulted to more than 3 deaths. b) Resulted to more than 2 deaths, with the following further consequences: <ul style="list-style-type: none"> - 1 or 2 injuries with more than 31% degree of disability per person. - many injuries with less than 31% degree of disability, but total of 41-100% degree of disability. - 1 injury with 21-30% degree of disability and cost of damage to property is VND30-50 million. - many injuries with 21% degree of disability per person, but total of 31-40% degree of disability and cost of damage to property is VND30-50 million. - cost of damage to property is VND50-500 million. c) Resulted to more than 1 death with the following further consequences: <ul style="list-style-type: none"> - many injuries with less than 31% degree of disability, but total of 41-100% degree of disability. - 1 injury with 21-30% degree of disability and cost of damage to property is VND30-50 million. - many injuries with less than 21% degree of disability per person, but total of 31-40% degree of disability and cost of damage to property is VND30-50 million. - cost of damage to property is VND50-500 million. d) Resulted to more than 5 injuries with more than 31% degree of disability per person. e) Resulted to many injuries with total of more than 200% degree of disability. f) Resulted to 3 or 4 injuries with more than 31% degree of disability per person, and cost of damage to property is VND500-1,500 million. g) Cost of damage to property is VND1,500 million.
2. Very Serious	<ul style="list-style-type: none"> a) Resulted to more than 2 deaths. b) Resulted to more than 1 death with further consequences as that of "Criteria-b)" of "Extremely Serious". c) Resulted to more than 3 or 4 injuries with more than 31% degree of disability per person. d) Resulted to many injuries with total degree of disability of 101-200%. e) Resulted to 1 or 2 injuries with more than 31% degree of disability per person with further consequences as that of "Criteria-c)" of "Extremely Serious". f) Cost of damage to property is VND500-1,500 million.
3. Serious	<ul style="list-style-type: none"> a) Resulted to more than 1 death. b) Resulted to 1 or 2 injuries with more than 31% degree of disability per person. c) Resulted to many injuries with less than 31% degree of disability, but total of 41-100% degree of disability. d) Resulted to 1 injury with 21 - 30% degree of disability and cost of damage to property is VND30-50 million. e) many injuries with less than 21% degree of disability per person, but total of 31-40% degree of disability and cost of damage to property is VND30-50 million. f) Cost of damage to property is VND50-500 million.
4. Slightly Serious	<ul style="list-style-type: none"> a) Resulted to 1 injury with more than 11% degree of disability. b) Resulted to many injuries with less than 11% degree of disability per person, but total of 21-40% degree of disability. c) Cost of damage to property is VND5-50 million.
5. Traffic Collision	Damage to person's health or property less than that of "slightly serious accident".

Source: Decision No. 768/2006/QĐ-BCA (C11) of MOPS (20/June/2006)

Figure 6.2.2 Current Traffic Accident Reporting System



Source: "Preparation of Vietnam Road Safety Project Phase-1 Review of Components Final Report" (March 2004)

- iv) After being notified, the investigating police proceed to the traffic accident scene to collect, investigate and complete the accident record. In traffic accident cases with no criminal liabilities, the investigating police send the records to the traffic police office. However, for serious traffic accidents which may result to criminal cases where the punishment is more than 15 years, the completed report will be sent to the provincial/city investigating police.
- v) The city/provincial traffic police office is responsible for dealing with accidents involving senior cadres and foreigners.
- vi) The city/provincial traffic police office is responsible for relaying information on serious accidents with criminal evidence to the city/provincial traffic police.
- vii) The provincial traffic police office reports the accident data to the traffic police national office.
- viii) Reports are archived by the originating office of the traffic police or investigating police.

(b) Content of Accident Report

Hot Traffic Accident Form-44GT and Traffic Accident Report Form-45GT are illustrated in Figure 6.2.3 and Figure 6.2.4

(c) Accident Database System in VRSP-1 by World Bank

The National Road Accident Database System (NRADS) shall be established under the WB-assisted Vietnam Road Safety Project Phase-1 (VRSP-1) with the following objectives:

- To establish a comprehensive road accident database and analysis system for the whole of Vietnam to rigorously and consistently collect data about road accidents as illustrated in Figure 6.2.5
- To provide capacity for analyzing accident information for all activities relating to road safety.
- To share database information among ministries and related agencies.

Figure 6.2.3 Hot Traffic Accident Report Form-44GT

MINISTRY OF POLICE
POLICE
CODE

SOCIALIST REPUBLIC OF VIETNAM
Independent - Freedom - Happiness
.....

Form 44GT
Promulgate as Decision 1093/QĐ-BCA(CII)
Date 06 - 12 - 2000

HOT REPORT ON ROAD TRAFFIC ACCIDENTS

2 copies, 1 copy at PC26, 1 copy sent to VRA
In order to coordinate with complete report form, need to fill: Number of report, code, year.

1. Number of Report:

2. Time occur accident:
Hour Minute Date
Month Year Day

Place occur accident
- At km:

Road name :

NR UR PR Other

- Distric, prefecture:

Code Urban Rural

4. Deaths and Injuries in accident:
- Deaths:
- Injuries:

5. The number of vehicles are damaged in accident:

	Car	Bus	Truck	Motor bike	Bicycle	Other
Total	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>
Ruin	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>
Damage	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>	<input style="width: 30px;" type="text"/>

6. Note process, preliminary on causes briefly:
.....
.....
.....
.....

DATE MONTH YEAR

CHIEF OFFICER
(Sign, full name)

6-15

17. Vehicles:

Means of transport	Mark	Registered number	Owner means	Address of owner means	Deadline of registration	Movement before the accident	Transport station	Technical station
PT 1								
PT 2								
PT 3								

18. Driver:

Full name	Age	Sex	Nationality	Address	Seniority	Number of drive-licences/class	Concentration of alcohol	Helmets/Safety belt	Fault in controll	Disabled injury situation
PT 1										
PT 2										
PT 3										

19. Detail on persons and pedestrian in accident:

Full name	Age	Sex	Nationality	Address	Occupation	In vehicles	Pedestrian	Action before the accident	Disabling injury situation
1									
2									
3									
4									
5									
6									

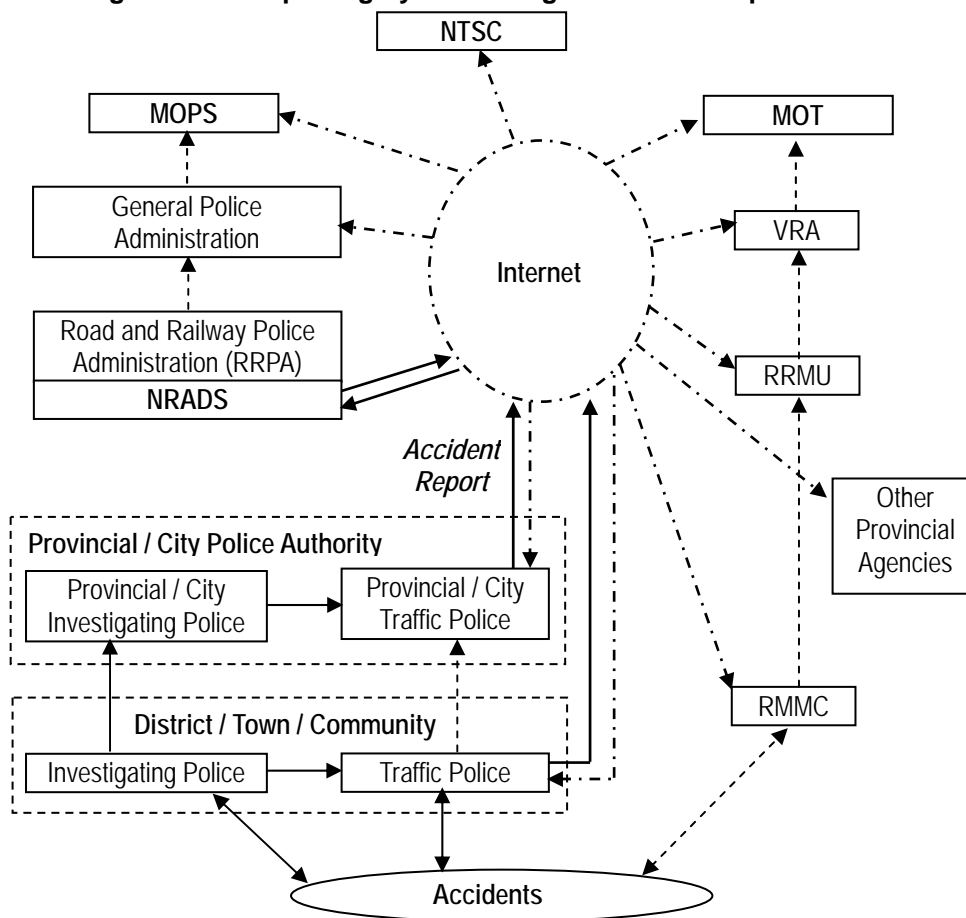
20. Accident caused:

.....

Note:
- In case more than 3 vehicles, 6 persons in vehicles and pedestrian are in accident, need to write supplementary report (in cluding number of report, code, year and pin together)
- NR: National road; TN: Accident; PT: Vehicle
- Need to write following items by code:

Movement before accident (in item 17. Vehicles)	Technical situation of vehicles (in item 17. Vehicles)	Controlling mistake (in item 18. Driver)	Action before accident (in item 19. Detail on persons in vehicles and pedestrian)
1 - Go straight 2 - Take a roundabout 3 - Stand back 4 - Turn left 5 - Turn right 6 - Stop suddenly 7 - Pass over left 8 - Pass over right 9 - Going uphill 10 - Going down the slope 11 - Others	1 - Steering-wheel system is broken down 2 - Transitional system is broken 3 - Brake system is not enough safe 4 - Foot brake system is broken down 5 - Hand brake system is broken down 6 - Holed tube 7 - Repairing is not enough standard 8 - Direction indicator light is broken 9 - Other defects Break tyre	1 - Misuse lane 2 - Do not give the sign before returning 3 - Do not obey traffic signboard 4 - Driving with out observation 5 - Stopping against regulation 6 - Do not ensure safe distance 7 - Do not obey traffic regulation 8 - Other fault	1 - Pass through the road 2 - Working in the top of vehicle 3 - Walking in a road side 4 - Relaxing, Sleeping in a car 5 - Jumping, falling 6 - Sitting in the top of vehicle 7 - Sitting in a car 8 - Other actions

Figure 6.2.5 Reporting System Using NRADS as Proposed in VRSP-1



Source: "Preparation of Vietnam Road Safety Project Phase-1 Review of Components Final Report" (March 2004)

The component of NRADS will be implemented consisting of the following five project stages over a period of three or four years:

i) Stage 1: System Design

The activities which will be included are as follows:

- Review of accident definitions and reporting by traffic police, hospital and other sources, and consideration of the suitability of using accident data form other than traffic police sources.
- Confirmation of user requirements for data, input, analysis, and reporting.
- Preparation of a formal requirements specification and issue of a Request for Proposal for a system supplier and selection of the supplier.
- Design of the system and obtaining agreement to the design.
- Preparation of a detailed implementation plan.

ii) Stage 2: System Development

In accordance with agreed design, actual system development will be undertaken by the selected supplier using Vietnamese IT Experts.

Purchase and installation of approved equipment and system software for Hanoi Traffic Police Data Center will be included.

iii) Stage 3: Implementation on Demonstration Corridors

Data entry facilities and database access/analysis facilities will be installed at 14 traffic police locations and HCMC Traffic Police Department. In addition, database access/analysis facilities will be installed in 14 provincial traffic safety agencies, NTSC and VRA.

iv) Stage 4: Extension to Other Key Traffic Police Post

Data entry facilities will be installed at priority areas where there is significant number of accidents and available facilities and staff complement sufficient to support the proposed technology.

v) Stage 5: Nationwide Implementation

Further extension to connect other district and community level traffic police bases.

(3) Task Assignments in Dealing with Traffic Accidents

(a) Task of investigating and handling traffic accidents

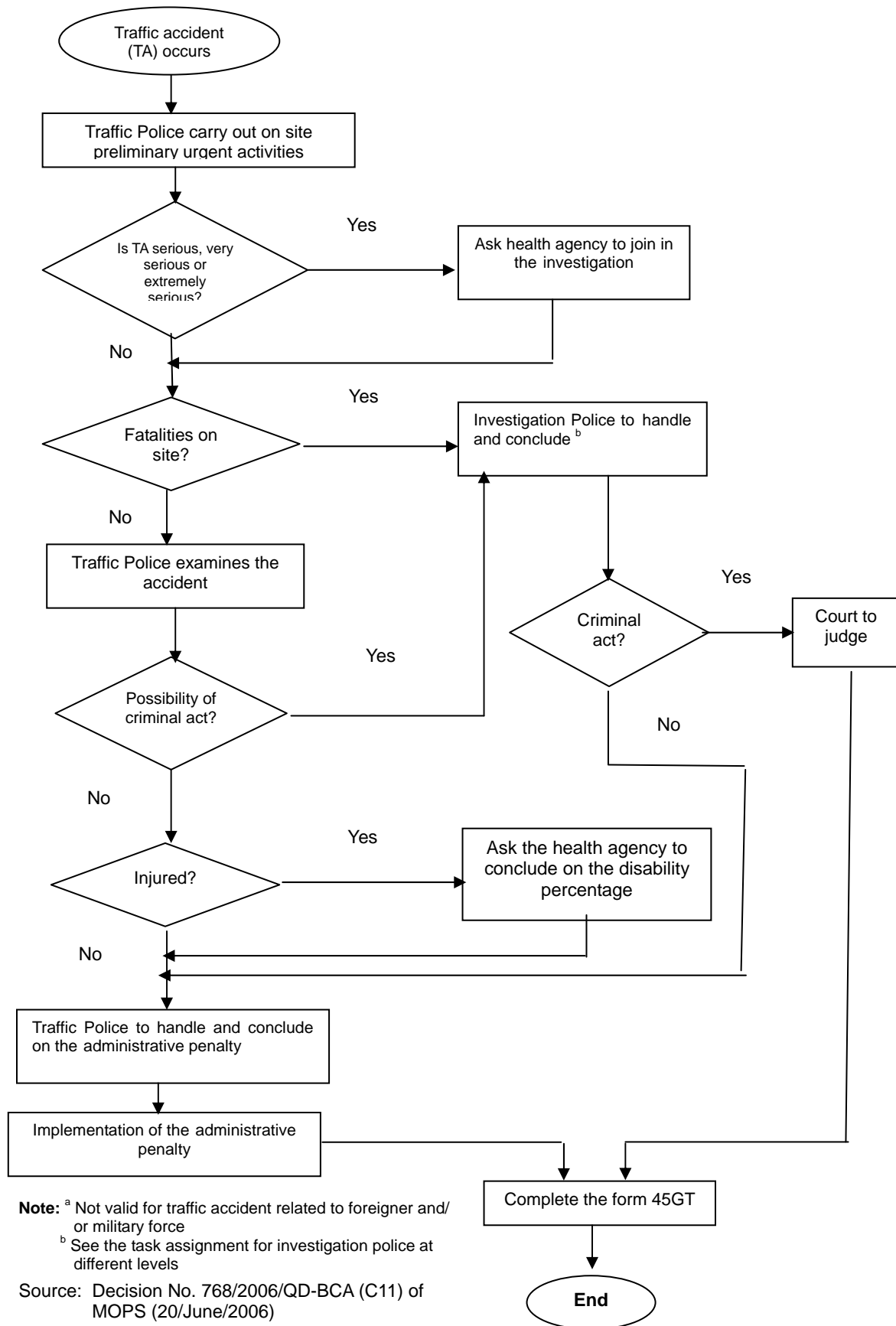
This task is mainly assigned to Traffic Police and Investigation Police for Social-order criminals (from here on referred as Investigation Police). Figure 6.2.6 shows the process of handling traffic accidents: from the time an accident occurred until the final step which is the completion of the Accident Report Form No. 45GT.

In general, the Traffic Police is responsible from the time the accident occurred until the completion of accident report. Depending on the details of the accident, the Investigation Police plays a secondary role which is aimed at identifying the responsibilities of each party involved in the accident. The health agencies, for their part, become involved only in the process to clarify various details. The legal documents stipulate that, when requested, all other police force and all related agencies/persons should support the Traffic Police and/or Investigation Police.

Regarding traffic accidents involving foreign nationals, the process is similar with the participation of Traffic Police at higher level and the respective consulate offices.

For traffic accidents concerning army force members and/or vehicles, the Traffic Police in general is still responsible for handling the traffic accident. Exception will be traffic accident situations where there is a sign of foul play or criminal act which will then require the Army Investigation Agency to carry out the investigation.

Figure 6.2.6 Flowchart on Handling Traffic Accidents^a



(b) Task Assignment for Traffic Police at Various Levels

The below tables show the detailed task assignment for Traffic Police at various levels on traffic accident handling and investigation.

Table 6.2.6 Task Assignment in the Handling of Traffic Accidents by Traffic Police at Various Levels

Level of Traffic Police	For lower level	Relation with other Police Force	Traffic Accident to be Directly Handled
RRTPB	For all lower levels: - Guidance - Control - Instruction	Cooperating with Investigation Agency of MOPS during investigation and in checking the investigation, the solution process of TA in case of MOPS' requirement.	
Municipal/ provincial	For Traffic Police at District level - Guidance, - Control - Instruction	Delegating staff to cooperate in protection of site and in examination as required by Investigation Police at district level.	Traffic accident without fatality on the assigned routes
District		- Informing the Provincial Traffic Police and/or Investigation Police on the occurrence of traffic accident. - Delegating staff to cooperate in protection of site and in examination as required by related Police Force at any level.	On the assigned routes: - Traffic accident without fatality - Traffic collision - Light traffic accidents

Source: JICA Study Team.

Table 6.2.7 Task Assignment in Investigating Traffic Accident By Investigation Police at Various Levels

Level of Police on Social Criminal Investigation	Traffic Accident with Fatalities (died on site or during transport to hospitals/medical facilities)
District level	- One fatality - More than one fatality in the area, where the local Court at district level is assigned the related task to judge on the accident case.
Municipal/ provincial level	- More than one fatality in the area, where the local Court at district level is not assigned the related task to judge on the accident case.

Source: JICA Study Team.

i) Task Implementation task assignment

The task assignment between various police task in traffic accident related actions is very important. Before 2000, there were some problems in this assignment. For example, there are some differences in task assignment as indicated in the Joint Circular No.02/TTLN (1985) of Supreme Court, Supreme Procuracy and Ministry of Interior Affairs (former name of MOPS) and Ordinance on Criminal Investigation (1989). There are three concurrent task assignments as shown in the first rows of Table 6.2.8. As a consequence, the quality of traffic accident investigation was low; majority of accidents were classified under either administrative penalties or civil judgment, with

only a few under criminal judgment. This deterred the impact and effectiveness of the legislation.

From 2000, the Official Letter No. 1251/CT-BCA(C16) dated 27 September 1999 on the assignment of task in accident treatment and investigation was valid. The regulations have improved the quality of investigation and increased the percentage of cases under criminal judgment. The Investigation Police were directed to take part from the beginning of accident Investigation for extremely serious accidents.

But the Official Letter still contained some problems which challenge its legality while there are revisions in the documents at higher level: the Ordinance on Criminal Investigation Organization (2004) and the Circular No. 12/2004/TT-BCA(V19) dated 23 September 2004 guiding the execution of this Ordinance in MOPS. So, the MOPS has issued the Decision No. 768/2006/QD-BCA(C11) as abovementioned.

Table 6.2.8 Various Task Assignments in a Traffic Accident Investigation

Validity	Traffic Police	Investigation Police
Before 2000 (sometime concurrently in various areas)	Accident site protection only	Investigation from the time accident occurred.
	Accident site protection and investigation for the first 7 days the accident occurred	If there are signs of criminal liabilities, investigation commences 7 days after accident occurred.
	Accident site protection and investigation from A to Z	None
2000-2006	Accident site protection and investigation from A to Z for all accident, except extremely serious ones.	Investigation from the time accident occurred for extremely serious accidents.
June 2006 until now	Accident site protection and investigation of accident without fatality and without any sign of criminal liability.	Investigation from the time accident occurred if accident has: <ul style="list-style-type: none"> - resulted in fatality on site or on the way to medical emergency; - any sign of criminal liability.

Source: JICA Study Team.

ii) Settlement of traffic accident consequence

As already mentioned, the Traffic Police plays the main role in protecting accident site, in organizing the transport of victim to hospital and in applying necessary measures to reduce the loss in properties and to ensure traffic order. According to RRTPB, there is an estimated 90% of cases wherein the Traffic Police take part directly and/or indirectly to the settlement of consequence.

(ii) Observations

(1) Dealing with Serious Accidents and/or Mass Casualty Traffic Accidents

Coordination among concerned agencies still face problems such as lack in united leadership and level of planning and preparedness during cases of extremely serious and/or mass casualties accident.

(2) Accident Investigation

For 10 years (1995 until August 2005), the Police Task force has decided on

about 19.7% of total number of traffic accident cases; 82.9% of which were being prosecuted in court. But Court rulings at all levels resulted in 10% of cases and 10.6% of accused being returned to procuracy agencies for lack of evidences and/or technicalities in the procedural file. Some cases were even tried and judged in several courts before a final court judgement was given.

In 2006, this percentage has improved to 30%, which means that the quality of traffic accident investigation has been improving, however, still requiring further improvement.

(3) Traffic Accident Data Form and Software

MOPS has approved the Traffic Accident Report Form 45GT and the RRTPB has developed a software on FOXPRO for direct Input data on this Form. This software, which has been used for many years now by RRTPB, analyzes the collected data and thus is very useful for RRTPB in its reporting and policy-making roles. However, this software was developed for a single-user, and thus is not capable of sharing and networking. The RRTPB has a plan to upgrade this software in 2008.

There are problems with form 45 GT. A number of fields in the form 45GT could be filled in after the Investigation Conclusion. In many cases, it takes several months even one or a few years. The Traffic Police has the task to input data from this form, but several related data should be received from other police forces. So, the database cannot be upgraded timely as wanted. It should revise the Form and the related software into two parts: One can be filled in right after the first settlement of accident by the traffic police only and the other, after the Investigation process.

(4) On Traffic Collision

As shown in Table 6.2.5, Decision No.768/2006/QD-BCA(C11) 20 dated June 2006, the Traffic Accident Classification by MOPs presents two issues related to Traffic Collision, as follows:

- The Decision stipulates clearly that “Traffic Collision is Traffic Accident...” (Article 3) while many people understand that Traffic Collision is different from Traffic Accident. In fact, such Traffic Collision is reported together with the administrative violation.
- The Criteria for Collision is the loss under Slight Traffic Accident, that is, a Traffic Accident with no injury or an injury with degree of disability less than 11% and cost of damage to property less than VND5 million. So, in many cases, for example, when an accident resulted in the loss of one finger (e.g. thumb), the people generally consider this as slight traffic accident (or serious for some). However, the police would classify this only as a collision.

Table 6.2.9 Types of Injury and Degree of Disability

No ^a	Injured	Disability Rate (%)
...		
11	Fracture of ulna diaphysis, after treatment if:	
	a) Good healing of broken bone with good function of forearm.	3-4
	b) Poor healing of broken bone, two top of the bone agglutinated with the radius, making poor function of forearm	5-8
13	Fracture 1/3 of ulna diaphysis and sprain of radius (Monteggia fracture) that affects the function of forearm (i.e. prone forearm)	10
14	Fracture of styloid radius or styloid ulna making poor function of carpus.	
...		

...

5	Injury resulting in loss of one finger	
	a) Thumb	
	...	
	- Loss of second joint of Thumb	8-10
	- Loss of half of forefinger	4-5

^a Original number from Joint Circular No.12/TTLB

Source: Joint Circular No. 12-TT/LB dated 26 July 1995 of MOH, Ministry of Labor, Wounded Soldier and Social Issues.

4) Vehicle Registration

(i) General view

For some years now, the Traffic Police performs Vehicle Registration check as one of its routine tasks. This task is supported by the following main legal documents:

- (1) Circular No. 01/2007/TT-BCA-C11 dated 2 January 2007 of MOPS on Regulations of Road Vehicle Registration and Number Plate Issuance.
- (2) Circular No. 34/2003/TT-BTC dated 16 April 2003 of MOF on Road Vehicle Registration Fees and Number Plate Issuance.

The functional arrangement of vehicle registration agencies has been modified several times in the past years in an effort to devolve functions to the lower level. The current functional arrangement is defined by Circular No. 01/2007 as shown in the Table 6.2.10. The Decision also stipulates regulations on Number Plate and filing.

Table 6.2.10 Vehicle Registration Agencies Arrangement^a

Police Agency	Car Registration ^a	Motorcycle Registration ^b	Signatory of Registration Certificate ^c
R RTPB	For members of diplomatic corps; expatriates working for international agencies and foreign-funded projects; MOPS and some central agencies		R RTPB Chief
Municipal / Provincial Traffic Police	For all others	For members of diplomatic corps; expatriates working for international agencies	Chief of Provincial TP Department
District Police		For all others	Chief of District Police

Source: Circular No. 01/2007/TT-BCA-C11 dated January 02, 2007 of MOPS

- Notes: ^a Except all military cars & motorcycles which have registration Certificates issued by the Ministry of Defense
- ^b Process: The Vehicle Owner submits the complete Application Form at related Police Agency; pay for Registration and Number Plate Fees; Number Plate released on the same day while Registration Certificate is released after three working days.
- ^c Valid from January 2006. Before this, the Director of Provincial Police signs all registration certificates (at District Police now) and application processed at the Provincial Traffic Police office.

(ii) Implementation Issues

The rapid growth in the number of motorized vehicles results in very high demand from the traffic police in its registration task. The following are some issues related to this task:

- (1) There are many sources of vehicle: importation (legal and sometimes illegal); locally-manufactured; modified vehicles; donated from completed projects; buy and sell; etc.
- (2) State management of vehicle importation varies among concerned agencies such as Finance, Custom and Transport. Problems in coordination sometimes arise between these agencies.
- (3) A lot of vehicle owners lost some or all papers related to their vehicles.

The registration certificate issuance and management is at present being carried out in a systematic and unified manner nationwide. Since the number plate is being produced by one major company, the traffic police was able to identify illegally registered vehicles from 1995-2005: 5,425 fake vehicle-related papers (such as registration certificates, driver's license, etc.); 2,648 vehicles with different numbers of engine and chassis; 1,720 illegally-manufactured or modified vehicles.

The R RTPB has also installed a database in each city/province which has proved to be very useful to the traffic police.

(iii) Observations

- (1) The most important requirement for this vehicle registration task is to provide the traffic police authorities the complete information of all registered vehicles. However, a lot of problems in the vehicle registration system exist thus making this highly improbable at present. For example, when Hanoi authorities stopped issuing registration certificates to residents of the urban districts several years

ago to control the number of motorcycles in the urban areas, people started circumventing this policy by using names of non-urban district residents. This phenomenon added more problems to the vehicle registration system and traffic enforcement.

- (2) Despite the existence of legal guidelines on the cancellation of Registration Certificates for old or damaged and unused vehicles, this regulation is not being enforced. For many years already, very few registration certificates have been cancelled which result in the significant discrepancy in the total number of vehicles in circulation and that of vehicles with registration certificates.
- (3) While the number of cars based on technical inspection is almost the same as the number in circulation, this is not the case in motorcycles where there is no such data. Thus, a nationwide inventory should be carried out by concerned authorities to have the current number of motorcycles in circulation.
- (4) The registration database should be improved and integrated with other related database such as those of technical inspection and/or driver's license registration to have a unified system which will be very useful for policy-making and research purposes.

5) Other Traffic Police Activities

For their specialized functions, the traffic police can contribute significantly in traffic related issues such as (i) Road Traffic Management and Clearance of Congestion; (ii) Traffic Safety Propaganda; (iii) Activities in Traffic Safety Agencies such NTSC, PTSC; (iv) Cooperation with Transport Sector; (v) Participation in Legislation Works such as Preparation of Road Traffic law and/or Regulations; and (vi) Others.

(i) Road Traffic Management and Clearance of Congestion

(1) General View

Road Traffic Management is very important especially in the urban areas. And with the present rate of urbanization, this traffic management role becomes more and more important and demanding.

It is remarkable that from the survey results of the Study Team and from available official documents by MOPS, the traffic police do not acknowledge traffic management as part of their other activities. In particular, this activity is not considered independently; it is always reported together with the VIP escort. Otherwise, the Decision No. 1922/2006/QĐ-BCA (C11) dated 5 December 2006 of MOPS dealing with Patrol and Control of Road Traffic Police prescribes that the Traffic Police can conduct traffic during the patrol.

People in the urban areas, especially in big cities such as Hanoi and Ho Chi Minh, consider road traffic management as a main role of the traffic police. They are perceived to undertake this role (a) daily in highly congested areas or areas with high risk of congestion such as complex intersections and (b) during major socio-political events to ensure smooth traffic flow and safety, for which, the traffic police are regarded as highly effective in undertaking such task.

(2) Task Implementation

(a) Traffic signal and traffic control center

Installation of traffic signal and Control Center is the responsibility of the MoT, while the MOPS (traffic police) is in-charge of system operation. Many traffic signals operate independently at each intersection. There are at present only two Control Centers, one each in Hanoi and Ho Chi Minh city. The municipal traffic police assign one Team for of the Centers. While the operation of these centers play remarkable roles in traffic management, these Centers now urgently require upgrading in both their hardware and software.

(b) Road traffic management

- Regulations: Decision No. 259/2001/QD-BCA (C11) dated 5 April 2001 of MOPS prescribes the Process of Road Traffic Management.
- Task assignment:
 - For routine traffic management at intersections and/or road section, the traffic police team is responsible within its jurisdiction/territory.
 - For traffic management during socio-political event, coordination between various traffic police teams and/or other police is observed based on the planning prepared by municipal traffic police (if the event is in the city) or by RRTPB (if the event will take place in a large area and/or of great importance).
- Tactics applied are as follows:
 - Reduction in road congestion depending on the frequency and the level and scope of congestion;
 - Coordination between various task forces to ensure smooth traffic during socio-political events.

(3) Observations

- Both the Control Centers in Hanoi and Ho Chi Minh City have not received significant investments to meet the demand. The equipment being used come from various donors/sources thus compatibility problems are common. In addition, the knowledge, skills and experiences of staff as well as the head of the centers should be enhanced.
- While the traffic police in big cities demonstrate high capacities and experiences in traffic management, this cannot compensate for the present demand due to the rapidly growing number of circulating vehicles on the road especially in the increasingly congested cities at present.
- The transport sector's limitations in organizing traffic (e.g. vehicle and traffic flow lane separation, traffic signal installation, etc.) are the other reasons for the high demand of traffic management from the traffic police.
- Based on survey conducted by the Study Team, weak coordination between the transport sector and the traffic police is apparent in several local areas. In such cases, it is the traffic police which usually experience

more difficulties since they are directly involved in managing traffic on the road. Thus, there are several proposals to transfer critical traffic management roles from the transport sector to the traffic police since the traffic police task force has a better understanding of the daily traffic situation than any other agency for that matter.

- Traffic safety audit is very important and needs the participation of local traffic police. But to date, there is still no legal guiding document to support this. On the other hand, in several local areas, there are not enough traffic safety auditors/experts who can participate in such important task.

(ii) Traffic Safety Propaganda

There are two kinds of traffic safety propaganda carried out by traffic police.

Firstly, the traffic police force members should understand all traffic related regulations better than many other people. In addition, they have a lot of helpful data/information that can be used for propaganda, the reason why they can carry out very good traffic safety propaganda. In fact, in several levels of the Traffic Police Agencies, there is one unit responsible for propaganda among other tasks.

Secondly, enforcement itself also has education/propaganda value, as can be illustrated by two well-known practical examples:

- (1) Hanoi experienced serious traffic problems in 2002 due to people's behaviour of ignoring traffic signal and paint markings. Thus, the Hanoi Police Department issued strict punishments to traffic law violators. It also intensified its campaign through increased police monitoring during peak hours. Traffic authorities concentrated on the ten most dangerous violations, including speeding, ignoring traffic signal and paint marking. The Hanoi Police Department posted 60% of its police force at major crossroads around the city, while the remaining 40% monitored frequent accident sites. This campaign was deemed successful and suffice it to say that the traffic police activity has contributed in raising the level of awareness of road users in Hanoi.
- (2) The successful implementation of the helmet wearing regulation for all motorcycle users which was enforced effective 15 December 2007 may be attributed to the concerted efforts of the concerned government agencies in Hanoi. In particular, the traffic police has played a major role during the preparatory stage of enforcement.

(iii) Activities in Traffic Safety Agencies such NTSC, PTSC

The role of traffic police in these traffic safety agencies is quite clear.

(iv) Cooperation with Transport Sector

Given the nature of their tasks and responsibilities, the traffic police and the transport sector at all levels should have close collaboration. Unfortunately, however, the survey conducted indicated that this is not the case in various cities/provinces.

(v) Participation in Traffic-related Legislation Works

This is a very important role by the traffic police in ensuring the smoothness and safety of traffic. At the central level, the RRTPB cooperates with related agencies and takes part in the preparation of numerous legal documents. During the period 1995-2005, the RRTPB has participated in preparation the of one (1) Law, two (2) ordinances, 11 Government’s decree/resolution, nine (9) directive of the Prime Minister, five (5) Joint-Circulars, 12 Decisions, 10 Circulars and two (2) Directives of MOPS (Source: RRTPB report).

(vi) Others

VIP Escort activity is another main task of the Traffic Police, although not directly related to traffic safety. Another task/responsibility not related to traffic safety and is not part of this Study is coordination/cooperation with other police forces to fight criminal elements such as drug activities and illegal market.

6) Human Resources

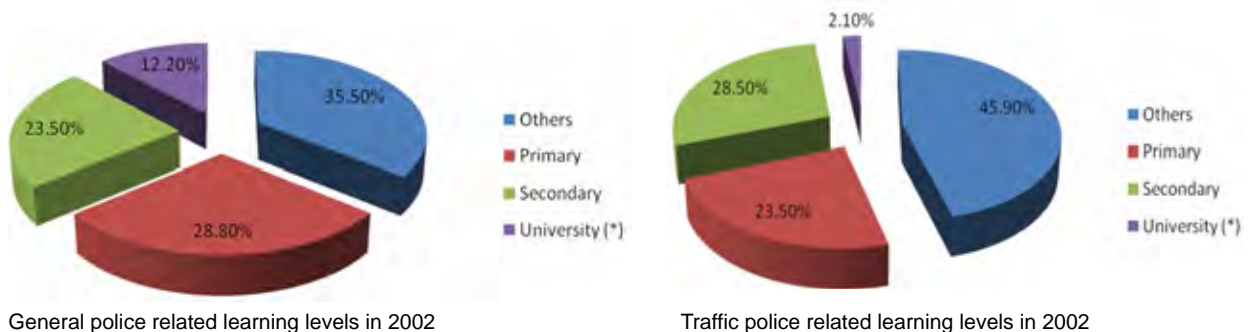
In 2003, MOPS has prepared and submitted for approval the “Strategy to strengthen workforce, equipment and tools, training and policies, and management for road traffic police”. Main components of this strategy has been approved in the Decision No.334/2005/QD-TTg dated 25 December 2005 with the “Strategy on strengthening workforce, equipment and tools, training a for road traffic police”.

(i) Human Resources

In 2007, the Traffic Police has 11,857 personnel (Table 6.2.1). As reported in the public media, the Government is now considering the approval this year (2008) of additional 800 and 1,000 traffic police personnel in Hanoi and Ho Chi Minh City, respectively.

There are three levels of police-related training: Primary, Secondary and University (and higher).Figure 6.2.7 shows the General Police and Traffic Police learning levels based on 2002 data. The “Others” category refers to both “below primary” and/or” unknown”.

Figure 6.2.7 General Police- and Traffic Safety-related Learning Levels in 2002



Note: (*) University and higher. “Others” means both “unknown” and “under-primary”

Source: Strategy on strengthening workforce, equipment and tools, training and policies, and management of road traffic police, MOPS 2003.

(ii) Training System

There are specialized schools and faculty members/experts in the Police training system as shown in Table 6.2.11.

Table 6.2.11 Training System in the Field of Traffic Safety

No	School name	Training level
1	Police Academy (in Hanoi)	1) To train the traffic police at university and higher level
2	Police University (in Ho Chi Minh City)	2) To train the traffic police professional knowledge for leaders and staff 3) To carry out traffic police related researches <i>(about 50-70 of graduates per year)</i>
3	Vocational Secondary School for Police No.1	- To train the traffic police at secondary level <i>(about 150 learners/year)</i>
4	Vocational Secondary School for Police No.2	- To train the traffic police at primary level <i>(about 1,300-1,500 learners/year)</i>

Source: JICA Study Team.

(iii) Resource Materials: Equipment, Device, Tools, and Work Spaces

The Government pays great attention to provide the traffic police with necessary resource materials. It can be said that there is no shortage for the number of vehicle service (cars, motorcycles) and standard tools. However, what it lacks are mainly high-tech equipments such as Camera system, ITS-based equipment, etc. which can increase their productivity and effectiveness.

The Prime Minister has issued Decision No. 238/2006/QD-TTg dated 24 October 2006 to allow the Traffic Police to use 14 kinds of modern equipment in the conduct of their tasks. Impacts of usage of these equipment may be inferred on the succeeding legal regulations.

Based on the survey conducted by the Study Team, the following observations were noted:

- The schools such as the Police Academy should be provided with more modern equipment for hands-on training of students.
- In some provinces, some equipment such as the Alcohol-testers has low effectiveness.
- In most cases, the office spaces of the traffic police, especially some team offices, should be improved.
- There are some MOPS enterprises which can produce standard tools and equipments.

6.3 Transport Inspector Activities

1) Diversity in Tasks

(i) Inspection Specialized for Transport and Other Kinds of Inspection

As above-mentioned, the Transport Inspectors is the second force that undertakes traffic safety enforcement.

Transport Inspectors should carry out two kinds of Inspection as shown in Table 6.3.1, however, only the Inspection Specialized for Transport (Specialized Inspection for short) was considered in this Study.

Table 6.3.1 Two Kinds of Inspection in Transport

No	Kind of Inspection	Inspection field	Inspected subjects
1	Inspection Specialized for Transport <i>(Specialized Inspection for short)</i>	To inspect the implementation of any rules related to traffic. For example, those related to infrastructure protection, vehicle technical inspection, driving license issuance, carrying passenger and cargo, etc.	Any person, agencies including Vietnamese and/or foreigners who conduct any activity/business related to transport in Vietnam
2	Administrative Inspection	To inspect the implementation of any assigned task, legal regulation. For example, the execution of labor rules, financial regulations, etc.	Persons, agencies under the same or lower leadership of agency at higher level.

Source: JICA Study Team.

(ii) Main Tasks and Authority

The Road Traffic Law (2001) confirms the above-mentioned and stipulates the tasks and powers of this force as follows (from Article 70: Land road traffic inspectorate):

- (1) Land road traffic inspectorate is a specialized inspectorate.
- (2) The land road traffic inspectorate shall have the following tasks:
 - (a) To inspect the observance of law provisions on protection of land road traffic infrastructures, technical criteria of land road works and means in participating in traffic at static traffic points;
 - (b) To inspect the training and testing of drivers, the issuance, renewal and cancellation of driver's licenses. The inspection and testing of army and police car drivers shall be stipulated by the Minister of National Defense and the Minister of Public Security;
 - (c) To inspect the observance of law provisions on transport activities at static traffic points.
- (3) The land road traffic inspectorate shall have the following authority:
 - (a) To request concerned agencies, organizations and/or individuals to present and submit documents and answer questions on matters necessary for the inspection;
 - (b) To prepare records and reports and propose measures of settlement;
 - (c) To impose administrative penalties under the provisions of law.

It should be noted that the abovementioned tasks are just the major tasks and responsibilities. However, the Inspectors may have other tasks as will be discussed later in this report.

(iii) Diversity in Tasks

Besides the abovementioned tasks from the Road Traffic Law, which is referred as Transport Inspection, the Inspectors, especially those in TUPWS/PDOT, can be assigned other tasks such as the following:

- Other inspection activities not related to transport, such as Inspection Activities in Urban Order, Planting, Water Supply, etc.
- Other professional tasks not related to inspection. The Hanoi Transport Inspectorate case is an example. Besides the Transport Inspection, they have other tasks such as:
 - Presiding and coordinating with various agencies in the propaganda activities on infrastructure protection and traffic safety order regulations. This does not mean that the Inspectorate plays a key role in traffic safety propaganda; instead they can carry out the propaganda by themselves.
 - Protection of urban infrastructure such as the water supply system, street lighting system, etc.
 - Cooperation with police in traffic flow separation, in ensuring traffic safety and order, etc.

Following a guidance from MOT's inspectorate, the inspectors should concentrate on the transport inspection as their main tasks.

2) Organizational Structure

In the past, there were different agencies for Administrative Inspectorate and for Transport Specialized Inspectorate. The Decree No. 136/2004/ND-CP dated 16 June 2004 prescribes the Organization and Activities of Transport Inspectors and instructs the merging of these two forces. Figure 6.3.1 shows the organizational chart of the Transport Inspectorate in which there are Inspectorates at MOT, VRA (as well as in Inland Waterway, Railway, Maritime, Airway Administration), and TUPWS or PDOT.

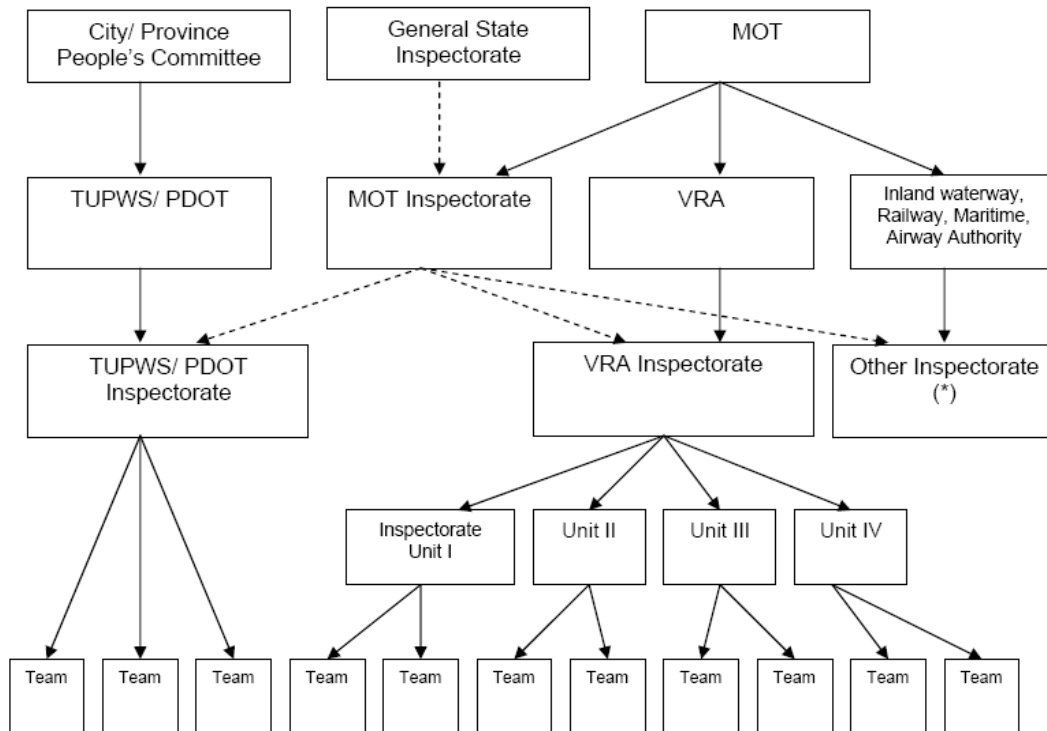
Each Inspectorate Agency is under the direct leadership of the governing agency (MOT, VRA, TUPWS/PDOT) and under the guidance and instruction of the Inspectorate at the higher level.

MOT's Inspectorate consists of several Departments. VRA's Inspectorate has the most number of staff which consists of 488 personnel in its main office and 4 offices located in 4 RRMUs. Each unit is consisted of several Teams or Car-Weight Stations².

The basic level of TUPWS/PDOT Inspectorate is the Team.

² These stations are closed now, but there are staff who are in-charge of these stations.

Figure 6.3.1 Organization Chart of Transport Inspectorate System



Note:

- Direct leadership
- - - -> Guidance, instruction in Inspection Works

(*) There are Inspectorate Units, Teams similar to VRA

Source: Decree No 136/2004/ND-CP dated June 16, 2004 of the Government

3) Working Regulations in Transport Inspection

(i) Inspection Forms

Following Circular No 04/2007/TT-BGTVT dated 13 March 2007 of MOT, there are two forms of Transport Inspection:

- Inspection by a delegation;
- Inspection by an independent inspector.

The Road Traffic Law (2001) prescribes that “Inspection delegations and inspectors shall be accountable before law for their decisions”.

(ii) Activities

- Inspection under a program, plan approved by related authorities;
- Sudden Inspection, when necessary;
- Patrol, control, management and routine monitoring under an approved plan. This activity has the purpose to have timely necessary related information.

(iii) Rules for Inspectors

- Inspector should not carry out any inspection without approved plan or decision except in urgent cases.
- Leaders of Transport Agencies have the right to mobilize members of any inspector agency under their leadership even without notice on the territory. For example, the Chief Inspector of VRA can ask any member of Unit I to take part in the inspection in the territory of RRMU4 (where Inspector Unit IV is located).
- The Transport Inspectors have authority to impose administrative penalties as shown in Table 6.2.2 and 6.2.3.

4) Human Resources

The resources for activities of Inspectors, the Organization structure, Legal framework, financial have been discussed as above. In addition to resources and activities already discussed, Transport Inspector also uses resources such as technology, material resources (equipments, tools, working space) and human resources. Of these, the human resources is the most important.

(i) Work Force

Table 6.3.2 presents a general view of the Inspectors Force.

Table 6.3.2 Man-force of Transport Inspectors (2007-2010)

No	Agencies	Total Number	Covered by State Budget	Certificated Inspectors
1	MOT Inspectorate	21	22	14
2	Airway Inspectorate	8	22	0
3	Railway Inspectorate	49	60	1
4	Inland Waterway Inspectorate	72	72	31
5	Maritime Inspectorate	26	26	2
6	VRA Inspectorate	488	289	367
TUPWS/PDOT Inspectorate		2,565	2,242	683
7	An Giang	96	67	18
8	B. Rịa – V. Tàu	54	39	39
9	Bạc Liêu	44	44	3
10	Bắc Giang	31	31	14
11	Bắc Kạn	19	20	13
12	Bắc Ninh	13	15	9
13	Bến Tre	23	20	24
14	Bình Dương	35	35	0
15	Bình Định	29	12	2
16	Bình Phước	25	25	20
17	Bình Thuận	46	46	33
18	Cao Bằng	18	12	0
19	Cà Mau	50	50	4
20	Cần Thơ	54	18	43
21	Đà Nẵng	24	24	2
22	Đắk Lắk	20	12	1
23	Đắk Nông	18	13	11
24	Điện Biên	15	15	1
25	Đồng Nai	65	53	0

No	Agencies	Total Number	Covered by State Budget	Certificated Inspectors
26	Đồng Tháp	33	27	7
27	Gia Lai	19	19	1
28	Hà Giang	18	18	10
29	Hà Nam	24	24	15
30	Hà Nội	307	346	132
31	Hà Tây	70	70	3
32	Hà Tĩnh	21	21	0
33	Hải Dương	31	31	9
34	Hải Phòng	43	43	2
35	Hậu Giang	46	46	0
36	Hoà Bình	37	37	17
37	TP HCM	178	118	18
38	Hưng Yên	17	9	13
39	Khánh Hoà	41	41	2
40	Kiên Giang	62	52	1
41	Kon Tum	25	4	17
42	Lai Châu	19	19	1
43	Lào Cai	13	21	0
44	Lạng Sơn	21	35	0
45	Lâm Đồng	22	24	2
46	Long An	72	80	2
47	Nam Định	20	19	5
48	Nghệ An	39	21	2
49	Ninh Bình	12	14	6
50	Ninh Thuận	25	25	23
51	Phú Thọ	26	16	3
52	Phú Yên	23	12	-
53	Quảng Bình	23	19	16
54	Quảng Nam	23	20	9
55	Quảng Ngãi	39	29	16
56	Quảng Ninh	59	42	18
57	Quảng Trị	14	14	8
58	Sóc Trăng	52	17	3
59	Sơn La	13	13	-
60	Tây Ninh	32	32	-
61	Thanh Hoá	80	33	4
62	Thái Bình	21	21	-
63	Thái Nguyên	29	29	2
64	TT - Huế	23	16	6
65	Tiền Giang	71	71	49
66	Trà Vinh	20	20	12
67	Tuyên Quang	26	26	-
68	Vĩnh Long	41	41	12
69	Vĩnh Phúc	32	32	0
70	Yên Bái	24	24	0
	Total	3,229	2,733	1,098

Source: MOT Inspectorate

The total number of Transport Inspectors is estimated at 3,229 personnel, including all kinds of Inspection, among them the 2,733 (85%) under the inspection state budget cover. This may be explained by the fact that the local governments use other budget sources to cover expenditures of the force. While VRA, Hanoi and Ho

Chi Minh City have relatively large number of Inspectors, many provinces however have very limited number of Inspectors, with some still in the setting-up stage at present.

(ii) Qualifications and Training Facilities

Following current regulations, each Inspector should be certified. But the percentage of certificated inspectors is relatively low (about 34%), classified into three ranks:

- High-ranking Inspectors (degree III);
- Senior Inspectors (degree II),
- Junior Inspectors (degree I).

Unlike the traffic police, transport inspection is still not an official learning field and thus there is no specialized transport inspection faculty or subject in any University or Vocational School.

Transport inspectors are graduates from various schools, from primary until university. Until 2006, only about 4% of this force has attended a course on state management. Following current regulations, any member of Inspectorate at any level should attend this course and after that should attend another course on Transport Inspection in the accredited school to obtain an Inspector Certificate. The course is a 7-week course equivalent to 300 hours. The curriculum includes:

- Basic issues in legislation and inspection profession;
- Basic knowledge that specializes on road (and inland waterway, railway, maritime and airway) inspection

MOT has accredited the following competent training facilities to provide the transport inspection course:

- Aviation Academy
- Railway Vocational College
- Maritime University
- Central Inland Waterway Vocational Secondary School No I, II
- Central Transport Vocational Secondary School No I
- Transport College No II,
- Central Transport Vocational College No III.

(iii) Technical Equipments/Tools

There is no special equipment or tool used on transport inspection aside from the following standard equipment/tool indicated in the Decision No.28/2005/QD-BGTVT dated 18 May 2005:

- Vehicle (car, motorcycle etc.)
- Camera, Car-weight and some tools,
- Office equipments;
- Others.

5) Comments

The implementation of Decree No.136/2004/ND-CP has reorganized all transport inspectors into a system. The Inspectors play a very important role in ensuring traffic safety, especially, with “un-circulating traffic” such as vehicle parking, stopping and encroachment on road safety corridor.

However, the MOT believes that the transport inspectors should be organized better and should improve in the full implementation of their tasks (Directive N.202/CT-BGTVT dated 5 February 2007). The MOT’s inspectorate has directed that all Inspectors should concentrate their efforts to main special activities of transport inspection since they have been paying more attention on “circulating traffic” related actions.

Among the traffic safety activities, the drive against encroachment on road safety corridor is now very urgent. The Transport Inspectors are responsible in handling this problem by cooperating with the local government in clearing illegal encroachment. This is now one of main and difficult tasks of VRA- and PDOT’s inspectors due to the complexity of the situations.

The required qualifications, level of skills and expertise as well as professional experiences of transport inspectors in general are still not adequate as required. In many cases, transport inspectors do not follow fully approved related regulations and/or misuse their power for other purposes.

6.4 Analysis of Police Activities

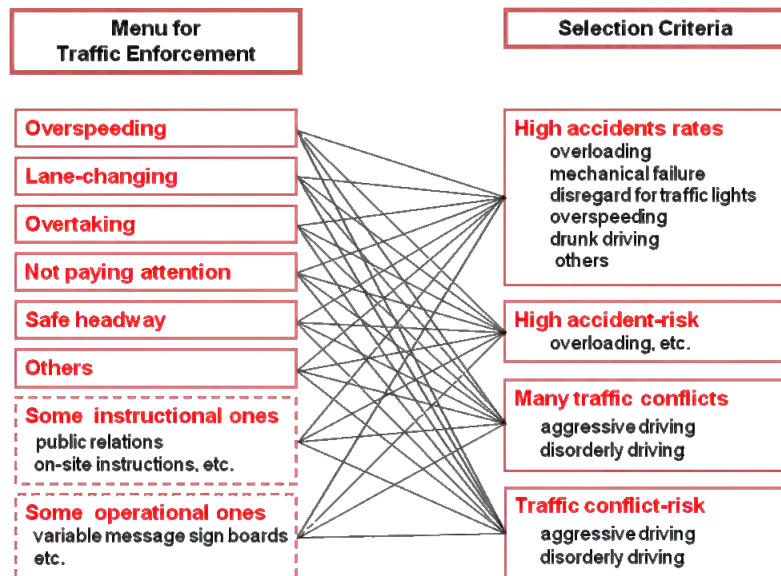
1) Candidate Menus from Traffic Law Enforcement Perspective

Figure 6.4.1 illustrates the candidate menus from the traffic law enforcement perspective which include traffic facilities, operation and education. The outline of menus listed here and the criteria of the selection are summarized as follows:

- Based on accident rates, the corresponding menus for enforcement are listed as one of the candidates. For example, as illustrated in Figures 2.3.15 to 2.3.23 of Chapter 2, locations with high number of accident caused by “speeding violation” should be listed as the first candidate menu. (Same as for “lane-changing violations”, “overtaking violations”, “not paying attention violations”, “safe headway violations”, etc.)
- On the other hand, the other menus for traffic law enforcement are also considered if they are related to the accidents such as overloading, aggressive/disorderly driving, in addition to drunk driving. In particular, while the rate of traffic accidents caused by drunk driving is low, this may be attributed to low opportunities for enforcement.
- Almost all of the main reasons why the accidents occur are considered and the corresponding menus are listed up as secondary ones.
- In addition, the menus not directly related to traffic enforcement but related to the menus which shall be able to change or reduce such traffic behaviors linked to the accident considered are also included. For example, Figure 6.4.1 shows some

instructional and operational menus which are not directly related to the accidents considered.

Figure 6.4.1 Criteria and Menus for Traffic Law Enforcements



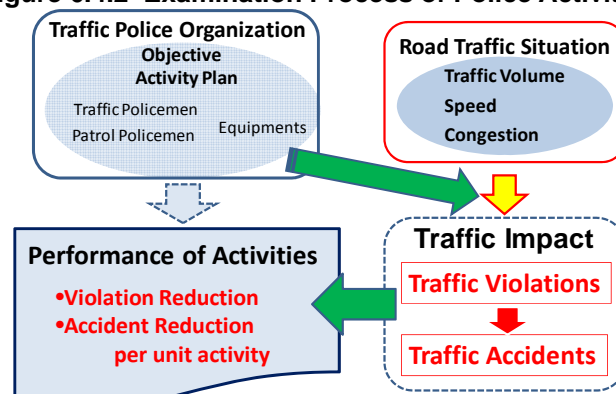
Source: JICA Study Team.

2) Examination of Efficient Traffic Law Enforcement Programs

In order to examine the efficient traffic law enforcement programs, evaluation of the adequacy of the present traffic enforcement activities is needed.

Figure 6.4.2 approximately shows the process of evaluation to determine the level of performance of traffic enforcement based on the current human resources in the traffic police organization, the objective and activity plan, the road traffic situation in terms of traffic volume, speed and congestion, and the traffic impact such as accidents and conflicts and violations.

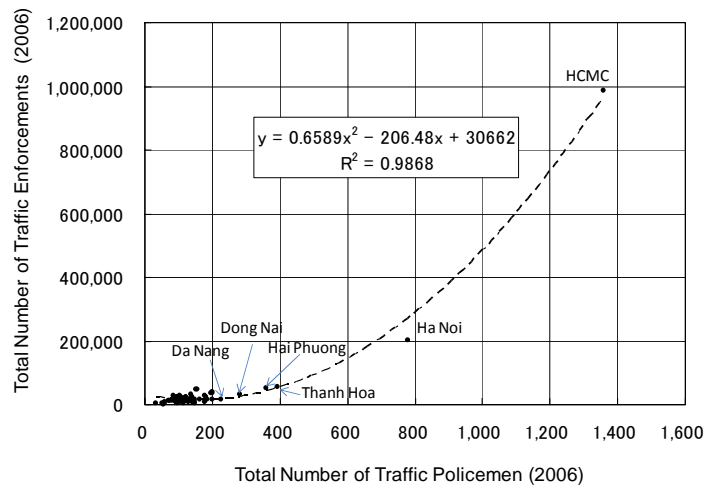
Figure 6.4.2 Examination Process of Police Activities



Source: JICA Study Team.

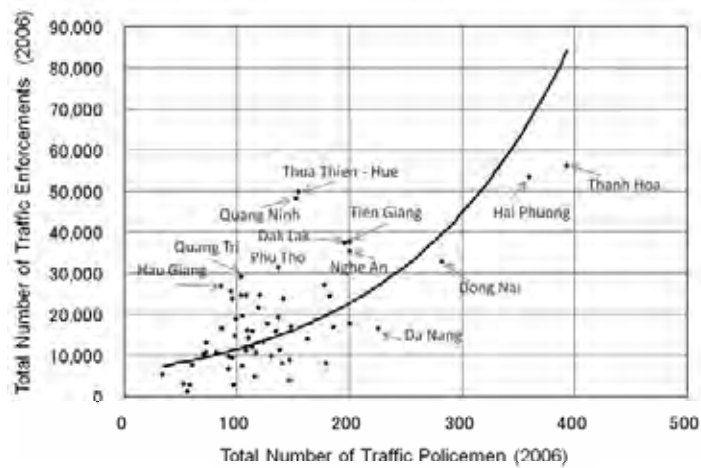
As examples of performance evaluation, Figure 6.4.3 and Figure 6.4.4 show the relationship between the number of policemen and the number of enforcements.

Figure 6.4.3 Relationship between Traffic Policemen and Traffic Enforcements (1)



Source: JICA Study Team.

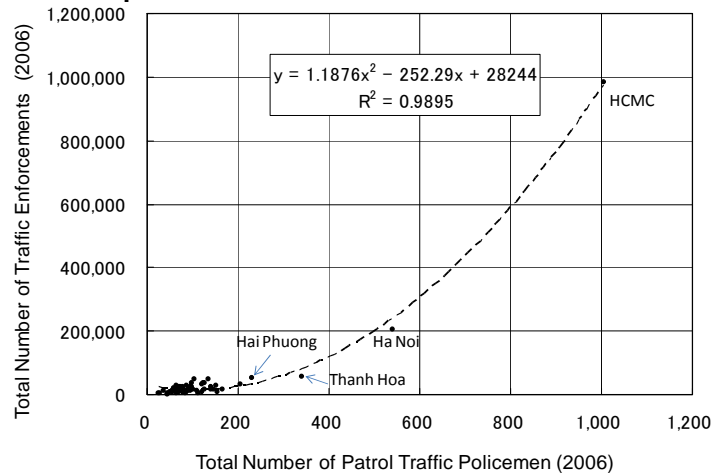
Figure 6.4.4 Relationship between Traffic Policemen and Traffic Enforcements (2)



Source: JICA Study Team.

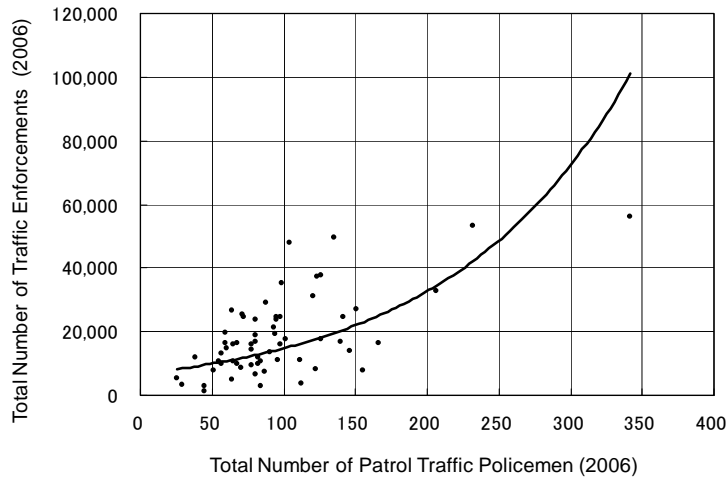
Similarly, Figure 6.4.5 and Figure 6.4.6 show the relationship between the number of patrol policemen and the number of enforcements.

Figure 6.4.5 Relationship between Traffic Patrol Policemen and Traffic Enforcements (1)



Source: JICA Study Team.

Figure 6.4.6 Relationship between Traffic Patrol Policemen and Traffic Enforcements (2)

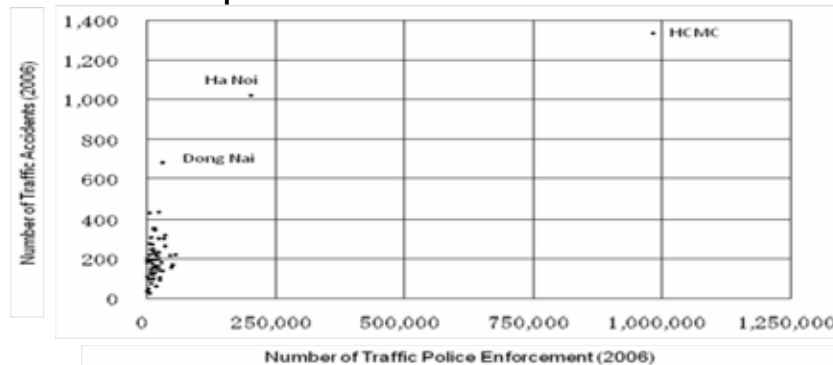


Source: JICA Study Team.

From these figures, it can be approximated that the number of enforcements is related to the number of policemen. So as one of the indices for measuring the performance, it is taken whether own activities are the upper or lower of the regression line.

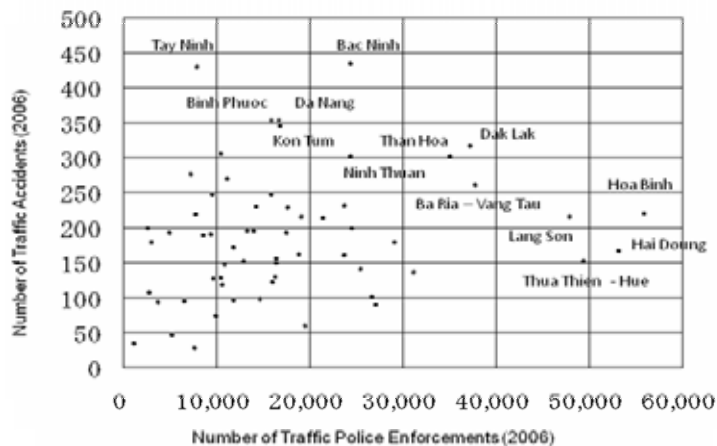
Moreover, seeing the performances of traffic police activities, Figure 6.4.7 and Figure 6.4.8 shows the relationship between the number of traffic enforcements and the number of traffic accidents.

Figure 6.4.7 Relationship between Traffic Enforcements and Traffic Accidents (1)



Source: JICA Study Team.

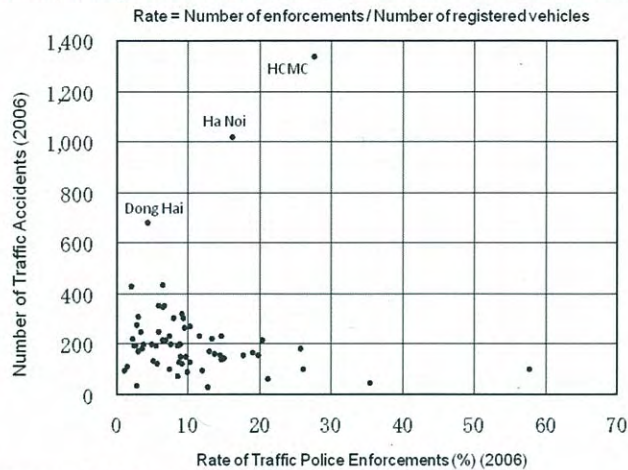
Figure 6.4.8 Relationship between Traffic Enforcements and Traffic Accidents (2)



Source: JICA Study Team.

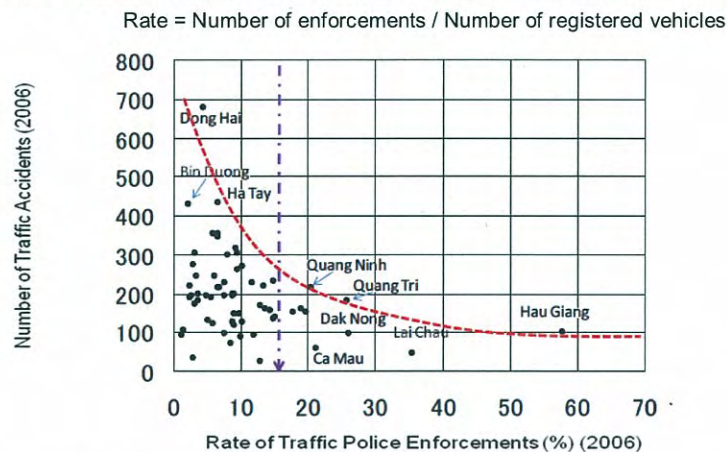
The relationship between the number of traffic enforcements and the number of traffic accidents is not clear due to absence of population parameters. Figure 6.4.9 and Figure 6.4.10 illustrates the relationship between the rate of traffic police enforcement, which is one of the index introduced here, and the number of traffic police enforcements divided by the number of registered vehicles, and the number of traffic accidents.

Figure 6.4.9 Relationship between Rate of Enforcements and Traffic Accidents (1)



Source: JICA Study Team.

Figure 6.4.10 Relationship between Rate of Enforcements and Traffic Accidents (2)



Source: JICA Study Team.

From Figure 6.4.10, the envelope curve is exponentially decreasing with the increase of the enforcement rate. When the rate is less than 15%, the possibility of accident reduction is high, therefore it can expect higher level of performance than when the rate is more than 15%. These are just some of the examples; however, to achieve a high level of performance in traffic enforcement activities, these kinds of evaluation are very important.

6.5 Existing Problems and Issues

1) Traffic Police

The following are the major problems and issues confronting the Traffic Police on traffic safety enforcement:

- (i) Organizational arrangement of Traffic Police force to ensure effective conduct of various tasks given the limited resources
- (ii) Human resource development for traffic police to meet the increasing demand at present and in the coming years.
- (iii) Traffic police should be provided with necessary vehicle, equipments, facility and working conditions for effectively conduct their tasks and responsibilities.

To address abovementioned problems and issues and to ensure traffic safety and order, the Government and the Ministry of Public Security have issued a number of important decisions in order to improve the capacity of Traffic Police in implementing their tasks.

(i) Scheme 334

On 15 December 2005, the Government issued Decision No 334/2005/QĐ-TTg approving the Scheme to “increase the number of personnel, provision of equipment and training for Road Traffic Police” with the following main contents:

- (1) Gradually increase the number of personnel in Road Traffic Police force who are directly responsible in maintaining traffic safety order; improve quality of training, and at the same time ensure application of social welfare regulations and policies to all police personnel.
- (2) Intensively provide facilities and equipment necessary for traffic patrol; treatment of traffic violations and prevention of criminal operations on road network.

The above contents of the Scheme are divided into 3 projects (component projects):

- (1) Project 1: organize the road traffic control system; set up Traffic Police check points on main national roads and at gates of major cities.
- (2) Project 2: increase the number of personnel; improve the training of traffic police force.
- (3) Project 3: provide vehicles, technical equipment and facilities for Traffic police force to maintain traffic safety and order.

Total investment cost for all projects is VND1,038 billion, wherein VND170 billion is allocated for project 1 and VND868 billion is allocated for project 2.

Implementing period for these projects is scheduled from 2003 to 2007; however, due to some difficulties encountered, implementation should be extended.

(ii) Scheme for “strengthening and modernizing traffic patrol, traffic control and treatment of traffic violations up to 2010”

Aside from contents similar to those of Scheme 334, this scheme also covers some new and relatively important contents such as road traffic safety issues, as follows:

- “Modernization of technical facilities for traffic surveillance on important routes and areas so as to closely monitor and control activities of road users; timely detect and handle traffic violations as well as other offences”. This is a very

high target, reflecting the determination of the project owner.

- Promoting the construction of offices for police forces so as to ensure adequate conditions for police operations. This is considered necessary and deserves to be given special emphasis.
- Investment in training of traffic police force with the project of establishing the Traffic Police Training Academy in 2010.
- In addition to the traffic police force, the project also proposes the arrangement and deployment of Public Order police force in implementing tasks of traffic patrol, traffic control and treatment of traffic violations in urban areas.

It can be clearly seen that the above two schemes have been well prepared with high feasibility and covered almost all important contents in strengthening the capacity of enforcement forces. Thus, successful achievement of the contents of these two projects by 2010 is evidently necessary.

The above schemes have placed emphasis on the development of human resources for traffic police, especially the junior staff. However, the development of senior staff resource has not been fully considered.

(iii) Science and Technology

While Science and Technology can play a very significant role in police enforcement, this resource however has not been given enough attention. There are several researches done already but there is still lack in coordination mechanism between traffic police agencies at various levels and with the research agencies. The MOPS wants to deploy modern technology achievements including ITS-technology, but the implementation is still in the first step. The application of ITS (Intelligent Transport Technology) is still limited. Until now, there are some applications in Traffic Control Centers and in some pilot projects (for example, Hai Chau Ltd. Group implements in Cau Gie in cooperation with RRTPB a system to record traffic violation by vehicles).

(iv) Databases

RRTPB has developed and still continuously develops some software and implements in various levels such as software on Vehicle Registration Number. Regarding Traffic Accidents and Violations data, there are some achievements in collecting and setting up related databases. These databases seem effective for traffic police in implementation of their tasks but they should be improved in many aspects, for example, capacities in networking. While there is high demand to access this kind of data, networking and shared database infrastructure is still very limited thus limiting access to the data. So, the improvement of these databases is one of the major tasks in the coming years.

2) Transport Inspectors

Although vested with many important tasks, in general, the transport inspectorate is still in the period of consolidation and improvement. The GOV has plans to strengthen this force. In Resolution No 32/2007/NQ-CP dated 29 June 2007 concerning the urgent measures to control traffic accident and traffic congestion, the GOV requested the

MOT in the first quarter of 2008 to submit for approval the project for “increasing the number of inspectors and providing equipment and supplies for Transport Inspector force”. However, due to several reasons, this project has not been prepared and submitted as expected. This may be due to the organization structure of traffic inspectorate which is quite different from that of traffic police. The transport inspectorate at each level will be under the control of the transport agency at that level. Therefore, the responsibility of increasing the number of staff and providing equipment and supplies for Transport Inspector force rests with the respective transport agency. The Ministry Inspectorate is mainly responsible for giving instructions.

The main issue now facing the Transport Inspectors is expressed in Directive 202/CT-BGTVT dated 5 February 2007 of the Ministry of Transport which noted that the Traffic Inspectors “should be better organized and should better implement their tasks.”

On the other hand, the Transport Inspectors have both different functions (transport-specialized inspection and administrative inspection). But the conditions, including the qualification requirements for the related inspectors, should be different in order to effectively perform these two functions. Thus, the reorganization of the Transport Inspectors for it to be divided into two different inspection forces, as in the past, is expected to professionalize the inspectors. However, this proposed separation may encounter certain difficulties such as the limitation set in the present Inspection Law.

7 TRAFFIC SAFETY EDUCATION

7.1 Examination of Traffic Safety Awareness

The National Traffic Safety Committee has estimated an annual average of 11,909 fatalities due to road traffic accidents in Vietnam (NTSC, 2007), which is equivalent to 33 deaths every day. Human error is deemed to be the major contributing factor to road traffic accidents. Recent statistical records from the Police and NTSC indicate personal injury accidents (an accident that occurred with no involvement of a second or third party) have been significantly increasing as well as the number of traffic violations.

Interestingly, while the number of violators gradually decreases in urban city (e.g., majority of motorcycle riders in Hanoi now wear helmet after enforcement last 15 December 2007), the number of violators however increases in sub-urban and remote or mountainous areas. This therefore only proves that law enforcement is the key element in controlling traffic violation. But at the same time, traffic safety education plays an essential role in the enhancement of traffic safety measures.

1) Identification of the Issues

Based on the traffic accident records by the Traffic Police, more than half of the traffic accidents were caused by driver error: risk taking behavior such as speeding, improper overtaking and other improper traffic behaviors. Moreover, a household interview survey conducted by TDSI and the JICA Study Team in 10 provinces (i.e. Haiphong, Danang, HCMC, Can Tho, Lao Cai, Quang Tri, Lam Dong, Kien Giang, Nghe An, Quang Ninh) indicates the present poor driving behavior among drivers. Therefore, this requires the development of strategies to address this social problem. The major issues from the result of the survey are as follows.

(i) Driver's licensing

According to the survey, from total of 1,036 motorcycle driver respondents, only 61% are licensed drivers who own one or two motorcycles. On the other hand, from a total of 241 car driver respondents, only 13.28% are licensed drivers and own one unit of car.

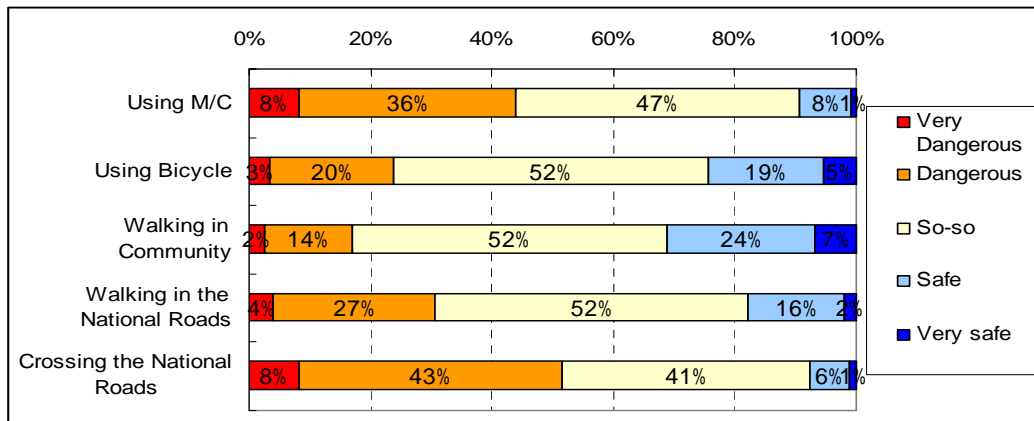
(ii) Traffic accident involvement

The survey shows that motorcycle accidents represent the highest percentage. Most of motorcycle accidents involved both male and female at age bracket of below 20, 20 – 24, 30 – 39 and 40 – 49 years old. Of those, 15.7% are from high school level and 17.5% are from university or upper level.

(iii) Traffic Safety Awareness by Situation

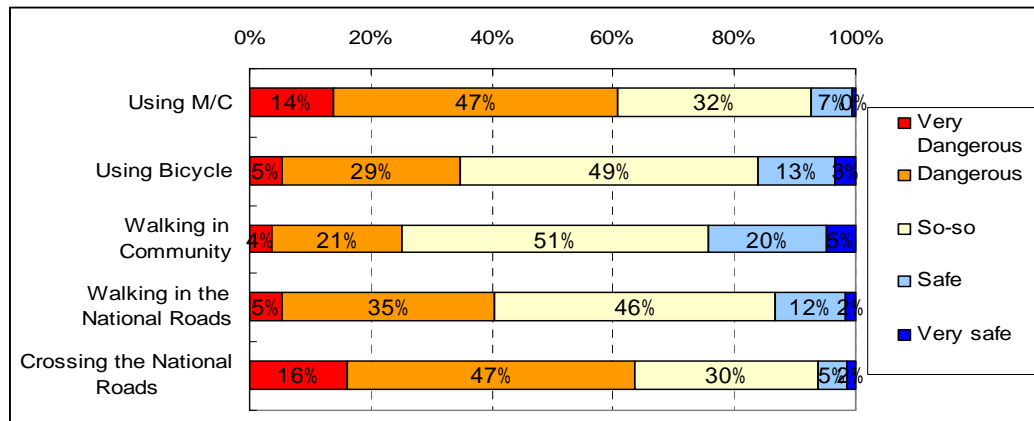
Figure 7.1.1 shows traffic safety awareness by situation. Crossing national road is perceived to be the most dangerous situation for daily activities followed by the use of M/C. Recently, more than 60% of respondents consider walking on national roads or walking in their residential communities as "very dangerous" or "dangerous". Generally speaking, these shares have increased during the past 3 years. Figure 7.1.2 and 7.1.3 indicate comparative traffic safety awareness in the past and in recent situations.

Figure 7.1.1 Traffic Safety Awareness by Situation, 2004-2006



Source: JICA Study Team

Figure 7.1.2 Traffic Safety Awareness by Situation, 2007

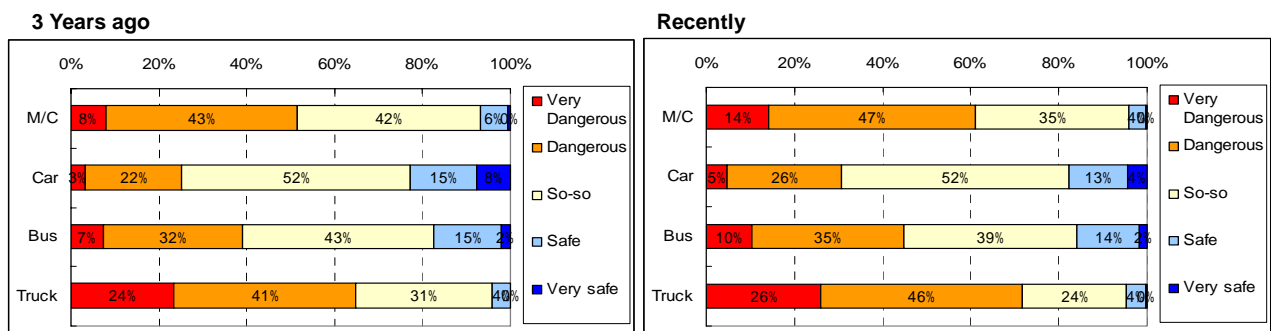


Source: JICA Study Team

(iv) Driving Behavior by Vehicle Type

Driving behavior is one of the most urgent issues of road traffic safety that needs to be prioritized. Based on the survey, driving behavior has worsened in the last three years, particularly that of M/C and truck drivers (Figure 7.1.3).

Figure 7.1.3 Driving Behavior by Vehicle Type



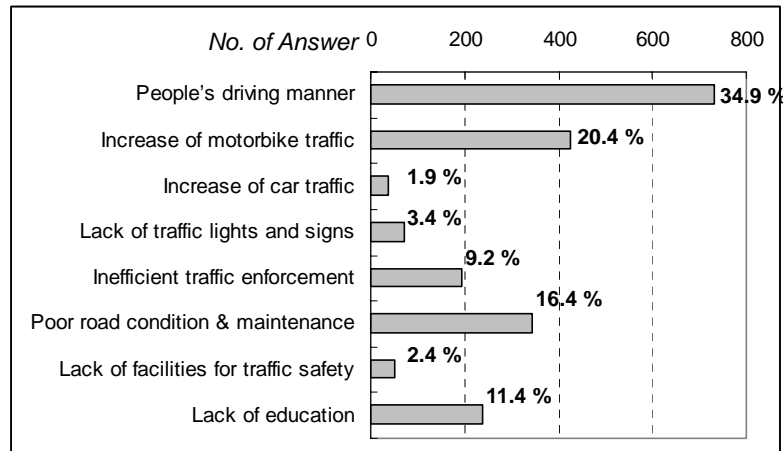
Source: JICA Study Team

(v) Factors Affecting Safety on Road

Figure 7.1.4 shows that the factor that greatly affects road traffic safety is driving behavior as indicated by its highest percentage share based on the conducted survey, followed by the factors increase of motorized traffic, poor road conditions

and lack of traffic safety education.

Figure 7.1.4 Factors that Affect Road Traffic Safety



Source: JICA Study Team

2) Current Efforts of the Government and Agencies Concerned

Strategies to provide education and training play a very important part in human resources development strategy. The current efforts of the government related to traffic safety education are as follows:

- The Government of Vietnam (GOV), in accordance with other socio-economic development strategies, has planned a strategy to year 2010 with steps from year 2005 for the national education and training development, which is stipulated in Chapter II of the Education Law.
- Article 35 of the current Constitution (issued in 1992) stipulates that "Education is the first priority of the national policy".
- Article 86 of the Education law stipulates the framework of government's management of education, including the formulation and guidance, designing and planning of strategies and policies for educational development.
- Public media have paid a great attention to this cause and launched coordinated traffic safety education and information campaigns with various sectors through print, radio and television.
- Several workshops, seminars, public events, and quiz shows on traffic safety were organized by various civic and private organizations. Several campaigns involving youth volunteers have been launched.
- Government agencies concerned, social organizations and the public media are now becoming more interested in focusing information campaigns to the target audiences' psychology and level of awareness which proves to be more effective in delivering the proper message and content of traffic safety and its programs.
- Provinces which have notable traffic safety education programs are Ninh Binh, Nghe An, Ha Tinh, Quang Tri, Hanoi, Ha Tay, Hai Duong, Ha Nam, Danang, Ho Chi Minh City; civic organizations under the umbrella of VN Fatherland Front Organization such as Peasant Association, Women's Union, Youth Union, and

Vietnam Labor Federation.

- In addition, there are a number of urgent measures to reduce traffic accidents and congestions in accordance with Government Resolution No. 32/2007/NQ-CP dated 29 June 2007. National Traffic Safety Committee (NTSC) deploys the action plan to implement the aforementioned and some of them are indicated in Table 7.1.1.

Table 7.1.1 Some Efforts of the Government on Urgent Issues as Stipulated in Resolution No. 32/2007/NQ-CP




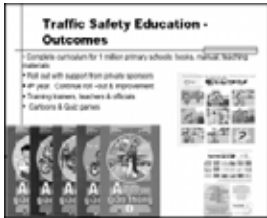
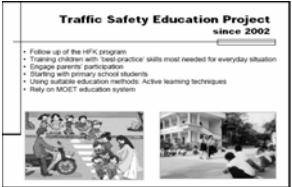

Content	Responsible Agency	Coordinating Agency
Proposal on "Intensifying and modernizing inspection and control activities and settlement of urban traffic safety and order violations of social order police"	MOPS	
Regulations on revoking registered number plates of expired vehicles		MOT, MOJ
Joint circular between MOPS – MOF on cooperative procedures in intensifying assessment and resolution of violations for mandatory helmet wearing regulations of civilly liable motorcycle riders		MOF
Plan to disseminate and promote resolution.	NTSC	
Campaign on measures of resolution in mass media.	MOIC	
Campaign on helmet wearing.	NTSC	
Campaign on protecting the road traffic-work corridor.	MOT	
Campaign on socio-political organizations.	Fatherland Front (and the unions under its umbrella)	
Evaluate, revise and update the teaching program on traffic safety for pupils/students at each grade level. Plan to educate and raise the awareness of underage pupils/students not to drive M/C if they are unlicensed.	MOET	
Assess and evaluate driving training agencies.	MOT	MOPS, Ministry of Labor, War Invalids & Social Affairs
Organize meeting to improve quality of driver training and develop proposal to increase driver's conscientiousness and moral responsibility; plan improve the drivers' training program.		

Source: JICA Study Team

3) Traffic Safety Activity Program in Vietnam

Aside from the abovementioned government efforts, a number of traffic safety education activities such as wearing of helmet campaigns and lane separation pilot projects have been implemented in recent year as shown in Table 7.1.2.

Table 7.1.2 Road Traffic Safety Activities in Vietnam

Period	Program	Organization in Charge
11 October 2007	Project for Traffic Human Resource Development in Hanoi (TRAHUD)	JICA
7 September 2007	Traffic Safety Campaign on "No helmet-No ride." In response to the Government's regulation, all motorbike riders had to wear helmet since 15 December 2007. A voluntary activity undertaken by JICA Vietnam Office for their Vietnamese staff, since 07 September 2007, Vietnamese staff signed a commitment to wear helmet when riding motorbike, to keep the prescribed speed and strictly abide by other traffic safety rules.	JICA 
14-15 June 2007	"Traffic Safety Proposal Contest." Community participation on Innovation Day in the theme of Traffic Safety. A total of 216 traffic safety proposals were received during said contest: 49 proposals were selected and 34 proposals were declared as winners. Rewarded 2 winning proposals were (1) Educating Traffic Safety for People Working on Street (by Labour Union of Dong Da District) and (2) Development of a Brochure on Vietnam Traffic Safety (by Green Informatics Group and Hanoi University of Technology)	JICA, WB, NTSC, Asia Injury Prevention Foundation
January – March 2003	The one-year program entitled JICA's Traffic Safety Campaign for Hanoi City in 2003-2004 was launched as Phase 1 and 2. The program mainly focused on Kim Ma – Cau Giay route. It contained four stages. (1) April – August 2004: data collection and examination; (2) September – November 2004: pilot project on lane separation and new signal system; (3) December 2004 – January 2005: safe driving campaign to bike drivers and bus drivers; (4) January – March 2005: safety campaign focused on pedestrians and bicycle drivers. The 2 nd stage was the experimental implementation lane separation by type of vehicles on Kim Ma – Cau Giay route and new traffic light system at Daewoo intersection, with exclusive light for left-turning vehicles using arrow light and additional cantilever traffic light.	Traffic situation at Daewoo intersection before the implementation (17 Aug 2003)  JICA Traffic situation at Daewoo intersection 5 weeks after implementation (27 Sep 2003) 
2002	Traffic Safety Education Project Follow up of the HFK program <ul style="list-style-type: none"> Training children with 'best-practice' skills most needed for everyday situation Engage parents' participation Starting with primary school students Using suitable education methods: Active learning techniques Rely on MOET education system Traffic Safety Education - Outcomes <ul style="list-style-type: none"> Complete curriculum for 1 million primary schools: books, manuals, teaching materials Roll out with support from private sponsors 4th year: Continue roll-out & improvement Training trainers, teachers & officials Cartoons & Quiz games <ul style="list-style-type: none"> Their goal is to reach "A helmet for every mother and child" 	Asia Injury Prevention Foundation Traffic Safety Education Project since 2002 <ul style="list-style-type: none"> Follow up of the HFK program Training children with 'best-practice' skills most needed for everyday situation Engage parents' participation Starting with primary school students Using suitable education methods: Active learning techniques Rely on MOET education system  Step 5: Public Awareness "Protect Your Intelligence" "Protect Your Family" 

Source: JICA Study Team

4) Identification of Success and Failure of the Government Activities on Traffic Safety Education and Campaigns

(i) Successful Case

The GOV has launched many activities related to traffic safety education and campaign, with some programs implemented successfully. Some good cases with success indicators are briefly summarized in Table 7.1.3.

Table 7.1.3 Brief Summary of Successful Cases of Traffic Safety Education and Campaigns

Successful Case	Activity Indicators Influencing Success
Vietnam Peasant Association	<ul style="list-style-type: none"> ▪ Construction of self-help roads managed by farmers; organizing signing of commitments to traffic safety by farmers and increasing awareness among farmers on the following 8 restrictions: speeding, drunk-driving, not wearing helmet, unlicensed driving, manufacture of un-standardized vehicles, underage driving, reckless driving, obstruction to traffic or encroachment to traffic roadway. ▪ Worked with Traffic Safety Committee to establish materials such as pamphlets, posters, banners, and placard. Organized traffic campaign and operation; parades using banners, posters, radios, megaphones to attract attention from the society; develop farmers to road traffic law-abiding citizens and encourage their relatives to do the same.
Ninh Binh Province	<ul style="list-style-type: none"> ▪ Traffic safety education has been undertaken in all schools and universities across the province. The education sector has worked closely with the police and public security agency, teachers and students to organize a good representation of traffic safety propagandists. Through this program, the level of traffic safety awareness has been significantly improved. 42% of traffic accidents caused by pupils/students have been curbed which observed from 2001-2005. ▪ The traffic safety club for mothers in Tam Diep City was modeled and has been replicated nationwide. Van Giang commune in Ninh Binh Town has been organizing a pilot of public participation in keeping safe corridor for highways in the province and the city. The committee for civilized way of life has been established in many locations and communes. Traffic safety has been introduced as one of indicators in judging for the most civilized and polite family and society. Models in this province have proved successful and replicable and well received.
Ho Chi Minh Communist Youth Union	<ul style="list-style-type: none"> ▪ Vietnam Central Youth Union has directed and involved youth unions and members nationwide to take part in and educate people about traffic safety, traffic laws and the fight against corruptive actions in traffic violations. Several models have emerged to prove flexibility of youth union such as "safe school zone," "safe road section," "clean and safe market," safe and clean school gate." Millions of youth unionists have taken part in training on traffic safety resolution and initiatives with millions of training sessions provided. ▪ One of practical activities to improve traffic safety awareness among people and youth union members is to educate party members and youth unions to live up to the 4 restrictions motto which are: no unlicensed driving, no reckless driving, no speeding, no motor-racing/drunk-driving. Hundreds of thousands of youth have signed those commitments.
Vietnam Trade Union	<ul style="list-style-type: none"> ▪ Trade Union of transport sector in Ho Chi Minh convinced union members to use public bus at least 1-2 times per day and they have set a quota of getting 10% of employees to use public bus on regular basis. It has also organized parade meetings and contests on traffic safety during national holidays or festivals.
Hanoi:	
(1) City Propaganda Committee	<ul style="list-style-type: none"> ▪ Training has been provided to district leaders, commune leaders, university, schools, colleges, education institutions and vocational centers. Training has also been conducted with journalists to get cooperation from public security in

Successful Case	Activity Indicators Influencing Success
	<p>providing retraining for violators where licenses are revoked.</p> <ul style="list-style-type: none"> ▪ The city standing group and the subcommittee worked together to produce 72,500 pamphlets on road, railway, waterway traffic safety for pupils and students and distributed to schools around the city and the community.
(2) Department of Education and Training	<ul style="list-style-type: none"> ▪ Provides training to teachers and organizes teaching contest on education of traffic safety among upper secondary schools and lower secondary schools. ▪ Organizes pilot activities on traffic safety corners and comprehensive traffic safety in all schools and institutions at general level.
(3) Hanoi Women's Union	<ul style="list-style-type: none"> ▪ Established the club of traffic safety families. Launched a campaign to get all families to sign the oath to observe traffic safety
(4) Hanoi National Fatherland Front	<ul style="list-style-type: none"> ▪ Educates and campaigns on traffic safety and traffic laws to 228 turns of members and organizations under the Front at district level. Working with Hanoi televisions, department of information and culture, TUPWS, Hanoi radio to educate the community and help communities establish a civilized way of life.
(5) Veteran Association	<ul style="list-style-type: none"> ▪ Trainings have been provided to trainers from central to local level to make veterans become conscious of their solemn tasks of getting all residents to live up to the law including traffic law. Educating their children to comprehend traffic laws and observe all related legal texts and decisions on traffic safety provided by the city government including policies on encroachment and safe sidewalks.
(6) Hanoi Peasants Association	<ul style="list-style-type: none"> ▪ Provides training and shares information to propagandists and trainers from city level at all cadres and members to set good examples of traffic safety; educates relatives and acquaintances of their families on traffic safety and policies related to traffic safety stipulated by the city. Working with Hanoi Traffic Safety Committee to launch a campaign on "traffic Safety maintained by farmers."
(7) Hanoi Youth Union	<ul style="list-style-type: none"> ▪ Use public media to teach youth members and hundreds of campaign materials have been broadcasted on radio and distributed through pamphlets; thousands of meetings and performances have been organized with the single topic of traffic safety. Hundreds of discussions have been organized on setting standards for a polite young citizen.

Source: JICA Study Team

(ii) Failure and Limitations

The GOV has put in a lot of effort in promoting traffic safety education campaigns and promotion. Some of the programs have succeeded while some have failed. An analysis of present education and propaganda on traffic safety shows some limitations that led to failure of traffic safety education and campaign programs (Table 7.1.4).

Table 7.1.4 Limitations that Caused Failure of Traffic Safety Education and Campaign

Limitations on Present Traffic Safety Education Campaign and Promotion	Failure of Traffic Safety Education and Campaigns
<p>(1) Traffic safety education and promotion are not properly coordinated and has inconsistent activities.</p> <p>(2) The activity took place only in a certain period like in September, the traffic safety month. Traffic safety contents are not well-developed and failed to address relevant traffic safety issues.</p> <p>(3) Traffic safety contents are not intensive; failed to present urgent or remedial measures to address the problems.</p> <p>(4) Traffic safety information is deemed to be one way information (i.e. top-down) and does not reflect the people's opinions and feedbacks such as critical corruptive practices in traffic enforcement.</p> <p>(5) Traffic safety education campaign and promotion activities have not promoted well the good examples of road traffic law observances from both central and local levels. Hence, it has failed to encourage replication in the communities.</p> <p>(6) Good examples in traffic safety education and promotion are still limited in quantity and quality.</p>	<p>(1) Level of awareness on traffic safety education is still low.</p> <p>(2) Traffic safety education and campaign activities are still not considered to be a major and regular task and public media is still an ad-hoc partner of a campaign program.</p> <p>(3) Cooperation and coordination among different concerned education sectors are still intermittent and not systematic. Strong leadership from highest level is still lacking.</p> <p>(4) The leadership relation and cooperation between Provincial Propaganda and Provincial Traffic Safety Committees are not yet formulated to be sustainable.</p> <p>(5) Budget for traffic safety education and campaign is still limited and is not sufficient for current education demand.</p> <p>(6) Communist Party Levels in many places are not interested in leading traffic safety education campaigns and promotions despite its acknowledged importance and great impact on the lives and safety of the society and the government.</p>

Source: JICA Study Team

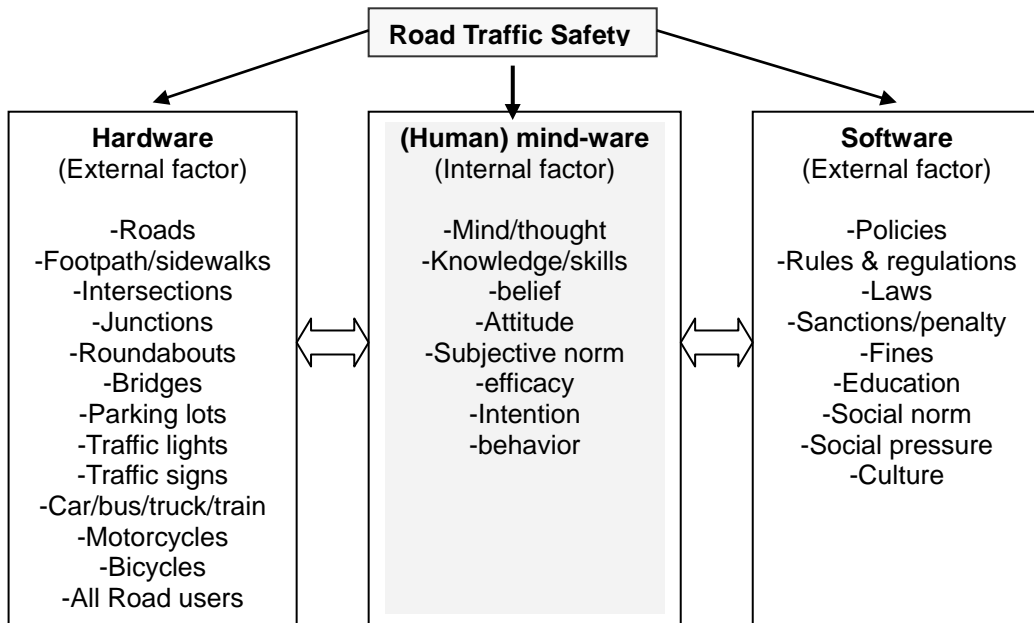
5) Identification of Other Problems and Issues

(i) Fundamental Components in Road Traffic Safety

There are 3 fundamental components involved in road traffic safety: the hardware component (i.e. road infrastructures and traffic facilities including vehicles), software component (i.e. policy, rules and regulations, laws, norm, culture) and the human (mind-) component (i.e. the thought processes of a human mind).

The person as road user is seen as the core of an interactive traffic system where transportation means, routes, traffic environment and regulation are aggregated. Road infrastructures and traffic facilities were built to provide accessible transportation to humans/road users. They are public properties. Policies, rules and regulations and traffic laws were imposed to keep society in order. When rules and regulations/laws are violated by people/road users/drivers, sanctions/penalties/ fines become in active.

Figure 7.1.5 Three Significant Components Involved in Road Traffic Safety



Source: JICA Study Team

(ii) Factors Contributing to Accident Occurrences

There are various factors contributing to road traffic accidents, i.e., human, vehicle condition, road and environment. The obvious causes are identified as follows:

- (1) The road infrastructure coupled with environmental surroundings encourages drivers/road users to behave in unpleasant manner when participating in road traffic.
- (2) Most of the time, the road users are the cause of conflict on road traffic when they deliberately choose personal comfort and convenience over abiding traffic rules (e.g. illegal overtaking vehicle, crossing, running red light, etc.).
- (3) Some road users or drivers are distracted by communication devices such as mobile phones and advertisements, and sometimes are even chatting with peers while driving or crossing roads.
- (4) Some vehicle modification or malfunctioning aged vehicles may obstruct traffic and cause accident.

While the Vietnamese people in general are kind, thoughtful and respect seniority, as in general traffic behavior of people in other developing countries, they can also be careless and selfish particularly when participating in road traffic. They pay less attention on driving and are not considerate of other road users. Unless their unsafe driving behavior results to a traffic accident, there is a generally a low level of acknowledgement on the importance of traffic safety.

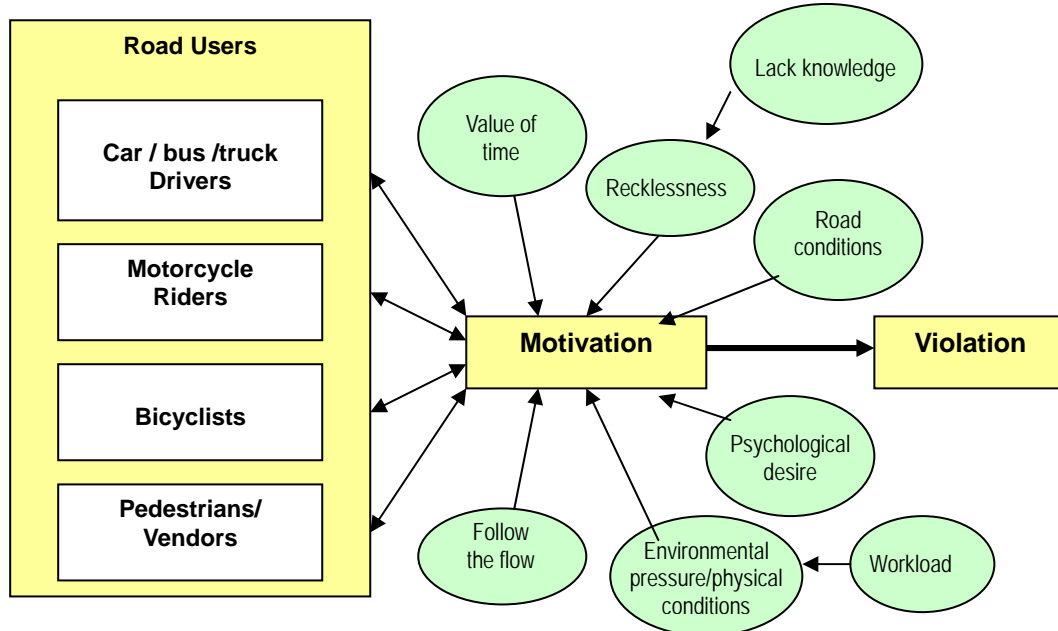
(iii) Motivation and Violations of Traffic Laws in Road Use

The increase in traffic violations has come to the attention of the GOV. Various issues have been discussed among agencies concerned to mitigate the existing road traffic accident, its causations and traffic violations.

Prior to an occurrence of traffic accidents, there are always reasons and

motivations, either human faults or vehicle, or road and environment. However, prior to that occurrence, there are factors that influence their thought, attitude, intentional will which leads to behaving in such a high risk manner.

Figure 7.1.6 Factors Motivating Road Users in Violating Traffic Laws



Source: JICA Study Team

Each time road users/drivers violate traffic laws, there is always a particular motivation to that violation. Human/road users will violate the laws only if they are under the following circumstances:

- (1) *They intend to do so* (internal factor involved) or
- (2) *They are forced to do* (external factor involved) or
- (3) *They lack of knowledge on road traffic safety* (internal and external factors involved).

A categorization of road users and their motivations to violate traffic laws when participating in road traffic is summarized in Table 7.1.5.

Table 7.1.5 Summary of Road Users' Violation and Motivation in Relation to Road Usage

Category	Violations and Psychological Motives	Road Users
Intersection/ Junction	<ul style="list-style-type: none"> ▪ Running on red light because it is a waste of time to wait for the next turn. 	Driver & Rider & bicyclist
Highway/ Intersection/ Junction	<ul style="list-style-type: none"> ▪ Speeding since road alignment configuration supports smooth speeding. ▪ Overtaking whenever or wherever possible. 	Driver & Rider
Highway/ Intersection/ Junction/	<ul style="list-style-type: none"> ▪ Driving under the influence of alcoholic or drugs. 	Driver & Rider Bicyclist
	<ul style="list-style-type: none"> ▪ Not using turning signal prior to turning or changing direction as other drivers do not know the traffic rules anyway. 	Driver & Rider
Highway/ Rural road	<ul style="list-style-type: none"> ▪ Not signaling prior to stopping or parking a car/MC/ bicycle as though this is necessary or is not aware of the traffic rules. 	Driver & Rider
Roundabout/ Bridge/ Railroad side	<ul style="list-style-type: none"> ▪ Fail to yield right of way at intersection or at roundabout as "first come, first use of road space basis" or not knowing which lane has priority to go first, etc. 	Driver & Rider & Bicyclist
Intersection/ Junction/ Highway/ Rural roads	<ul style="list-style-type: none"> ▪ Cutting-off other running vehicle ▪ Driving without license since enforcement is not strict or since driver is not used to bring license along. 	Driver & Rider & Bicyclist
Roadside/ Shoulder	<ul style="list-style-type: none"> ▪ Illegal counter-flow driving due to absence of u-turn ahead or to shorten travel distance. 	Driver & Rider & Bicyclist
Parking Space	<ul style="list-style-type: none"> ▪ On-street or on-pedestrian sidewalk parking as no parking facility provided which result in pedestrians walking on the roads and thus obstructing traffic flow. 	Driver & Rider/ Bicyclist
Zebra Crossing	<ul style="list-style-type: none"> ▪ Jaywalking or crossing the street at undesignated areas due to convenience. 	Pedestrian & Vendor
On street/ Roadside/ Sidewalk/ Junction	<ul style="list-style-type: none"> ▪ Encroaching on pedestrian sidewalk or on street by vendors so they can attract more passers-by/customers. This results in pedestrians walking on the roads and thus obstructing traffic flow. 	Vendor
Highway/ Rural road	<ul style="list-style-type: none"> ▪ Not wearing helmet while riding a motorcycle since it is inconvenient. 	Rider
Car/ motorcycle	<ul style="list-style-type: none"> ▪ Use of seatbelt and mobile phone while driving a car or riding a M/C is not yet strictly enforced. 	Driver/rider

Source: JICA Study Team

6) Requirement for Identified Issues

Changing attitude and behavior of road users would be an optimal solution and most effective method in the sustainable reduction of road traffic accidents, injuries and fatalities. To address the present social dilemma facing traffic safety, raising awareness and morality are among the urgent issues that require priority implementation to ensure a safe society.

(i) Social Dilemma in Traffic Safety

Social dilemma is defined as a situation wherein private interests are at odds with collective interests. Such situations arise because people frequently attach more weight to their short-term selfish interests than to the long-term interests of the group, organization, or society to which they belong.

Applied to road traffic safety, when the road user (driver) opts to drive faster than

the prescribed speed to save on travel time (personal benefit), this behavior results to social dilemma since this risk-taking behavior poses a great threat to general safety of other road users (social benefit). Other examples of social dilemma as applied to traffic safety are shown in the following situations.

Example 1: Running Red Light at Intersections



- Not obeying the traffic rule (which should be stopping at red light) to save time than waiting for the next green light.
- However, if all traffic participants behave this way, there will be a breakdown in traffic order resulting in traffic jam or worse, traffic accidents. This social disorder will affect the families of the entire community.

Example 2: Illegal Parking or Encroachment on Sidewalks and other Public Space



- On a personal level, parking at nearest available space to destination is desirable to anybody.
- However, such individual preference behavior may generate overcrowding, resulting in illegally-parked vehicles as well as obstructing sidewalks which becomes a disadvantage to every road user, pedestrian and driver.

Example 3: Cutting-off another Vehicle



- Cutting-off another running vehicle, which is a personal benefit to reduce distance and travel time, is considered high risk for accident occurrence.
- This behavior can result in traffic jam or worse, traffic accidents and is expected to affect families affected victims in the community.

Example 4: Illegal Counter-flow Driving



- Illegal counter-flow driving, another example of personal benefit to shorten distance and thus reduce travel time, is also considered high risk for accident occurrence.

Example 5: Pedestrian Crossing on Red Light and Jaywalking



- Another example of road user personal benefit is pedestrian's illegal crossing on red light and jaywalking to save time. In addition is the very common behaviour observed at present which is careless crossing due to distraction by mobile phone use.

(ii) Social Dilemma Approach for Analysis of Road Users

The approach of social dilemma can contribute to a more effective analysis of traffic safety issues caused by human error by directly targeting road users' attitude and behavior on road transport usage. This approach is presently receiving extensive attention not only in Japan but also in many developed countries in Europe and North America.

Many of the most challenging issues we face, from the interpersonal to the intergroup (e.g. using roads under my own rules), are at their core social dilemmas. Unless an unsafe traffic behavior results in a traffic accident, there is low level of acknowledgment on the importance of traffic safety.

It seems that this is an effective and comprehensive approach for the traffic safety education targeting not only people's awareness but as well as their moral and ethical standards.

It is expected that the social dilemma approach together with other psychological methods can contribute to the increase of level of awareness of traffic safety behaviour in Vietnam.

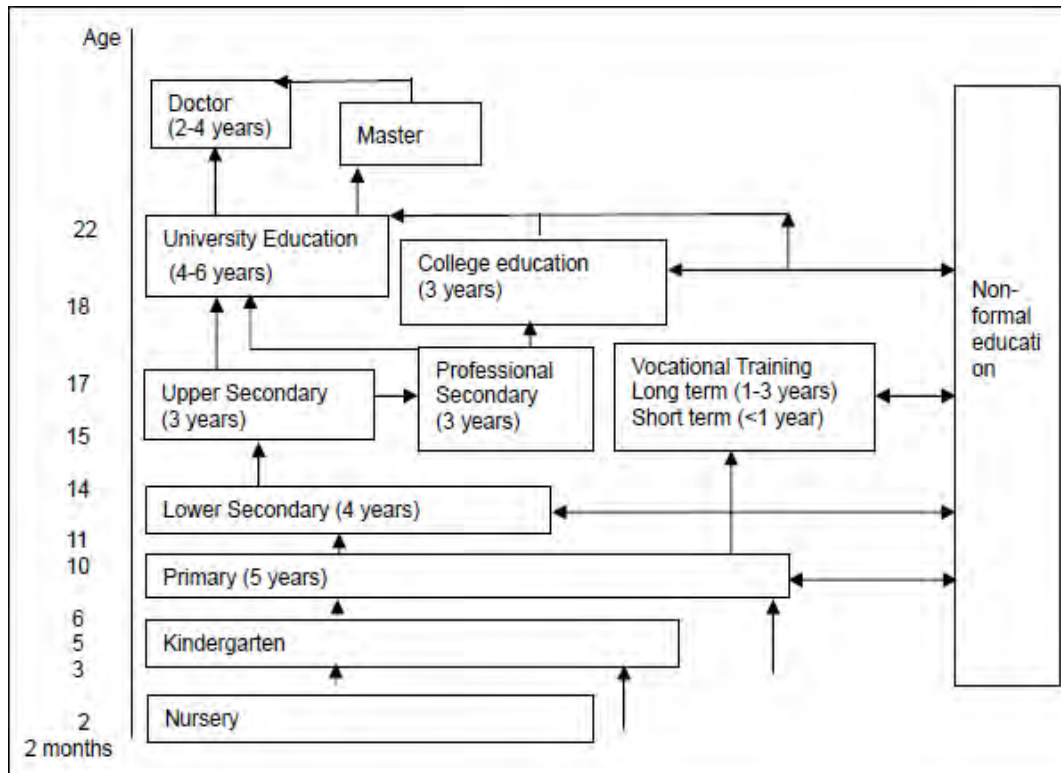
7.2 School Education System in Vietnam

1) Formal Education System and its Role in Traffic Safety Education

As discussed in the earlier subsection, implementation of traffic safety education programs should influence not only the people's thinking but as well as their behavior towards traffic safety regulation compliance. It is therefore imperative that there should be an appropriate and systematic traffic safety education strategy to address the changing needs and situations of the country. And the schools have very critical roles to play to ensure implementation of effective and sustainable traffic safety education programs.

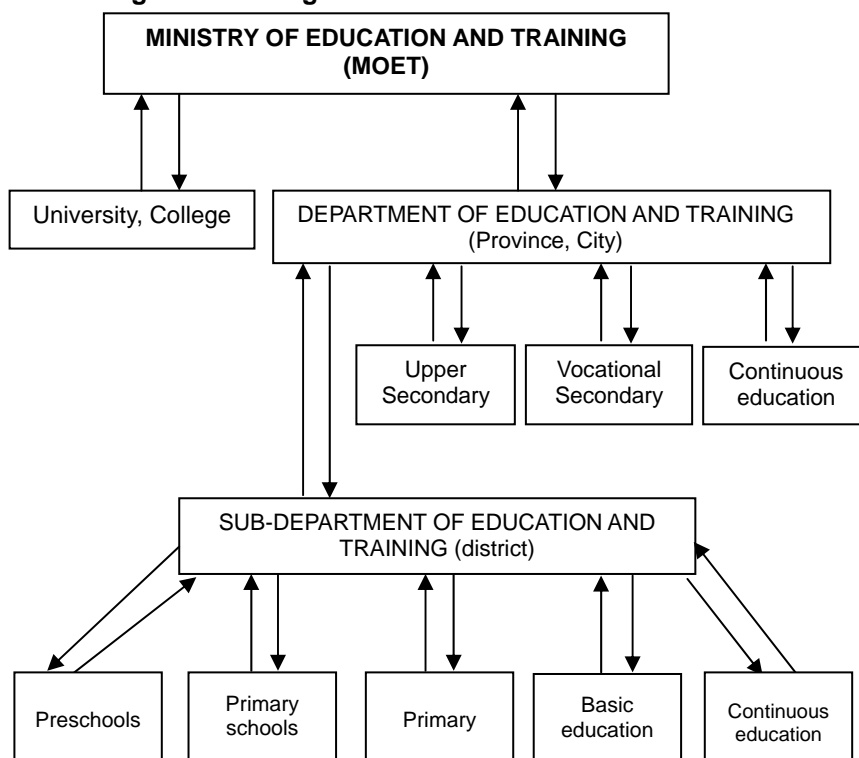
The existing structure of school system in Vietnam is shown Figure 7.2.1. Traffic safety education at schools is managed by the Ministry of Education and Training (MOET) through the University (College) division and Department of Education and Training (DOET) division under the provinces and cities in Vietnam. The organizational structure of MOET is shown in Figure 7.2.2.

Figure 7.2.1 School Education System in Vietnam



Source: MOET

Figure 7.2.2 Organizational Structure of MOET



Source: JICA Study Team

2) Current Traffic Safety Education in School

(i) Number of schools, teachers and student in each school level

The number of schools, students and teachers at each school level in 2007 is shown in Table 7.2.1. The total number of schools reaches to almost 40,000; while the number of teachers and students are 1,010,000 and 21,600,000 respectively. By school year 2007-2008, the number of students is estimated to reach approximately 22,000,000.

Table 7.2.1 Number of Schools, Teachers and Students in Vietnam

No	Grade/Level	Schools		Teachers		Students	
		2006	2007	2006	2007	2006	2007
1	Pre-primary Education	11,009	11,509	160,172	163,809	3,024,662	3,147,252
2	General Education	27,231	27,595	778,002	780,601	16,757,129	16,371,049
	Primary	14,688	14,839	353,608	344,521	7,321,739	7,041,312
	Lower Secondary	10,275	10,401	306,067	310,620	6,458,518	6,218,457
	Upper Secondary	2,268	2,355	118,327	125,460	2,976,872	3,111,280
3	Professional Secondary	284	269	14,230	14,540	500,252	515,670
4	University, College	277	322	48,579	53,518	1,387,107	1,540,201
	University	123	139	34,294	38,137	1,087,813	1,173,147
	College	154	183	14,285	15,381	299,294	367,054
5	Total	38,801	39,695	1,000,983	1,012,468	21,669,150	21,574,172

Source: JICA Study Team

(ii) Current Curricula and Extra-curricular Activities

Curricular time and extra-curricular activities are shown in Table 7.2.2 and Table 7.2.3.

Table 7.2.2 Curricular Time

Level \ Time	Separate time	Subjects Integration
Pre-school Education	3 - 4 weeks (1 Theme/10 Themes)	
Primary Education	6 Periods (40 minutes/class)	Vietnamese, Ethical, Nature-Society
Lower Secondary	Grade 6: 2 Periods Grade 7,8: 1 Period	Civics
Upper Secondary (Class 9-12)		Civics
University, College	1 Section (equivalent to 4 Periods)	

Source: MOET

Table 7.2.3 Major Extra-curricular Activities

Pre-school	Primary school	High School	University, College and Vocational School
<ul style="list-style-type: none"> - Contests on traffic safety learning, with the participation of pre-school children, teachers and parents 	<ul style="list-style-type: none"> - Drawing and learning contests - Some schools cooperate with companies to organize traffic safety activities such as lively scenes, songs - Some places organize traffic safety playground to practice land road traffic safety skills - Signing traffic safety commitments among schools, students, families 	<ul style="list-style-type: none"> - Organize slogan contests, propaganda drawings, caricature, lively scenes for traffic safety propaganda - Youth Union organize task force and volunteers to maintain traffic safety and order around the school - Signing traffic safety commitments among schools, students, families 	<ul style="list-style-type: none"> - Organize contests on learning traffic safety, safe driving in theory and practice - Signing traffic safety commitments among schools and students - Organize youth teams and volunteer students to participate in maintaining traffic safety - Cooperate with companies to disseminate and train students in safe driving skills

Source: JICA Study Team

(iii) Current Traffic Safety Contents and Methodology at School Levels

(1) Pre-school level

<p>Contents:</p> <ul style="list-style-type: none"> (i) General understanding of transportation: modes of transport (i.e. land, water and air), people (as drivers/controllers) and service provided by these vehicles (ii) Understanding basic traffic signals (e.g. traffic lights, some traffic signs) (iii) What one should know about walking on pedestrians, when crossing roads and intersections, when riding vehicles <p>Methods:</p> <p>viewing pictures, models, videos, visiting, reading poems, telling stories, singing, especially though playing, etc.</p>

(2) Primary school level

Major Contents:

- (i) Safe walking and crossing of streets and roads
- (ii) Safety when riding bicycles, sitting on motorcycles and public transport means
- (iii) Traffic commands
- (iv) Safe and unsafe conditions on streets
- (v) Types of roads and transport means
- (vi) Causes of traffic accidents, how to avoid traffic accidents, students' responsibility in ensuring of traffic safety

Methods: discussions, recollections, telling stories, role playing, practice, testing, puzzles, doing exercise, etc.

(3) Lower and upper secondary

Major contents:

- (i) Situations of traffic safety and order
- (ii) Basic regulations on traffic safety and order
- (iii) Some situations when participating in traffic; some exercises which require the learners to think, discuss or propose solutions to show their awareness and attitude about traffic safety.
- (iv) Some basic information about losses caused by traffic accidents; about land road traffic signaling system; some regulations related to traffic safety and order.

Methods: Monitoring, handling situations, doing exercises, providing information so that students can study, compose and role-play on the subject of traffic safety by themselves.

(4) University, college and vocational school level

Basic contents:

- (i) Some basic issues related to traffic accidents such as concepts, nature, causes, solutions to prevent traffic accidents, the situations of traffic safety and order in the country and in the world.
- (ii) The nature and role of law in general and the role of law in guaranteeing traffic safety
- (iii) The law system of traffic safety and order, focusing on principles when going on roads, violations, treatment of violations in traffic safety and order.
- (iv) The situation of traffic safety and order violations and causes. The situation of traffic safety and order violations treatment in pupils and students in particular

Methods:

- (i) Organizing topic reports on civilian activity weeks
- (ii) Organizing traffic law learning, examination to get driving permits for students who are interested to acquire a student's license (with the cooperation of Youth union)
- (iii) Organizing students to participate in scientific workshops about traffic safety
- (iv) Organizing plays, demonstration activities, etc. about traffic safety
- (v) Organizing activities according to the model of traffic safety clubs

Source: JICA Study Team

3) Examination of the Current Situation of Traffic Safety Education in Schools

A survey of teaching materials and facilities was conducted in each school levels in Hai Duong, Ho Chi Minh, Don Nang, Ha Tay and Dong Nai. Results of material/facilities survey are shown in Table 7.2.4 while extent of coverage of facilities and materials per student is presented in Table 7.2.5.

4) Existing Problems and Issues of Traffic Safety Education in Schools

(i) Policy Directions at the Ministry and Local Levels

Although the Party and the Government have a clear policy about traffic safety education in schools, the task of traffic safety education is one of the urgent tasks for schools at the moment. However, support for required traffic safety education is not given much attention in terms of financial support, administrative and management directions from provincial/local levels and cooperation among departments, committees, branches, and social organizations.

(ii) Time Allotted for Traffic Safety Education in Curriculum

Although there are lessons in the official curriculum and extra-curriculum, however, the separate time for traffic safety education in the official curriculum and extra-curriculum is still very limited.

At the primary school level, although there are allotted six (6) periods per year, these are still provided during extra-curricular time and not yet integrated into the official curriculum. And for many schools, time for other group activities have to be reallocated to be able to implement traffic education activities, or sometimes, these have to be conducted after official school hours.

At the lower secondary school level, two (2) periods per year are allocated for grade 6 students and one (1) period per year for grade 7 students.

For grades 9-12, traffic safety is integrated with their Civics class. But despite existing regulations, many provinces only allocate one (1) period per year and taken from the time allocated for group activities or practice periods of Civics subject.

In addition, there is still no clear directive yet as to the exact number of time to be allocated for traffic safety education from extra-curricular activities. In fact, integration of traffic safety education in law lessons in upper secondary schools as well as extra-curricular activities are difficult to control and evaluate as it depends on the preferences of education and training departments and the teachers.

Table 7.2.4 TSE Materials and Facilities in Some Provinces/Cities (December 2007)

Level		List of materials and facilities								
Pre-school	Item	Large pictures of TSE	Traffic signs (set)	Teaching guide (for teacher)	Textbook "Getting familiar with traffic" (for kids)	Textbook "Parents should know" (for parents)	Collection of games and quiz	Story "Why the rabbit lose its tail"	Traffic lights	Toy vehicles (set)
	Province									
	Hai Duong	200	0	250	500	0	400	500	0	0
	Ho Chi Minh City	300	112	300	500	0	400	500	95	0
	Danang	200	0	250	800	0	400	500	0	800
	Ha Tay	200	0	250	500	0	500	500	0	0
Dong Nai	200	0	250	500	0	400	500	0	0	
Primary	Item	Teaching guide for 1st-5th form	Textbook for 1st-5th form	Traffic signs	Traffic lights (w/o electricity)	Traffic lights (with electricity)	Traffic lights (4 lights)	Learning table (simple type)	Learning table (with intersection)	Traffic safety VCD
	Province									
	Hai Duong	8,408	50,732	113	0	120	120	0	100	503
	Ho Chi Minh City	0	220,136	72,197	330	330	0	320	420	96,695
	Danang	200	25,800	100	35	0	0	0	35	100
	Ha Tay	0	11,380	0	0	6	0	6	0	0
Dong Nai	9,266	199,573	5,438	83	74	41	573	155	0	
Secondary	Item	Teaching guide	Textbook	Traffic signs	Traffic sign calendar	Learning table (simple type)	Learning table (with intersection)	Traffic safety VCD		
	Province									
	Hai Duong	1,980	0	0	142	0	0	50	0	0
	Ho Chi Minh City	2,600	0	0	190	0	14	50	0	0
	Danang	1,980	0	142	0	0	8	50	0	0
	Ha Tay	1,980	0	142	0	0	0	50	0	0
Dong Nai	1,780	0	0	142	8	0	50	0	0	

Source: JICA Study Team

Table 7.2.5 Rates of TSE Materials and Facilities Per Number of Students in Some Provinces/Cities (December 2007)

Level		Items								
Pre-school	Rate * Province	Large pictures of TSE	Traffic signs (set)	Teaching guide (for teachers)	Book "Getting familiar with traffic" (for kids)	Book "Parents should know" (for parents)	Collection of games and quiz	Story "Why the rabbit lose its tale"	Traffic lights	Toy vehicle (set)
	Hai Duong	283.9		227.1	454.2		567.7	454.2		
	Ho Chi Minh City	532.4	1426.1	532.4	319.4		399.3	319.4	1,681.2	
	Danang	123.4		98.7	30.8		61.7	49.4	30.8	
	Ha Tay	391.9		313.6	156.8		156.8	156.8		
	Dong Nai	352.9		282.4	141.2		176.5	141.2		
Primary	Rate Province	Teaching guide for 1st-5th form	Textbook for 1st-5th form	Traffic signs	Traffic lights (w/o electricity)	Traffic lights (w/ electricity)	Traffic lights (4 lights)	Learning table (simple type)	Learning table (w/ intersection)	Traffic safety VCD
	Hai Duong	14.6	2.4	1,088.9		1,025.4	1,025.4		1,230.5	244.6
	Ho Chi Minh City		1.9	5.7	1,242.6	1,242.6		1281.4	976.3	4.2
	Danang	319.6	2.5	639.1	1,826.0				1,826.0	639.1
	Ha Tay		17.5			3,3179.5		33,179.5		
	Dong Nai	22.3	1.0	38.1	2,494.9	2,798.4	5,050.7	361.4	1,336.0	
Secondary	Rate Province	Teaching guide	Textbook	Traffic signs	Traffic sign calendar	Learning table (simple type)	Learning table (w/ intersection)	Traffic safety VCD		
	Hai Duong	99.4			1,386.4			3,937.5		
	Ho Chi Minh City	184.7			2527.5		34,302.1	9,604.6		
	Danang	47.5		662.5			11,758.8	1,881.4		
	Ha Tay	158.0		2,202.6				6,255.3		
	Dong Nai	145.8			1,827.6	32,440.1		5,190.4		

(*) Rate: Number of students / 1 material

Source: JICA Study Team

(iii) Contents and Methodology

(1) Contents

Traffic safety education curriculum of all school levels have not yet been systematically structured on the principle of consolidation and expansion according to each level. Another inadequacy in the education system in relation to teaching of traffic safety education in schools is that the contents and methodology of traffic safety education is not present in the curriculum of teacher training at all 3 levels (primary and secondary, college and university).

The content of traffic safety education at all school levels are the same nationwide, without regard for possibility of differences in traffic situations in different regions and provinces. This makes implementation of traffic safety education impractical and at times, ineffective.

(2) Methodology

In theory, the materials have been designed to satisfy the active teaching methodology (i.e. learners can act, brainstorm, solve situations, etc). However, most teachers themselves have not completely understood the content or issues of traffic regulations and safety. In addition, the training teachers received in teacher training schools does not include teaching of traffic education, thus they are considered to be not completely. The survey results of traffic safety education in 10 provinces/cities suggest that most teachers have not been provided with sufficient and effective retraining. Among 10 surveyed Departments of Education and Training, some have not organized any retraining on traffic safety education yet, some have provided retraining to only a few, even negligible number of teachers (Lam Dong: 20 teachers, Kien Giang: 180 teachers, Haiphong: 200 teachers). The retraining time lasts about 2 days on average, or even only 1 day (TDSI report). Also, the lack of visual facilities prevents most teachers from organizing activities for the students to practice and experience.

Thus, re-training on both content and methodology is deemed very important.

(iv) Traffic Safety Education Environment in Schools

The two primary factors necessary for a traffic safety education environment (i.e., teacher and facility) are available. However, this is still considered to be weak. As mentioned, there is lack of materials and textbooks; students hardly have them in many places (excluding 1 grade). There are not enough traffic signs, traffic lights and video tapes for all education agencies; learning tools and equipment such as toy cars for children to participate in traffic role-playing are only available in very few kindergartens and primary schools which have more advanced conditions. Also, facilities for teaching such as computers and projectors are still lacking. These situations are all because of the budgetary constraint.

The survey results of traffic safety education materials and facilities in 10 provinces/cities show that 6 out of 10 Departments of Education and Training are short of traffic safety education books for teachers and students, 2 out of 10 do not have enough books students. The same situation applies to video tapes and discs,

models, learning tables, traffic signs, etc. (TDSI report).

The following tables are details of traffic safety materials, facilities and the number of students per one material and facility at 3 school levels (pre-school, primary, secondary) in 5 provinces/cities in Vietnam and Japan.

(v) Feedback from School Representatives

A questionnaire survey was conducted in 2007 among school representatives to get their feedback and opinion on the present status of traffic safety education in schools.

(1) Survey areas

The questionnaire survey was conducted on one school respondent per targeted province/city. The surveyed provinces and cities are shown in Table 7.2.6.

Table 7.2.6 Data Collection from Provinces/Cities

No.	City/Prov.	No.	City/Prov.
1	Haiphong	6	Quang Tri
2	Danang	7	Lam Dong
3	Ho Chi Minh	8	Kien Giang
4	Can Tho	9	Quang Ninh*
5	Lao Cai	10	Nghe An

* No survey

Source: JICA Study Team

(2) Proposals and opinions on traffic safety education

The proposals and opinions of respondents to the questionnaire survey is aimed at enhancing quality and effectiveness of traffic safety education in the future (Table 7.2.7), summarized as follows:

- a) High requirement for development of and providing new teaching/learning materials and equipments.
- b) To require the introduction and improvement of traffic safety education in extra-curricular (including curriculum development) subjects.
- c) Establishment of a Foundation for traffic safety activities in schools
- d) Teacher-training
- e) Strong requirement for [Official Subject in safety education]] in university

Based on these results, content/material development and teacher training are the urgent requirements in traffic safety education at each school level. In particular, possible introduction of traffic safety education as a mandatory subject in the university should be further studies.

Table 7.2.7 Proposals for Traffic Safety Education in Schools

School Level	Proposals	Total	Remarks
Kindergarten (9 Kindergartens)	Provision of Materials	7	Teaching, Learning, Helmets
	Provision of Equipments	5	Teaching, Learning
	Safety Management	1	Peak/rush hour period during drop-off and pick-up of pupils
	Establishment of Foundation for other support activities	4	Campaign, Parent Education , Extra-Curricular
	Teacher Training	2	Re-Training
	Additional Teaching Time	1	More teaching time
Primary School (9 Schools))	Provision of Materials	8	Teaching, Learning, Helmets
	Provision of Equipments	2	Teaching, Learning,
	Safety Management	3	Strict enforcement
	Establishment of Foundation for other support activities	4	Campaign, Parent Education , Extra-Curricular
	Teacher Training	2	Re-training
	Curriculum	2	Main subject
	Safety Campaign	1	
Secondary School (9 Schools))	Provision of Materials	6	Teaching, Learning, Helmets
	Provision of Equipments	3	Teaching, Learning,
	Safety Management	2	Strict enforcement
	Establishment of Foundation for other support activities	4	Campaign, Parent Education , Extra-Curricular
	Teacher Training	3	Re-training
	Curriculum	5	Main subject
	Safety Campaign	2	
High School (7 Schools))	Provision of Materials		Teaching, Learning, Helmets
	Provision of Equipments		Teaching, Learning
	Safety Management		Strict enforcement
	Establishment of Foundation for other support activities		Campaign, Parent Education , Extra-Curricular
	Teacher Training		Re-training
	Curriculum		Main subject
	Safety Campaign		
University/College (7 Schools))	Provision of Materials	5	Teaching, Learning, Traffic Law
	Provision of Equipments	6	Teaching, Learning
	Safety Management	10	Strict enforcement in cooperation with Police for student violators
	Establishment of Foundation for other support activities	2	Campaign, Parent Education , Extra-Curricular, training on safe driving
	Teacher Training	0	
	Curriculum	9	Integrated into main subject subject(s), in every student level

Source: JICA Study Team.

7.3 Traffic Safety Education in Community, Awareness Campaign and Promotion

1) Achievements in Traffic Safety Education and Campaign

(i) Campaign Perspective

Education and information campaign on traffic safety has become a serious concern for government at all levels. And since education and information campaign on traffic safety clearly exhibited positive results, its rate of participation has remarkably increased and now includes people from all walks of life.

Public media is also paying great attention to this cause and launched coordinated traffic safety education and information campaigns with various sectors: from print, radio and television. Full-page ads on traffic safety have been published in newspapers which have proven to be highly effective in catching people's attention and acceptability. Moreover, the following newspapers, televisions and radio shows in Vietnam have also featured traffic safety education in one way or the other: Báo Nhân dân, Báo Tiền phong, báo Pháp luật, Đài Truyền hình Việt Nam, Đài Tiếng nói Việt Nam, báo Giao thông vận tải, among others.

(ii) Current Activities on Traffic Safety Education and Campaign

The Government at all levels and various organizations have implemented several kinds of campaigns which are targeted at improving traffic environment in general and curbing traffic accidents in particular. Contents focus on campaigns against traffic violators reckless behaviors and promoting and motivating conforming behaviors, and the concept of accountability and responsibility.

(iii) Using Various Kinds of Media and Creative Mechanisms to Promote Traffic Safety

All kinds of available media are being used to promote traffic safety: print (e.g. newspapers, magazines, bulletins, newsletters, pamphlets, posters, etc.), televisions and radios. In addition, other venues tapped to promote traffic safety are the school education system; regular meetings with organizations, propagandists, collaborators; training workshops; communication campaigns, quiz shows, law clubs, concerts, etc. Some programs become very effective like the program "I love VN" which is broadcasted on Vietnam Television.

2) Existing Problems and Issues in Traffic Safety Campaign and Promotion

An analysis of present education and information campaign on traffic safety shows some of its weaknesses and limitations, as follows:

- (i) The education and information campaigns are not properly coordinated. Most of the time, activities are not sustainable and are for ceremonial purposes only. It is also observed that a lot of activities are taking place mostly only in September, the traffic safety month. In addition, contents are still poorly developed and fail to address relevant traffic safety issues.
- (ii) Traffic safety contents are confined mostly to present conditions. They still fail to present urgent or remedial countermeasures to address the problem. Thus, aside from improving popular knowledge on traffic safety, content should also include determining the causes of traffic issues and proposing countermeasures to

alleviate traffic congestions and traffic accidents. Moreover, traffic safety information is considered to be just one-way information (i.e. top-down information) and does not reflect yet the people's opinions and feedback such as corrupt practices in traffic safety enforcement, etc.

- (iii) Traffic safety education and campaigns have not promoted well the positive examples of Road Traffic Law observance from both central and local levels. Thus, it has failed to promote replication in the communities.

3) Proposed Improvements on Traffic Safety Campaign and Promotion in the Future

The following issues should be addressed in the future:

- (i) Planning efforts should focus integration of transport and traffic safety into just one component.
- (ii) Quality education must be provided to drivers so as they become more conscious.
- (iii) Traffic safety knowledge should be disseminated widely to communities with focus on violators; from loss of traffic safety which can kill members of families who are bread earners.
- (iv) Control of workmanship and professionalism of vehicle drivers and traffic users must be improved. Role and responsibility for traffic accidents must be attributed to heads of transport sector.
- (v) Agencies and government at all levels must work together to resolve the issue of encroachment.

Leaders of public media need to revise contents and methods on traffic safety education and information campaigns. Through various journalistic means, good examples, initiatives and countermeasures are to be commended and promoted. Bad driving practices, especially those leading to traffic accidents, must be identified and publicized (e.g. "name and shame", etc.).

7.4 Traffic Safety Education in Transport Company

1) Survey

A questionnaire survey was conducted in a total of 10 (ten) provinces and cities (Haiphong, Danang, Ho Chi Minh, Can Tho, Lao Cai, Quang Tri, Lam Dong, Ken Giang, Quang Ninh, Nghe An) to analyze existing situations and characteristics of traffic safety education and accidents in transport companies.

Respondent companies were selected from four (4) types of transport companies: Public buses, Private car rentals, Hired taxis and Private trucks. A total of 1,634 respondent companies were interviewed.

The survey questionnaire included the following survey items:

- Number of vehicles under the management
- Number of drivers under the management
- Number of accidents
- General Information

Table 7.4.1 Respondents to the Transport Company Survey by Province

No.	City/Prov.	No. of Sample	No.	City/Prov.	No. of Sample
1	Haiphong	253	6	Quang Tri	53
2	Danang	163	7	Lam Dong	22
3	Ho Chi Minh	1,060	8	Kien Giang	9
4	Can Tho	7	9	Quang Ninh*	53
5	Lao Cai	7	10	Nghe An	7
					Total : 1,634

* The pilot survey was conducted in Quang Ninh. Therefore, the number of sample in this province is few compared with others.

Source: JICA Study Team.

2) Accident Rate in Transport Companies

(i) Number of Vehicles and Drivers under the Management

Not all companies surveyed were able to provide information regarding the total number of vehicles and drivers. Table 7.4.2 therefore only presents a representative sample.

Table 7.4.2 Number of Vehicles and Drivers in Transport Companies

No.	City/Prov.	Vehicles	Drivers	No.	City/Prov.	Vehicles	Drivers	
1	Haiphong	----	---	6	Quang Tri	822	1,060	
2	Danang	7,814	---	7	Lam Dong	5,353	---	
3	Ho Chi Minh	24,702	---	8	Kien Giang	65	65	
4	Can Tho	498	380	9	Quang Ninh*	38,465	---	
5	Lao Cai	155	165	10	Nghe An	300	350	
						Total	78,174	1,678

(ii) Accident Rate in Transport Company

Based on collected data, average accident rate among transport companies in the last five years was 235.74/10,000 veh/year. This rate is considered to be very high as compared with other developed countries. Table 7.4.3 illustrates the data collected from Danang.

Table 7.4.3 Accident Rate in 5 years (Sample in Danang)

Number of transport companies	Total number of vehicles	Number of traffic accidents					
		2003	2004	2005	2006	First 9 months of 2007	Average in 12 months
163	7,814	217	206	157	146	149	184.21
Accident rate (A) (*)		277.71	263.63	200.92	186.84	254.24	235.74

(*) Accident rate (A) is the number of accidents/10,000 vehicles/year. Calculation with the same number of vehicles of 2007.

Source: JICA Study Team

3) Traffic Safety Education in Transport Companies

A questionnaire survey was conducted in three companies per provinces/cities, for a total of 30 respondent companies. The content of the questionnaire survey was focused on five items: (i) education activities, (ii) materials, (iii) driver education, (iv)

driver management, and (v) accident prevention.

(i) Survey Results

Main contents of traffic safety education at transport companies are traffic laws (24 companies), safety driving (including safety meeting, 22) and driver training (and re-training, 16). And whenever a new Decree or Resolution is issued, more attention and efforts is put into the new directive.

Table 7.4.4 Contents of Traffic Safety Education in Transport Companies

Survey Items	Contents	No. of Companies	Remarks
Education activities	Traffic law/awareness	24	Every day, once a month, 2-3 times per year
	Case studies on traffic accidents	22	Safety driving learning (by police, other company)
	Vehicle maintenance	1	
	Safety Meeting	14	
	New driver training	10	2days, 2 weeks, 1 month
	Re-training	6	2 days, 3-4 weeks, etc.
	New Decrees/Resolutions	10	Decree146, Resolution 32 etc
	Signed commitments	6	
	Safety contest	5	
	Exchange of driving experiences	3	
	Company's regulation	4	
Work shop (driving)	6		

(ii) Problems and Issues

In general, traffic safety education in transport companies is introduced particularly in the field of safety training for new drivers and teaching traffic laws. However, traffic safety education contents across different transport companies present varying contents and methodologies, either depending on size or nature of company.

In addition, general public perception on safety of transport company vehicles is low due to recent occurrences of major traffic accidents were caused by reckless driving of drivers of these transport company vehicles which have resulted in major casualties. Thus, drivers of these transport vehicles are often perceived to “not only lacking in appropriate driving skills but as well as proper driving manner.”

It is therefore necessary that driver education in transport companies be supplemented as well by training on how to develop “safety-minded professional drivers.”

7.5 Existing Problems and Issues

Table 7.5.1 presents a summary of problems and issues in the traffic safety education sector.

Table 7.5.1 Summary of Problems/Issues and Requirements in Traffic Safety Education

Field	Problems/Issues	Requirements
School	1. Traffic safety education in schools has not been adequately institutionalized, has not received sufficient direction from management levels, and has not achieved efficient cooperation among related agencies.	1. There should be documents regulating the contents and participants in the field of traffic safety education.
	2. The curriculum has not been scientifically and systematically arranged: the curricular time is short, there are not enough extra-curricular and integrated activities.	2. Completing the traffic safety curriculum at all school levels with appropriate curricular, extra-curricular and integrated contents and methodology.
	3. The teachers have not been fully trained on traffic safety education methodology; lack of methodical and timely training.	3. Developing the training program for traffic safety education methodology in teacher training colleges, training and retraining courses for teachers and implementation plan.
	4. Lack of traffic safety education materials and facilities, many schools do not secure traffic safety for teachers, parents and students when going to schools.	4. Developing traffic safety education materials for teachers and students; list of facilities; requirements for traffic safety at schools.
	5. Lack of attention to assessment of school traffic safety education.	5. Guiding the assessment of traffic safety education on learners, evaluation of the results of traffic safety education at an educational institution.
Community	1. Community traffic safety education has not been institutionalized and has not been put into annual plan.	1. There should be regulations on the mission and conditions for community traffic safety education.
	2. Lack of professional campaigners/promoters and lack of participation from social forces.	2. Developing human resources to become professional traffic safety promoters.
	3. Lack of contents and materials for community traffic safety education.	3. Developing the contents and materials for community traffic safety education.
	4. Lack of direction, evaluation, awarding and expansion of community traffic safety education.	4. Training and retraining on community traffic safety education direction and management.
Traffic safety awareness campaigns and promotions	1. Traffic safety campaigns are not regularly implemented during the year and lacks in practical and varied activities.	1. Improving the quality of information and dissemination campaigns of mass media companies.
	2. Content of information campaign still lacking in depth and does not connect yet to target audience; lacks practicality and relevance to activities.	2. There should be cooperative mechanism among related agencies in developing traffic safety education and information campaigns.
	3. Lack of participation from the people, not attached to specific groups in community, especially the poor and remote areas.	3. Retraining officers who perform direct information and education campaigns or through the mass media.
	4. Lack of profound, widespread and effective information and education campaigns with direct instruction from the Prime Minister.	4. Mobilizing the national media campaign of "Traffic safety for all people".
Safety Education in Transport Companies	1. Negative perception for transport company drivers and vehicles by general public.	1. Introducing education and training to develop safety-minded professional drivers.
	2. High casualty in bus accident.	2. Special training and re-training on regular basis for bus drivers
	3. Unsafe driving behaviors (overloading, speeding, etc) for high profit	3. Examination and introduction of Safety Driver Management System
	4. Individual Compensation in accidents	4. Examination and introduction of indemnity system by the transport company.

Source: JICA Study Team

8 MEDICAL EMERGENCY

8.1 Current Conditions of Medical Emergency in Vietnam

1) Official Data on Traffic Accident Victims from Ministry of Health

Data collected by the Injury Prevention Project of the Ministry of Health in the 7 focus provinces (Hanoi, Hung Yen, Quang Ninh, Ninh Binh, Thua Thien – Hue, Lam Dong and Long An) from 2003 to 2005 are shown in Table 8.1.1. On the average, the 7 focused provinces have 106,276 injured persons annually, of which 42.26% were traffic accident victims. The table below shows the causes of the injuries and confirms that there is no overlapping data in the case of traffic accident victims reported.

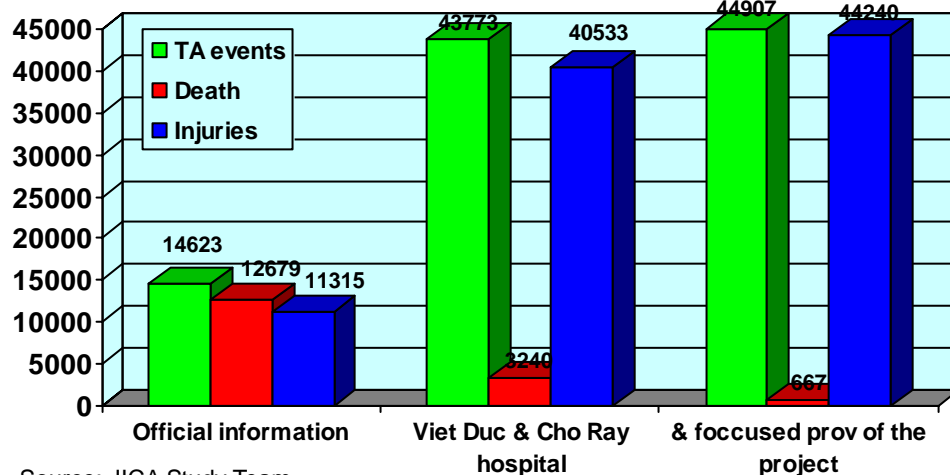
Table 8.1.1 Causes of Injuries of Traffic Accidents Victims Admitted in Hospitals of 7 Provinces (2003-2005)

Causes	Total Injuries		Death by Injuries	
	Average per year	%	Average per year	%
Traffic accident	44,907	42.26	667	59.69
Living accident	23,154	21.79	49	4.34
Working accident	8,265	7.78	64	5.75
Animal attack	4,251	4.00	20	1.77
Drowning	610	0.57	76	6.78
Burning	2,398	2.26	42	3.76
Poisoned	5,067	4.77	14	1.23
Fighting	8,667	8.15	53	4.72
Other causes	10,806	10.17	66	5.88
Total	106,276	100.00	1,118	100.00

Sources: As reported to MoH based on statistics form required by Decision 25/QĐ-BYT dated 2/8/2006.

A comparison of traffic accident data reported based on official information from the mass media and data of the two central hospitals and 7 focused provinces of the project are shown in Figure 8.1.1.

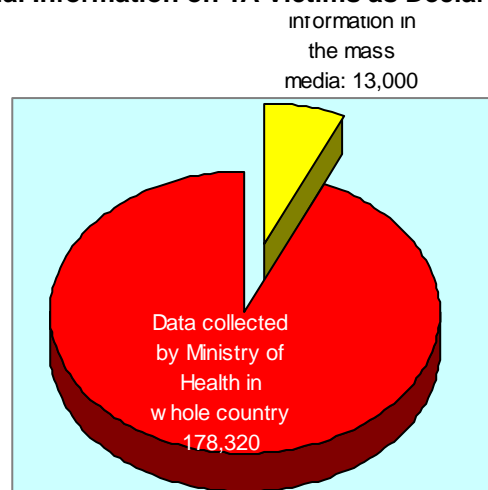
Figure 8.1.1 Number of TA Victims based on Official Information and Declaration of the Two Central Hospitals & 7 Pilot Provinces



Source: JICA Study Team

As indicated, the data reported from the 650 hospitals in the whole country including central hospitals, provincial hospitals and district hospitals were higher by more than 13.71 times over the official information reported in the mass media.

Figure 8.1.2 Official Information on TA Victims as Declared by MOH



Source: JICA Study Team

2) Present Situation at the Central Hospitals

(i) Viet Duc Hospital (Hanoi)

The number of traffic accident victims being treated in Viet Duc Hospital has continuously increased in the recent years which results in overcapacity of the hospital. Data from 2004 to 2006 are shown in Table 8.1.2.

Table 8.1.2 Number of TA Victims at Viet Duc Hospital (2004-2006)

Basic indicators	2004	2005	2006
Total TA victims	21,186	17,449	19,180
Adult	18,744	15,006	17,644
Children < 15	2,442	2,493	1,536
Death in the hospital	370	110	120

Source: JICA Study Team

(ii) Cho Ray Hospital (HCM City)

The biggest hospital under the Ministry of Health in Ho Chi Minh City, it is responsible in providing first aid not only in Ho Chi Minh City but also in the southern provinces of Vietnam. Hospital data on TA victims is available in its website which is regularly updated. Example of data for a particular day is shown in below table.

Table 8.1.3 Number of TA Victims at Cho Ray Hospital (on 19 November 2007)

	Total	Operation	Death
Total TA victims	83	8	0
Male	63	6	0
Female	20	2	0
Adult	80	8	0
Children < 15	3	0	0

Source: JICA Study Team

Data reported from 1 June 2006 to 31 May 2007 on TA victims admitted in the hospital are shown in Table 8.1.4.

Table 8.1.4 Number of TA Victims at Cho Ray Hospital (from 1 June 2006 to 31 May 2007)

	Total	Operation	Death
Total TA victims	25,917	2,955	254
Male	18,048	2,368	182
Female	7,869	587	72
Adult	24,392	2,882	244
Children < 15	1,525	73	10

Source: JICA Study Team

Most of the TA victims in the two abovementioned hospitals suffered very serious injuries such as head injuries, multi-trauma injuries which required many specialists/experts and a lot of medical equipment to respond. The number of fatalities in the hospitals range from 100 to 200 every year.

3) Data of TA Victims Collected from the 11 Provinces Surveyed

Table 8.1.5 presents the data collected from the 11 provinces surveyed during the master plan study.

Table 8.1.5 Number of TA Victims based on Collected Data from 11 Provinces Surveyed

Provinces	2004			2005			2006		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Hanoi	11,988	7,312	4,676	12,584	7,802	4,872	13,404	8,578	4,826
Haiphong	12,862	8,873	3,989	14,180	9,787	4,339	11,589	7,996	4,396
Danang	17,297	11,611	5,686	13,342	9,095	4,247	16,016	10,797	5,804
Nghe An	5,215	3,129	2,086	9,720	6,026	3,694	10,986	6,921	4,065
Quang Ninh	8,138	6,134	2,004	8,069	5,993	2,076	7,953	5,565	2,388
Quang Tri	5,215	3,192	2,023	9,729	6,071	3,649	10,966	6,786	4,180
Lao Cai	4,863	3,648	1,215	5,317	3,927	1,390	5,248	4,262	986
Ho Chi Minh City	30,789	18,781	12,008	34,362	20,617	13,745	38,212	24,073	14,139
Lam Dong	13,696	8,928	4,768	13,479	8,698	4,781	12,238	7,945	4,393
Can Tho	4,464	2,767	1,697	4,042	2,506	1,536	4,168	2,625	1,543
Kien Giang ¹	1,998	1,304	694	2,438	1,728	710	2,507	1,990	517
TOTAL	80,557			69,044			84,138		

Source: JICA Study Team

Total number of TA victims in the 11 provinces is very high. For year 2005, total number of accident victims from the surveyed provinces already comprises 40.39% of data collected in the whole country (170,906). This may be explained by the fact that the 11 surveyed provinces are composed of the biggest provinces (Hanoi, Ho Chi Minh, Nghe An) and some other provinces have high risk of traffic accident. In addition, these provinces have many central hospitals which also received victims from neighboring provinces.

Ho Chi Minh City has recorded the highest number due in part to its being the biggest city in Vietnam with nearly 10 million population and land area over 3 times bigger than Hanoi. It has 19 districts and many central hospitals which receive many referral victims from outside the city.

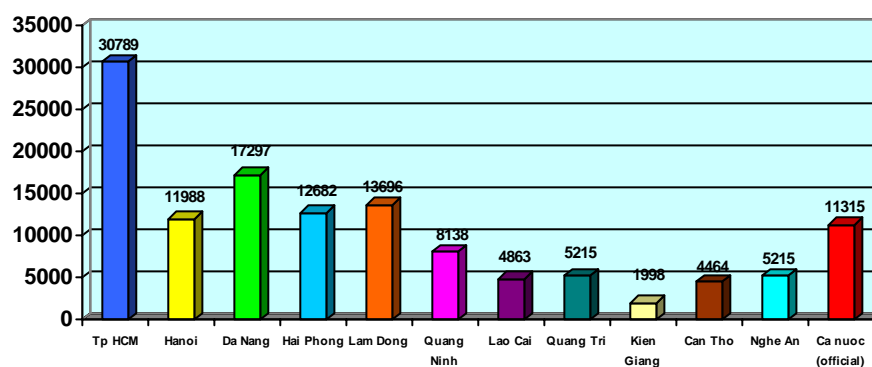
¹ Lack data from the district hospitals.

Data characteristics from Hanoi are similar from that of Ho Chi Minh City, except that the total number is lower due to the smaller area and population coverage. Most of the serious victims are brought to the Viet Duc, Bach Mai and other central hospitals.

The high data from Danang may be attributed to its being the center of high technology in the central coast of Vietnam as well as due to transfers and referrals from many highland hospital provinces.

In the case of Lam Dong, its high data may be attributed to the many difficult conditions of road traffic in the area such as many mountain passes, steep roads and high traffic going to the tourist city of Da Lat. Lam Dong hospital also receives many referral accident victims from the four (4) highland provincial hospitals since transfer to Lam Dong is considered preferable than transfer to Ho Chi Minh City.

Figure 8.1.3 Number of TA Victims from the 11 Provinces Surveyed



Source: JICA Study Team

8.2 Existing Projects by the Ministry of Health

1) Committee of Injury/Accident Prevention of Ministry of Health

Figure 8.2.1 illustrates the organizational set-up of this Committee.

2) Existing Projects by MOH on Injury/Accident Prevention

(i) Strengthening Commune Awareness

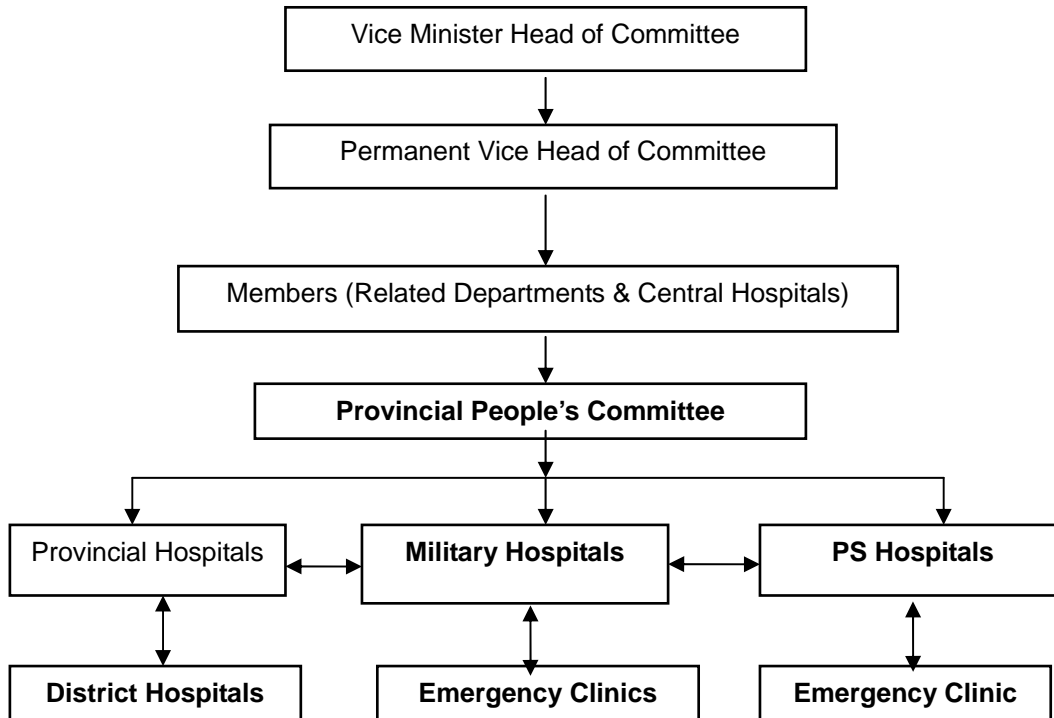
The objectives were to strengthen awareness at the communes on the risk of the traffic accident. This is integrated in projects supported by WHO, UNICEF, SIDA.

(ii) Support to Overseeing Injuries/Accident

- MOH implemented the new recording and reporting system with the use of the new form in all hospitals in the whole country to ensure accuracy of traffic accident victims' information and thus avoid discrepancies in data officially reported to the public with actual hospital data.
- WHO and UNICEF also carried out a supervision and information system for injuries/accident in the hospitals. This information system indicates the causes of traffic accidents such as alcohol use or non-helmet use as well as evaluates the quality of the first aid in the hospitals. Based on the data collected from this system, there were 17.74% head injuries to victims who were not wearing helmet and only 3.76% to those with helmet.

- Based on the UNICEF project on the 7 focused provinces, there was a decrease in traffic accidents in the communities from 42.26% to 37% after project implementation.

Figure 8.2.1 Committee of Injuries/Accident Prevention of MoH



Source: JICA Study Team

(iii) Projects on First Aid, Transportation and Pre-hospital Care

The following existing projects which were being carried out by the health preventive care administration aimed to provide pre-hospital care and transfer victims to the hospitals:

- Project on strengthening capacity of first aid of the community supported by WHO conducted in Tu Liem District (Hanoi) was aimed at (1) Strengthening capacity of community on first aid and transport of victims to the hospitals by 115 system and (2) conduct of pilot model 115 system by motorcycle in the rural area.
- Project on strengthening capacity in coordinating information to community on emergency transfer and trauma care supported by Atlantic Philanthropies (US). The project was carried out in 4 central hospitals and 11 provincial hospitals of Hanoi and Thua Thien Hue.
- Project on strengthening quality of first aid and hospital care supported by WB was aimed at upgrading first aid and the equipment in health facilities located along roads with high incidence of traffic accidents. This was however conducted only as a pilot project and did not have enough resources to be replicated nationwide.

(iv) Project Support on Research and Training System

A project on first aid in the community was conducted to prepare training materials

on the prevention of traffic accidents. Pilot training was also conducted in some medical schools and a total of 350 training sessions have been provided to 14,500 health workers and community members. A total of about 60 training sessions on first aid techniques were given to over 200 health workers, 1,567 volunteers such as Red Cross members, drivers of taxi/xe-om, police, etc.

(v) Observations:

- Most of project concentrates in the preventive care such as education and information campaign provided for the communities in 7 project provinces.
- The traffic accident data monitoring system aimed at providing accurate information on the traffic accident victims in the health facilities is very important for the government to determine investment requirements in the health sector to properly respond to impacts of traffic accidents.
- The project on strengthening capacity of the community was very important. However, it was only implemented as a pilot to some districts of pilot provinces.
- Projects to strengthen the district hospitals which are usually the first stop of traffic accident victims were very limited. Thus, it is necessary to upgrade both technical and medical equipment capabilities for providing first aid in these district hospitals to reduce overcapacity in the provincial and central hospitals.
- Training on curriculum preparation in the medical schools was only conducted as a pilot. It is however necessary to have an official training curriculum integrated in training in medical schools at the central and provincial levels. In addition, it is also necessary to prepare training materials for provincial health secondary schools for use in re-training of health workers as well as for training to the community members.

8.3 Survey on Emergency Medical Services in 11 Provinces/Cities

1) Observation of Traffic Accident Victims

- (i) A study was conducted by Prof Do Tat Cuong from December 2005 to December 2006 on Army Hospital 103. The following are the main findings of the study:
 - There were a total of 3,145 traffic accident victims treated during said period: 1,774 (56%) were in-patient and 1,371 (44%) were out-patient.
 - The victims were treated for the following injuries: 46.3% for head injuries; 43.1% for injury on four limbs, of which thigh and leg were 68%; .6% for abdominal and chest including inside visceral; and other injuries were 4%.
 - A total of 75.6% of those injured in the head and four limbs required therapy from the hospital for a long period of time, and will need to undergo rehabilitation therapy after discharge from the hospitals. The injuries were also deemed to have an effect in the living conditions of the victims.
- (ii) A study was conducted by Dr Nguyen Duc Chinh from Viet Duc Hospital in Hanoi for a period of seven (7) months in 2007 with the following results:
 - A total of 5,468 traffic accident victims were recorded with the following injuries: 54% suffered closed trauma; 17% suffered from wounds and a total of 28%

suffered from both injuries.

- The victims were treated for the following injuries: 40% for head injuries; 38% for injury on four limbs; 22% for other injuries. A total of 5.6% of victims were injured very seriously, over 70% of which undergone operation and over 5% resulted in death.

(iii) Based on a study conducted by Dr Vu Van Kham and Dang Minh Tan from Saint Paul Hospital in Hanoi, from a total of 1,518 traffic accident victims, 520 (34.2%) suffered multi-trauma and 448 of them had undergone operation once or twice. Many of these victims had to stay in the hospital for a long time (up to 36 days). Very serious accidents resulted in 134 deaths (of which 128 were due to head injuries). Many victims have to use respirator machine support (428 or 82.3%) and monitor (420 or 80.7%). Some of those who suffered head injuries had to use respirator machine support for a long time

2) Present Situation of Providing First Aid and Emergency Medical Information

(i) Reporting of Emergency

The most popular means of reporting a traffic accident is the use of mobile phone to call the police or hospitals. However, for accidents in remote areas where there are no phone lines or mobile phones available, the people in the community has to wait for a car to pass by and ask the driver to report the accident to the police. Thus, it takes a very long time for the victim to be transferred to the hospital from the time of accident. Only 63.8% of the victims have been transferred to the hospital within 6 hours, with as much as 8.2% transferred only after 72 hours.

(ii) Provision of First Aid On-site

The study conducted on the Army Hospital 103 showed that 91.9% received first aid from the community; 3.2% gave first aid to themselves and only 4.9% received first aid from responding health workers. This is because most of the traffic accidents occurred in the remote areas.

(iii) Evaluation of first aid techniques

From those studied, a total of 34.8% did not receive first aid and 65.2% received first aid. The techniques provided and quality done is as follows:

- Most common is by bandage where 61.2% of the cases were properly done (with bandage properly closing wound and stopped bleeding) and 38.8% were incorrectly done.
- First aid for broken bone by splinting where 51.4% were properly done and 48.6% were incorrectly done.
- Garo or tourniquet to stop bleeding where 15.3% were properly done but 84.7% were incorrectly done which for many cases led to death due to bleeding or amputation of affected limb.

3) 115 Emergency Transportation System

(i) Organizational Structure

The 115 system is provided by the respective provinces' Department of Health such as big cities like Hanoi, Haiphong, Danang, and Ho Chi Minh City. There is however no nationwide program of this nature and the organizational set-up of the existing 115 systems vary in every province. Hanoi and Haiphong have independent 115 stations while 115 in Ho Chi Minh City is linked with Trung Vuong Hospital.

(ii) Facilities

In general, the 115 stations have limited space, not even enough to house ambulances (Hanoi, Hue, Haiphong). Only Hanoi and Ho Chi Minh City have over 10 ambulances, while the other provinces have only 2 to 4 ambulances, 50% of which are already 10-15 years old.

Table 8.3.1 Number of Ambulances Available in 11 Provinces

Provinces/Cities	<5 years	5-<10years	10-<15 years	=> 15 years	Total
Danang	4	0	1	3	8
Haiphong	2	4	5		11
Quang Ninh	1				1
Lao Cai	4				4
Nghe An	6				6
Quang Tri	2				2
Hanoi	2	1	2	5	10
Ho Chi Minh City	5	9		1	15
Kien Giang		3	2		5
Can Tho		3	1		4
Lam Dong	3	2			5
Total	29	22	11	9	71

Source: JICA Study Team

(iii) Human Resources

Some cities such as Hanoi, Haiphong and Ho Chi Minh City have available medical doctors as emergency team on duty. Some provinces/city assign their doctors to work with the hospital (Ho Chi Minh City, Haiphong) to upgrade their first aid techniques by acquiring experience as well as earn additional income. In general, most of the 115 system doctors were general practitioners and not trained for providing first aid, thus most of the ambulances usually transfer the victim directly to the hospital without giving first aid.

It was observed from data collected that most of the doctors working for the 115 system are all general practitioners and lack the knowledge and experience in providing first aid treatment. Present policies in the health sector do not encourage experienced and specialist doctors to work for the 115 system due to low income and the lack of opportunity for further training to become higher level specialists. Except for some areas like Ho Chi Minh City and Haiphong which have 115 systems linked with hospitals, medical doctors of the 115 system have very good working conditions and have the opportunity to upgrade their knowledge and skills

in the hospitals.

(iv) Private Sector Participation in Provision of Ambulance Service

Some provinces such as Nghe An, Quang Ninh and Thai Nguyen applies “social mobilization policy” which encourages private sector to participate in the 115 systems by providing ambulance service and first aid. This has proven to be effective especially since the public sector does not yet have 115 systems installed in their areas.

Table 8.3.2 Human Resources for 115 Systems

Provinces/cities	Doctors	Nurse	Driver	Else	Total
Danang	9	21	18	5	53
Haiphong	21	27	17	15	80
Quang Ninh	2	2	1	1	6
Lao Cai	2	4	3	3	12
Nghe An	12	18	6	0	36
Quang Tri	2	2	2	2	8
Hanoi	36	38	31	15	120
Ho Chi Minh City	16	29	15	-	60
Kien Giang	08	25	10	02	45
Can Tho	12	23	06	09	50
Lam Dong	06	12	05	03	26
Total	126	201	114	55	496

Source: JICA Study Team

(v) Ambulance Service Fee

This is necessary especially in cases where the government does not subsidize operation costs of 115 services such as cost of gasoline. Most of the 115 service fees are set by the respective people’s committees. The service fee approved for ambulance service is similar to the cost of taxi. For some provinces, service fee charged to foreigners is usually higher (most of the time double) than nationals. Nghe An province has a free of charge policy within 20km distance while Danang provides all 115 services free of charge.

(vi) Reasons for Low Coverage of 115 Services

Generally speaking, the rate of coverage of 115 services is still low (around 10-15% of total traffic accident victims) due to the following reasons:

- World Health Organization (WHO) recommends that 15 ambulances is necessary per 1 million population. This means that Hanoi, which has at present 10 units of ambulances, in fact should have 60 units of ambulances for its 4 million population. Ho Chi Minh City, on the other hand, should have 120 units of ambulances for its 8 million population but has only 10 units of ambulances at present and Hue should have 20 units of ambulances instead of only 2 ambulances at present.
- Since the coverage area in the city is very large, the distance from 115 stations to the traffic accident area is sometimes over 40km which takes as much as 60 minutes during frequently occurring traffic congestions. Some large provinces like Nghe An from Vinh City to the remote area is as far as 300km from the 115

station making it difficult for the ambulance to reach the traffic accident area. Thus, the most practical way is to use of available ambulances of the district hospitals.

- In some cases, ambulances and health workers have a hard time reaching traffic accident victims due overcrowding in the accident site. There are also instances when the responding health worker cannot provide first aid due to community members' request for immediate transfer of victim to the hospital.
- The community or attending police frequently call other emergency transport providers than the 115 ambulances to transfer the victim to the hospital for practical reasons (i.e. other transport provider can arrive faster than the 115 ambulance).
- Digital mapping and monitoring system for health emergency is not yet available in general.
- The 115 ambulances find it hard to reach the many dead-end streets in the cities. Hanoi has implemented as pilot for motor ambulances in the Tu Liem district. However, acceptance level is still very low due to the general belief among community members that the ambulance has better equipment than motor ambulances.
- Another reason for low coverage of 115 system is the communication facility available. The communication facility of the various 115 systems mostly uses a switchboard: a traffic accident report/call is made (should only be by landline telephone) from the traffic accident site and goes to the district first, then the call will be transferred to the 115 station. Then the 115 station will then confirm if the reported traffic accident is not a prank call by calling back the caller and only then will the 115 system operator get the exact address of the traffic accident site. Such a system results in a very long time for emergency service to arrive. An example was the traffic accident that occurred last November 2007 in the Hoan Kiem area which is less than 1km from a 115 station. Since the call was made by mobile phone, medical response was not immediate because of the required validation process. So when 30 minutes have passed and there is still no 115 dispatch on site, the SOS hospital was alerted which sent an ambulance within 5 minutes from the time the call was made.

4) Capability of Hospitals for Traffic Accident Victims

Table 8.3.3 shows a summary of the hospital distribution from the provinces/cities:

(i) Overcapacity in Hospitals

The high concentration of traffic accident victims in the provincial and central hospitals leads to overcapacity in these hospitals. This overcapacity mostly occurs in the trauma (28.7%), ICU (41.9%) and operation (36.48%) wards, especially during holidays like lunar festival, etc. (Table 8.3.4).

Table 8.3.3 Hospitals in the 11 Provinces Surveyed

Provinces/Cities	Provincial Hospitals	District Hospitals	Other	Total
Haiphong	20	13	4	37
Danang	12	6	4	22
Quang Tri	9	13	0	22
Quang Ninh	19	14	5	38
Lao Cai	14	9	0	23
Nghe An	6	10	19	35
Hanoi	7	2	24	33
Ho Chi Minh City	27	19	21	67
Can Tho	09	07	03	19
Kien Giang	02	13	0	15
Lam Dong	05	13	0	18
Total	130	119	80	329

Source: JICA Study Team

Table 8.3.4 Overcapacity in the Hospitals

Situations	Min (%)	Max (%)	Average (%)
% overloaded in the whole hospital	2	54	24.87
% overloaded in the Intensive Care Unit	24	54	41.09
% over loaded in the trauma ward	19	35	28.75
% overloaded in the operation ward	25	50	36.48

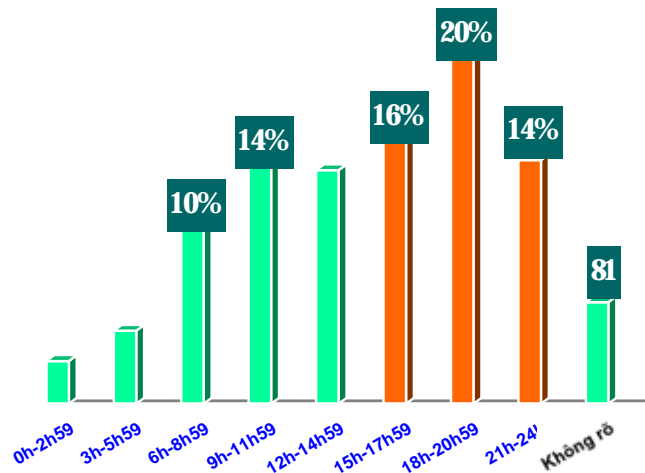
Source: JICA Study Team

(ii) Facilities and Equipment

(1) Emergency Room

The emergency room is open 24/7 (24 hours, 7 days a week) to provide emergency treatment and first aid to traffic accident victims. Based on study conducted in the Army Hospital 103, the most number of traffic accident victims treated in the emergency rooms is from 15:00-24:00, which is the time when there is only a duty team available.

Figure 8.3.1 Time Elapsed for TA Victims to Reach the Hospital



Source: Study of Prof Do Tat Cuong, Military Hospital 103

(2) Intensive Care Unit (ICU)

The ICU in the following provincial hospitals has been upgraded recently to accommodate first aid capacity for traffic accident victims (Table 8.3.5).

Table 8.3.5 Facilities and Equipment of Intensive Care Units (ICUs) in the Hospitals

Provinces	Beds	Monitors	Ventilators	Others
Haiphong	22	12	12	0
Quang Tri	11	5	6	8
Danang	20	8	18	10
Quang Ninh	45	5	7	4
Lao Cai	10	6	6	20
Nghe An	12	6	6	0
Hanoi	20	7	8	6
Total	140	49	63	48

Source: JICA Study Team

(3) Diagnostic Imaging

Facilities such as X Ray, CT scan, MRI, and Ultrasound have very important roles in diagnosis and testing, as well as support for therapy, operation and rehabilitation. Data surveyed in the 11 provinces/cities are shown in Table 8.3.6.

Table 8.3.6 Images Diagnostics

Provinces	X-Ray	CT Scan	Ultrasound	Others
Haiphong	6	2	7	1
Quang Tri	5	1	4	0
Danang	5	1	3	2
Quang Ninh	5	1	5	2
Lao Cai	3	1	2	3
Nghe An	4	1	4	0
Hanoi	4	1	4	2
Ho Chi Minh City	10	2	1	8
Kien Giang	8	1	5	5
Can Tho	3	3	1	3
Lam Dong	4	1	4	2
Total	57	15	40	28

Source: JICA Study Team

(4) Pharmaceutical Supply

The past situation wherein there is lack of drugs medical supplies in the hospitals has been properly addressed. At present, each hospital has enough reserved drugs for 30 days. The hospitals can further request pharmaceutical companies to deliver immediately when necessary. The hospitals' respective drugstores/ warehouses are deemed adequate in keeping and distributing drugs to ensure quality of the drug for victims. It is very important however for an appropriate mechanism/policy to be in place in case of mass casualty which can provide guidelines on cost of drugs, competitive bidding, etc.

(5) Operating Rooms

These have been upgraded, both in quality of facilities and medical equipment, and are now equipped with monitors, respirators, ventilators, electrocardiogram (ECG), etc. to effectively support the medical staff especially during serious

cases. Most of the provincial hospitals are now capable of undertaking head injury operations.

Table 8.3.7 Equipment of the Operation Ward

Provinces	Monitor	Respirator	Others
Haiphong	14	14	0
Quang Tri	4	0	0
Danang	8	8	20
Quang Ninh	5	9	10
Lao Cai	0	0	6
Nghe An	7	7	0
Hanoi	6	6	0
Total	44	44	36

Source: JICA Study Team

(iii) Service Cost for TA victims

There were 60% of traffic accident victims who were seriously hurt that required very costly recovery. Based on data collected from various hospitals, the cost that goes to recovery (e.g. hospitalization, medical tests, therapy, etc.) amounted from 10-30% of the respective hospital's annual budget allocation: 10% in Uong Bi Hospital in Quang Ninh, 30% in Ho Chi Minh City and 28.9% in Kien Giang.

Table 8.3.8 Service Costs of the TA victims

Provinces	HCMC	Kien Giang	Can Tho	Lam Dong
Average day stay in hospital	6	4.2	2	11
Total costs for TA victims in hospitals (Billion VND)	42	40	2	5.25
Total Budget of the hospital per year (Billion VND)	140	138	6.6	36.5

Source: JICA Study Team

(iv) Satellite Hospitals and Transferring System for TA Victims

(1) Satellite Hospital System in Hanoi

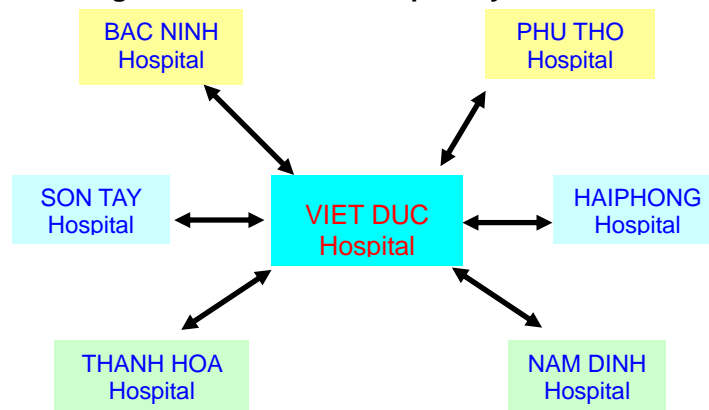
In order to reduce overcapacity situation in Viet Duc Hospital, since 2005, the MOH decided to upgrade both technical and medical equipment in six provincial hospitals near Hanoi such as Bac Ninh, Phu Tho, Ha Tay, Haiphong, Thanh Hoa, and Nam Dinh. These hospitals can now provide first aid treatment to the victims from the provinces as well as extend support to hospitals in nearby provinces. This resulted in a very much reduced capacity for the Viet Duc Hospital. However, rapid increase in the rate of traffic accidents in 2007 constrained the provincial hospitals to once again rely on Viet Duc Hospital, thus resulting to continuing overcapacity situation in this hospital.

(2) Satellite Hospital System in the Localities

In general, most provincial hospitals do not have a satellite system in the communities. This results in overcapacity situation in provincial hospitals especially during holidays such as the lunar festival when there's only a skeletal medical team duty team in the hospital. Thus, it is worth looking at possibility of medical directors of the provincial hospitals enlisting support from

health workers living in the localities.

Figure 8.3.2 Satellite Hospital System in Hanoi



Source: JICA Study Team

(3) Health Emergency in Black Spots

For traffic accidents occurring in black spots particularly in the remote areas, provision of first aid to the victims is near impossible. Thus, the MOH is now preparing a policy requesting the localities to organize an emergency unit in the black spot of traffic accident areas.

5) Human Resources in the Hospitals

(i) Provincial Hospitals

It is observed from provincial hospitals in the surveyed provinces that while the quantity of medical staff is adequate, the quality as required is not. Provincial hospitals also lack in specialists for trauma care, medical doctors who have acquired second degree specialization and staff for ICU and operating wards.

The lack of specialists most of the time results in worsening conditions for traffic accident victims being transferred to central hospitals. This is because the victims sometimes have to be transported for long periods of time with no adequate equipment and specialists onboard the ambulance to monitor the victim's condition. Thus, the support of mobile teams from the central hospital such as Viet Duc and Cho Ray is very much needed.

It is therefore necessary for the health sector to have policies which encourage medical doctors to participate in training courses and to continuously update their knowledge and capabilities and eventually become specialists in their fields. The local governments should therefore allocate budget for these medical doctors further training at the central level.

Tables 8.3.9 Human Resources at Provincial Hospitals

Provinces	PhD	Master	2 nd	1 st	Doctor	Nurses	Other	Total
Haiphong	0	3	2	2	4	21	2	34
Quang Tri	0	1	0	1	4	12	2	20
Danang	0	5	1	4	2	26	7	45
Quang Ninh	0	3	1	0	4	19	3	30
Lao Ci	0	1	0	1	2	11	2	17
Nghe An	0	2	0	3	5	34	4	48
Hanoi	1	4	3	5	6	20	14	53
Total	1	19	7	16	27	143	34	247

Source: JICA Study Team

(ii) District Hospitals

District hospitals lack specialists for trauma cases such injuries to the head, chest, and abdomen, thus requiring transfer of many victims to the provincial hospitals. It is therefore necessary to have policies to train specialists for trauma and intensive care at the district level.

6) First Aid for Mass Casualty Traffic Accident

(i) Present Conditions

Traffic accidents involving passenger cars are continuously increasing such as the car collision with a train in ThuaThien Hue and passenger car accidents which occurred recently in Quang Tri, Nghe An, Khanh Hoa, Dac Lak, Binh Dinh which result in many victims being treated in hospitals. The accident in Thua Thien Hue, Bac Ninh in particular had nearly 100 victims brought to the hospital all at the same time. Data of the mass casualty accident in the localities is shown in Table 8.3.10.

Table 8.3.10 Mass Casualty Accident in the Provinces Surveyed

Provinces	Number of Victims	Fatalities	Injuries
Lang Co/Hue	111	11	100
Hai Lang/Quang Tri	60	25	35
Ky Anh/Nghe An	22	4	18
Bac Ninh/Hanoi	91	51	40
Khanh Hoa	35	15	10
Binh Dinh	25	10	15
Dac Lak	25	24	01
Total	369	140	219

Source: JICA Study Team

According to a 2005 study of the MOH in 19 provinces, in the respective annual plan of action of hospitals, almost all hospitals have plans to increase their capacity in receiving mass casualty due to traffic accident. The triage area, ICU and operating rooms can accommodate 20 victims at one time. However, if the number of victims goes over 50, then it becomes difficult for the hospitals due to lack of manpower and medical equipment.

(ii) Level of Awareness and Capability

In general, the hospital system in Vietnam still has a very weak Mass Casualty Management (MCM) awareness and capability. The following are some of the observations based on hospital experiences:

- Search and rescue operations: There is still lack of knowledge and capability in organizing an effective search and rescue operation, especially that of inter-sectoral coordination. Usually present on accident sites are only the medical team and police force with lack of support from the local government, mass organization and other concerned organizations. It is therefore necessary to train the district hospitals which have very important roles in MCM.
- Triage services: During cases of mass casualties, it is necessary to organize designated places to provide triage services such as Meeting Halls, hospital yard, etc.
- Need for an information guideline to manage flow of victims in hospitals.
- Need to assign a spokesperson responsible in issuing official statements to the public through the newspapers, radio and television so that medical staff can concentrate on providing necessary first aid and medical treatment to the victims.
- Hospital security is necessary especially in cases when many victims are brought to the hospital resulting in a lot of people crowding in the hospital such as relatives, news reporters, etc. Restricted areas such as ICU, operating rooms, etc. should be properly secured.

(iii) Human Resources

In the case of Uong Bi Hospital (Quang Ninh province), the hospital policy is that whenever there are five or more victims brought to the hospital at the same time, an “emergency situation” will be declared in the hospital and medical director of the hospital can request all available medical and hospital staff to immediately report and provide services to the victims. The hospital has a system set up wherein it can immediately contact all available staff and provide the necessary working conditions for expected long hours in the hospital until all required services to the victims have been provided.

(iv) Intersectoral Collaboration

Intersectoral collaboration is critical during an accident resulting to mass casualty: the public security responsible for ensuring security in the hospital; the labor and social welfare responsible for providing financial coverage to the victims; the financial sector responsible in purchasing of equipment, drugs and medication needed for first aid and rehabilitation/therapy of the victims; the information sector responsible for providing accurate information on the situation of the victims, etc. It is anticipated that the level and effectiveness of intersectoral collaboration will be improved during the annual drills and exercises.

7) Role of Communes during Medical Emergencies

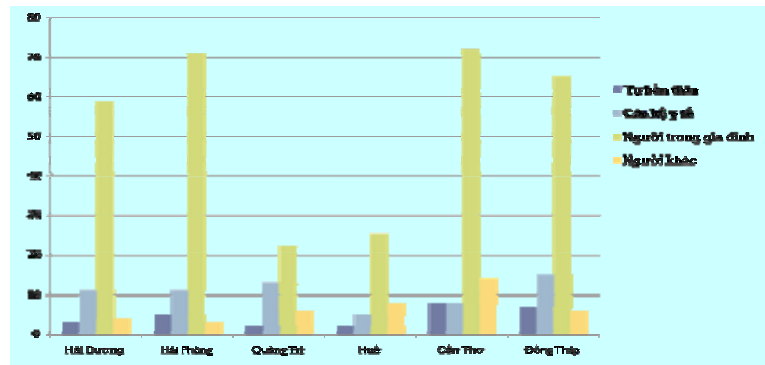
(i) Data Collected

Data collected from the surveyed provinces show that nearly 70% of the traffic accident victims received first aid from the communes; over 15% received first aid provided by medical workers and 15% by others.

According to a research conducted by MOH and UNICEF in 2003, over 70% of

victims received first aid from the communes. Data from the 7 focused provinces however indicated that only 44.63% of the traffic accident victims transferred to the hospitals received first aid, with over 50% of those were provided by the community, despite poor quality.

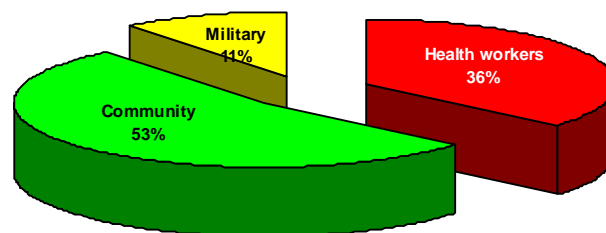
Figure 8.3.3 First Aid Given by Community



Source: JICA Study Team

The 2005 study on health services in disaster conducted by MOH showed almost similar results in terms of who provided first aid to the victims: 53.1% from the community, 36.1% from medical workers and 10.8% from the police, army or red-cross member (Figure 8.3.4).

Figure 8.3.4 First Aid on the Sites



Source: JICA Study Team

(ii) Requirement from the Communes

According to the same study, over 90% of communes indicated interest to increase their knowledge and learn proper first aid techniques on the following: proper administration of garo/tourniquet, bandaging, CPR, and proper handling of victims during transfer to the hospitals.

8) Rehabilitation of Traffic Accident Victims

(i) Need Requirement

Many of the traffic accident victims suffer injuries to the head and nerve system which usually required therapy and rehabilitation of the four limbs even after hospitalization to become functional in daily living.

(ii) Existing Rehabilitation System

Although there are rehabilitation facilities available in the provincial hospitals, the training equipment were evaluated to be very poor and there is lack of rehabilitation

medicine experts and therapists.

(iii) Development in the Future

It is therefore necessary as a first step to develop a nationwide rehabilitation system in the provincial hospitals, followed by the rehabilitation unit in the district hospitals.

(iv) Rehabilitation based in the Communes

Most of the traffic accident victims, however, after being discharged from the hospitals, are constrained with the home environment to continue rehabilitation exercises. Thus, a community-based rehabilitation ward may be organized by using simple equipment available in the community to function as a support to the traffic accident victim as well as the family.

9) Management Information System (MIS)

The software available in the present hospital management is based on ICD code of WHO. However, this lacks very important data sets and indicators such as age group, time admitted to emergency care, etc. of traffic accident victims, which are very important information for planning.

It is therefore necessary to have set indicators of traffic accident victims and these be applied to the MIS of the hospital system nationwide to provide accurate information on traffic accident situation. In addition, it is ideal if a data center for the health sector will be established to be able to share this not only with all branches of government but as well as with other countries.

8.4 Existing Problems and Issues

1) Lack of Accurate Data on Traffic Accident Victims

The official data of traffic accident victims and fatalities at present are not consistent with data from central hospitals. It is however necessary that an accurate and consistent information system on traffic accident victims in all health facilities nationwide to provide the Government appropriate basis for planning, prioritizing and investing in the health sector particularly towards setting up of an efficient medical emergency system in the central, provincial and district levels. Thus, a standardized data format and collection method should be established. While the MOH has been collaborating with WHO on this aspect with the present ICD 10 system, however, the data forms should already be updated to include data sets such as age group, position of injuries, pre-hospital care provided, etc.

2) Inadequate Pre-hospital Care

(i) Insufficient On-site Emergency Care

- Strengthen capacity of the medical workers involved especially doctors of the 115 system who are mostly general practitioners, thus lacking in knowledge and experience on first aid techniques for trauma care, burn, etc.
- Training on first aid techniques for members of the community.
- Training for leaders and officials of local governments, mass organizations and

medical staff in the remote and high accident risk-areas on mass casualty management.

(ii) Lack of Emergency Medical Information System

- There is a need for an Emergency Information System in Vietnam. The system must be established by utilizing use of mobile phone. Telephone box along national roads may be an option; however, it is difficult to maintain the equipment and sustain the system.
- Since traffic accidents occur anytime and anywhere, installation of an emergency telephone system (such as a telephone box along the highway which can only be used to call 113 or 115 during emergency) is very important particularly in rural areas where there are no available telephone land lines in the communes or mobile phones among the residents. Proper control should also be installed in the use of this telephone system to avoid unnecessary prank calls.
- Set-up of a GIS system which will prove to be very essential during search and rescue operations and for emergency response to the traffic accident victims.
- Set-up of monitoring system and command post for medical emergencies especially in big cities like Hanoi, Ho Chi Minh City, Danang, Haiphong, Can Tho, etc.

(iii) Inefficient Emergency Transportation System (115 System)

- Strengthening existing 115 systems in the big cities and some provinces. It is suggested that MOH recommend to the government and government to request to the people's committees to establish the 115 systems in each localities. The MOH should develop a uniform implementation and operation of 115 system nationwide.
- MOH and People's Committees to request all hospitals (including district hospitals) to use all available vehicles in transferring traffic accident victims to the provincial or central hospitals when needed, to supplement 115 system resources.
- Upgrading of health facilities and acquire new ambulances with adequate and standardized equipment and emergency drugs onboard.
- Implementation of "social mobilization" policy to encourage all concerned sectors of the community to participate during medical emergency situations

3) Shortage of Hospital Manpower and Equipment

The most important role of trauma care is to stop bleeding and repair injured organs. Trauma surgeons should have skills for such procedures. As head injury is often seen in TA victims, neurosurgeons are extremely needed in provincial hospitals taking into consideration the required time to transfer patient to central hospitals, thus definitive care must be performed in provincial hospitals. In addition, medical equipment such as CT, ultra-sound, facilities for interventional radiology may be needed for diagnosis and treatment in provincial hospitals. In district hospitals, evaluation of severity of the patient must be adequately performed, and stabilization of the patient by intravenous

fluid infusion and/or blood transfusion is expected before transferring the patient to the provincial hospital. Unfortunately, the above trauma care requirements are not met in provincial as well as in district hospitals at present.

4) Insufficient Levels of First Aid Education for the Communes

Since it is the communes which have the opportunity to provide first aid during medical emergencies particularly in the rural areas, it is critical that proper training should be provided to them. The Red Cross of Vietnam has been involved in such activities with much appreciation from the national and local governments. In fact, at present, a plan to establish the national training center for first aid is in progress as a joint project of the MoH and Red Cross.

5) Inadequate Preparedness for Mass Casualty

In general, the hospital system in Vietnam still has a very weak Mass Casualty Management (MCM) awareness and capability. Aside from lack in trained manpower to effectively provide first-aid to victims during mass casualty, there is also a lack in intersectoral collaboration, particularly support coming from local government and other concerned organizations.

9 IDENTIFICATION OF CURRENT TRAFFIC SAFETY ISSUES

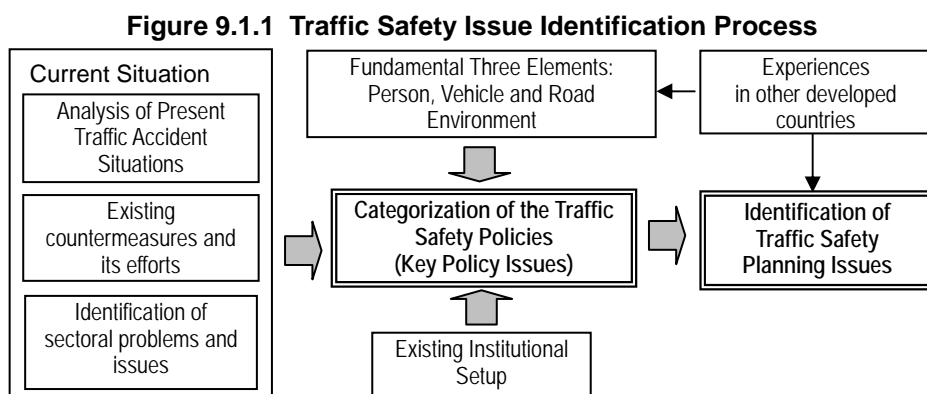
9.1 Identification of Key Traffic Safety Policy Issues

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

Traffic safety measures are generally developed based on the three fundamental elements of any transportation activity, that is: Person, Vehicle and Road Environment. After careful consideration of the integration of these three elements, appropriate traffic safety countermeasures can be formulated. This strategy is not only a practice in Japan but as well as in other developed and highly motorized countries. Thus, taking into consideration these three fundamental elements in the formulation of Vietnam's traffic safety policy should be applicable.

A lot of efforts to reduce traffic accidents in developed countries have already been made in the past decades which resulted in the development of various countermeasures and tools. While these may be very useful in the formulation of traffic safety countermeasures for Vietnam, unprecedented rapid motorization led by large volume of motorcycle in Vietnam, however, is causing more complex traffic situations so that a closer examination of existing countermeasures and tools should be examined carefully. Moreover, while rate of motorization is rapidly increasing, institutional improvements which include human and financial resources development are lagging behind. Thus, a new traffic safety strategy and master plan is urgently required to focus on both aspects of traffic safety: formulation and implementation of effective countermeasures and institutional development.

The issue identification process is shown in Figure 9.1.1. In order to develop a comprehensive and strategic plan, various kinds of issues will be categorized according to focus areas based on the three fundamental elements and respective responsible sectors, namely Key Policy Issues, as shown in Table 9.1.1.



Source: JICA Study Team

Table 9.1.1 Identification of Key Traffic Safety Policy Issues (Focus Areas)

	Pre-Accident Policy Issue			Post-Accident Policy Issue
	Road Traffic Environment	Person	Vehicle	
MOT/PDOT/TUPWS (Engineering)	<ul style="list-style-type: none"> ■ Safety Road Development ■ Traffic Safety Facilities Development ■ Appropriate Traffic Management ■ Traffic Safety Under Construction 1	<ul style="list-style-type: none"> ■ Drivers' Licensing System ■ Driver Education and Management ■ Traffic Safety Management in the organizations 2	<ul style="list-style-type: none"> ■ Vehicle Inspection System 2b	
MOPS/PDPS/DTP (Enforcement)	<ul style="list-style-type: none"> ■ Traffic Control and Regulation 	<ul style="list-style-type: none"> ■ Traffic Law Enforcement 3	<ul style="list-style-type: none"> ■ Vehicle Registration System 	<ul style="list-style-type: none"> ■ Accident Investigation 3
MOET/DOET (Education)		<ul style="list-style-type: none"> ■ Traffic Safety Education in School 4a		
MOH/DOH (Emergency)			<ul style="list-style-type: none"> ■ Medical Emergency System ■ Accident Insurance System 5	
Propaganda (Education)		<ul style="list-style-type: none"> ■ Traffic Safety Culture ■ Campaigns/ Publicities 4b		
Inter-sectoral Themes	6a	■ Institutional Strengthening (Laws and Regulations, NTSC Function, etc)		
	6b	■ Research and Development (Database, Information system, etc)		
	6c	■ Resource Development (Human and Finance)		
MOT: PDOT: TUPWS: MOPS: PDPS: DTP: MOET: DOET: MOH: DOH:	Ministry of Transport Provincial Department of Transport Transport and Urban Public Works Service Ministry of Public Security Provincial Department of Public Security Department of Traffic Police Ministry of Education and Training Department of Education and Training Ministry of Health Department of Health			
6 Categories and 10 Key Issues Area				
1	Road Safety Environment Development			
2	Safety Driving and Vehicle Safety Development			
a	Safety Driving			
b	Vehicle Safety			
3	Traffic Control and Enforcement Development			
4	Traffic Safety Education and Propaganda Development			
a	Traffic Safety Education			
b	Traffic Safety Culture/Campaign			
5	Medical Emergency and Accident Victim Support System			
6	Institution and Resource Development			
a	Administration			
b	Research and Development			
c	Resource Development			

Source: JICA Study Team

The key policy issues will be further elaborated for the implementation, namely Planning Issues. The planning issues will be identified based on the current traffic accident situations and existing policies on traffic safety, as well as referred to the experiences in other developed countries.

9.2 Summary of the Existing Traffic Safety Problems

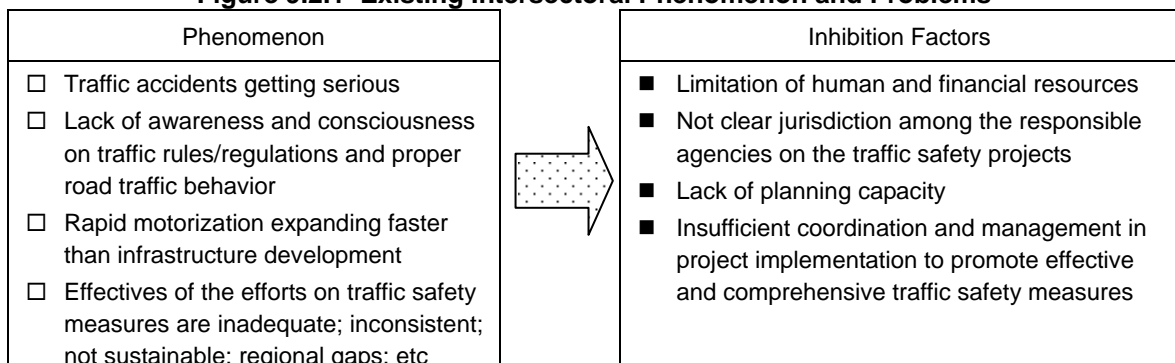
The existing situations and problems which were discussed in the previous chapters will be summarized to identify policy and planning issues for the Master Plan. The identified situations and problems will be divided into intersectoral and sectoral situation and problems including Engineering, Enforcement, Education, and Emergency sectors. Major situations and problems identified in the previous chapters are summarized in Table 9.2.1 and main clarifications are discussed below.

1) Intersectoral Situations and Problems

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

However, traffic safety measures are not limited to wearing of helmets; needless to say there are a lot of issues to be addressed in road traffic safety. The most significant and current overall intersectoral issue is how to establish an appropriate institutional mechanism for sustainable development and implementation of traffic safety policies which will be flexible enough to adapt to demand of future economic development and increase in rate of motorization. Figure 9.2.1 shows the existing intersectoral situations and problems. Crucial inhibiting factors are human and financial resource development, as well as organizational strengthening.

Figure 9.2.1 Existing Intersectoral Phenomenon and Problems



Source: JICA Study Team

2) Subsectoral Situations and Problems

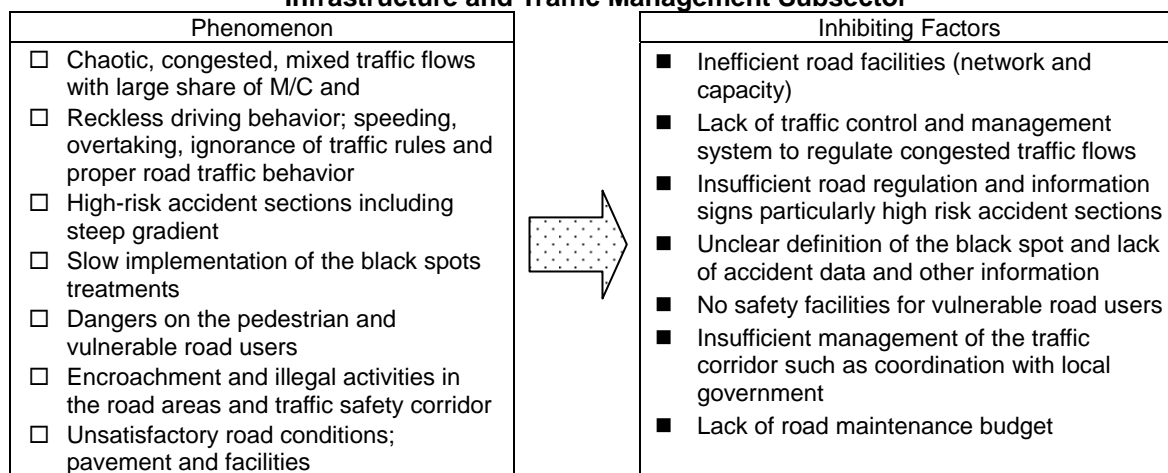
(i) Infrastructure/Traffic Management

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

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

Encroachment on the road safety corridors is another major issue in this sub-sector. While directives on the preservation of the safety corridor has been clearly stipulated in various Government documents, however, required accompanying implementing guidelines have not been formulated enough to secure the corridors, particularly on the responsibility of the local governments. Existing situations and its inhibiting factors are summarized in Figure 9.2.2.

Figure 9.2.2 Existing Phenomenon and Inhibiting Factors in the Infrastructure and Traffic Management Subsector



Source: JICA Study Team

(ii) Transport Operation

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

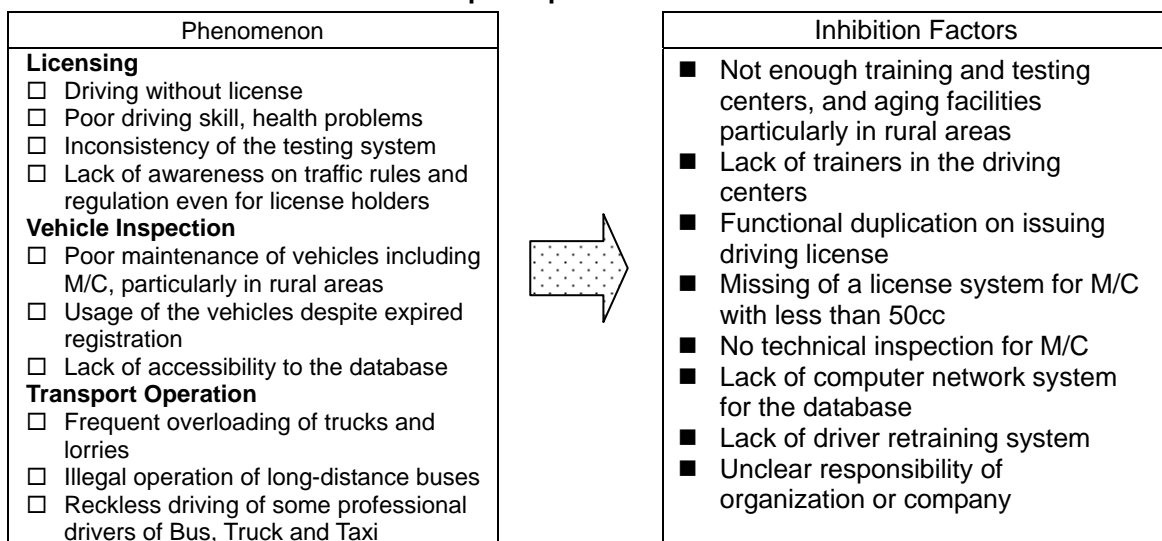
With regards to the licensing system, training and testing system for more than 4-wheel vehicles requires a much longer training program and stricter testing procedure. On the other hand, the system for motorcycle licensing is conducted with much ease, which requires only a minimum operation skill and basic knowledge on traffic rules and regulations. Thus, it may be construed that a

specific feature of Vietnam's road traffic condition is that majority of its road users do not have adequate knowledge or understanding of traffic rules and proper driving behaviors. Also in relation to the licensing system is the lack of training and testing centers especially in the rural areas.

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

Recent economic development is accelerating the demand for long distance transport for both freight and passenger traffic. Nowadays, serious traffic accidents are frequently reported involving trucks and buses travelling long distance. In the same manner, traffic accidents in the urban areas are usually caused by reckless driving involving buses, trucks or taxis. And when such accidents happen, traffic violation is assigned to the responsible drivers while there is no penalty imposed on their respective transport operators. Figure 9.2.3 shows exiting situations and inhibiting factors in the transport operation subsector.

Figure 9.2.3 Existing Phenomenon and Inhibiting Factors in the Transport Operation Subsector



Source: JICA Study Team

(iii) Enforcement

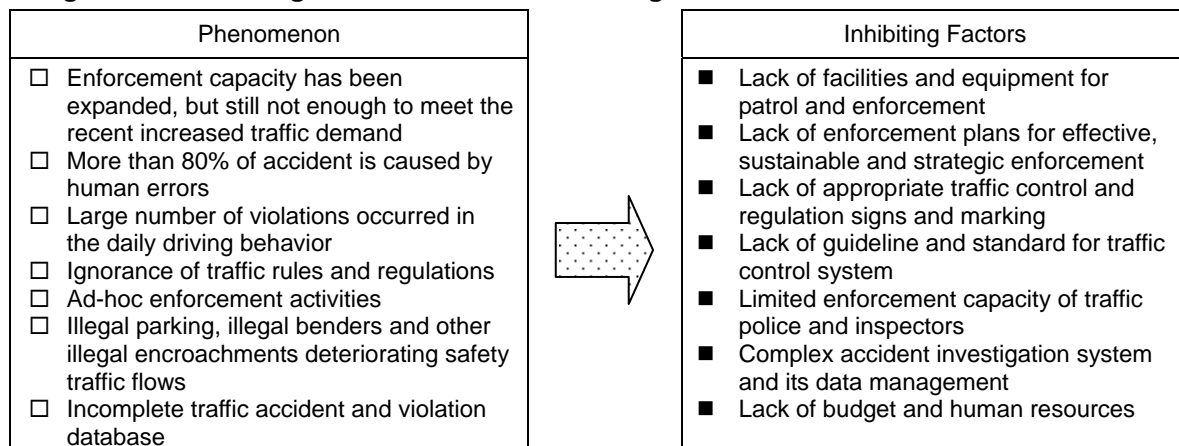
While enforcement capacity has been further expanded recently, it is still not adequate to meet the increasing traffic demand and traffic law violations. Lack of enforcement facilities and equipment is also limiting the effectiveness of the enforcement efforts. Given such limitations, strategic enforcement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

Data would show that the major cause of traffic accident is still human error. Thus, traffic safety education's main thrust should be how to increase peoples' level of awareness and consciousness on traffic rules and regulations. But education in

itself may not be enough to change peoples' road traffic behavior, thus, effective traffic enforcement also becomes indispensable. People observe that new roads kill more people, thus this implies that facility development will also not be enough to ensure traffic safety. After facility improvement, preservation of traffic safety will very much depend on sustainable and effective enforcement activities. As already mentioned, while traffic enforcement has been increasing rapidly due to increase in volume of traffic, capacity and capability of the traffic police has yet to be upgraded. In addition, traffic enforcement is not only faced with lack in facilities and equipment but also lacks in planning capacity as well as human and financial resources.

Traffic accident and enforcement data is one of the basic data information not only for traffic enforcement but also for engineering improvement and traffic safety education program. However, the database is not yet developed at present. Other existing phenomenon and inhibiting factors in the enforcement sector are summarized in Figure 9.2.4.

Figure 9.2.4 Existing Phenomenon and Inhibiting Factors in the Enforcement Subsector



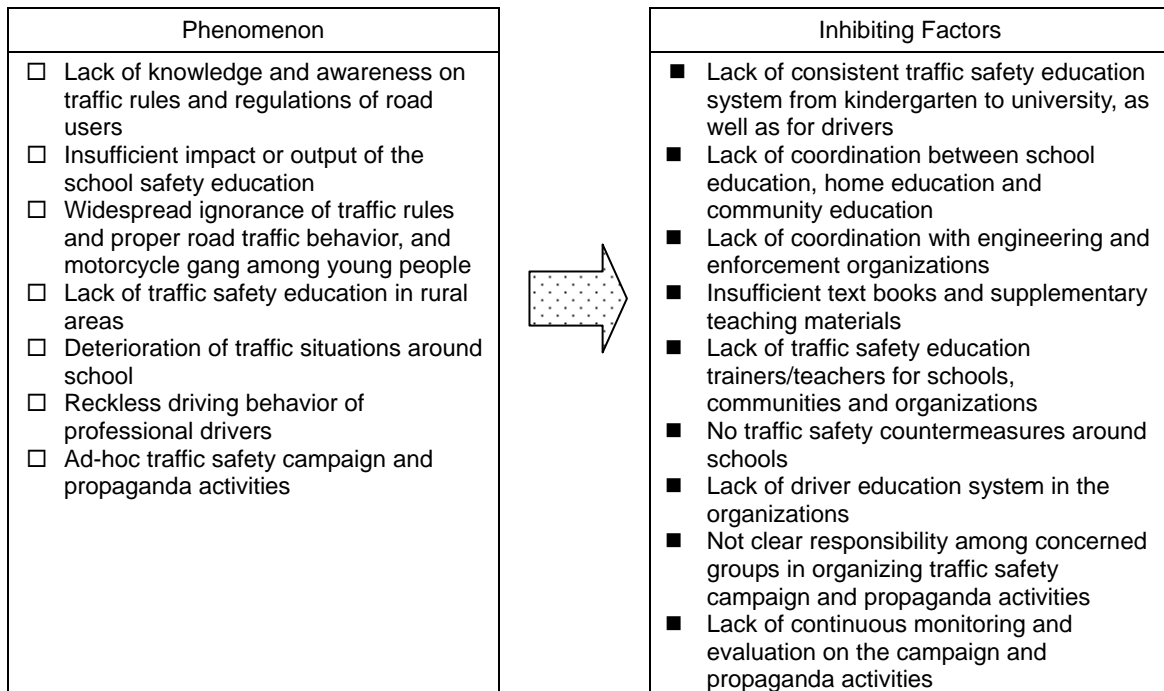
Source: JICA Study Team

(iv) Education and Information Campaign/Propaganda

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

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

Figure 9.2.5 Existing Phenomenon and Inhibiting Factors in the Education and Information Campaign/Propaganda Subsector



Source: JICA Study Team

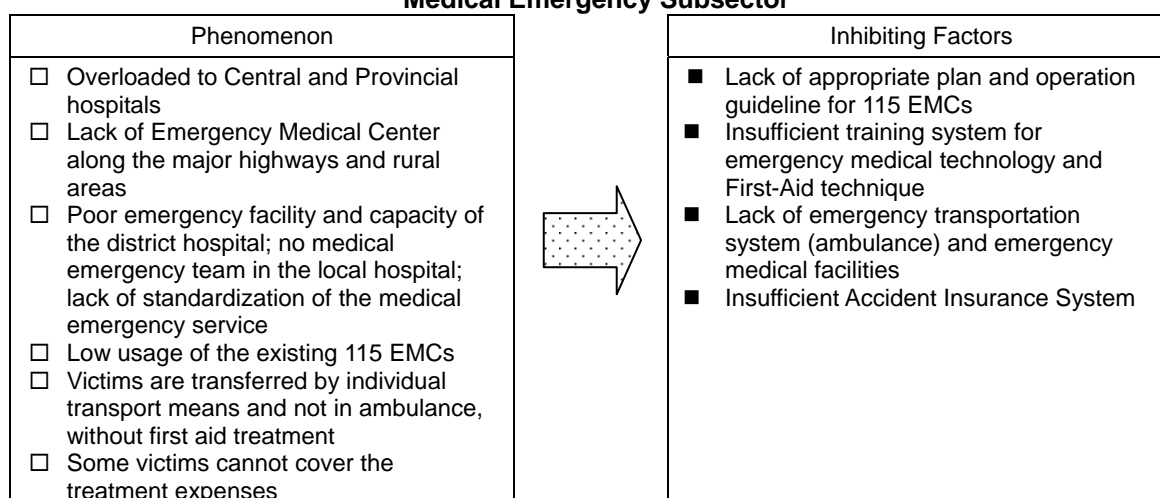
(v) Medical Emergency

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

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

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

Figure 9.2.6 Existing Phenomenon and Inhibiting Factors in the Medical Emergency Subsector



Source: JICA Study Team

Table 9.2.1 Summary of the Current Traffic Safety Situations and Problems

	Infrastructure/Traffic Management	Transportation	Enforcement	Education/Propaganda	Medical Emergency
Intersectoral Situations and Problems on Road Traffic Safety	<ul style="list-style-type: none"> ● Inadequate traffic safety institutions for the recent complex traffic situation (for updating rules and regulation, management and coordination function, etc) ● Delay in the implementation of traffic safety countermeasures; inconsistent, not sustainable and regional gaps on the countermeasures ● Lack of awareness and consciousness on traffic rules/regulations and proper road traffic behaviors ● Rapid motorization which is expanding faster than the development of infrastructure ● Lack of coordination among the organizations and agencies responsible for traffic safety ● Limitation of human and financial resources 				
Sectoral Institutional Problems	<ul style="list-style-type: none"> ● Lack of road maintenance budget (40% of the requirement) ● New systems are enacted but not in operation (Traffic Safety Audit, etc) ● Insufficient planning capability in the responsible organization 	<ul style="list-style-type: none"> ● Duplication of the functions among the organizations, such as Vehicle Registration and Vehicle Licensing ● Lack of data communication system among the organizations 	<ul style="list-style-type: none"> ● Less coordination with responsible organization in other sectors ● Insufficient planning capacity, particularly in rural areas ● Lack of guidelines and standards for traffic control 	<ul style="list-style-type: none"> ● Insufficient coordination on the traffic safety education and propaganda activities with the organization in other sectors ● Lack of education activities in the rural areas 	<ul style="list-style-type: none"> ● Undeveloped medical emergency system in the hospitals ● Unpaid treatment/ medical bills of the accident victims
Present Situation and Problems on Traffic Safety Countermeasures	<ul style="list-style-type: none"> ● Inadequate road infrastructure and maintenance level ● High risk accident section including steep gradient (National Highway) 1900km ● Unclear definition and slow implementation of the black spots improvement ● Lack of rest-facilities including Michino-Eki (Road 	<ul style="list-style-type: none"> ● Obsolete facilities in the Driving Training Center and Testing Center, mainly in rural areas ● Not enough training and testing centers to meet the recent increased demand ● No licensing system for the drivers of M/C 	<ul style="list-style-type: none"> ● Lack of facilities and equipment for patrol and enforcement ● Lack of appropriate traffic control and regulation signs and markings ● Lack of enforcement plans for effective, continuous and strategic 	<ul style="list-style-type: none"> ● Lack of knowledge and awareness of the traffic rules and regulation ● Deterioration of traffic situations around schools ● Lack of consistent traffic safety education system from kindergarten to university, not stipulated in the High Schools ● Lack of traffic safety education in rural 	<ul style="list-style-type: none"> ● Lack of Emergency Medical Center (115) along the major highways and rural areas ● Lack of appropriate plans and operational guidelines for 115 center development ● Low usage of

	Infrastructure/Traffic Management	Transportation	Enforcement	Education/Propaganda	Medical Emergency
	<ul style="list-style-type: none"> Station) •Insufficient traffic management in the major urban areas, such as parking management, signal control and traffic organization •Chaos and mixed traffic flow with large share of M/C, lack of public transport system in major urban areas •Insufficient measures to protect vulnerable road users, such as pedestrian and bicycle users •Insufficient measures on speeding, mix-traffic and safety in the night, particularly in rural sections on NHs •Insufficient management for the traffic safety corridors •Lack of safety facilities for road-railway crossings 	<ul style="list-style-type: none"> with less than 50cc •Insufficient driver management after receiving driver's license •Lack of trainers in the driving centers and inconsistencies in the testing system •Poor driving skills, no-license, forged driving license, health problem, etc (particularly in rural areas) •Poor maintenance of vehicles including M/C, particularly in rural areas •Usage of vehicles despite expired registration •Frequent overloading of trucks and lorries •Reckless driving of some professional drivers of buses, trucks and taxis •Illegal and inappropriate operation of long-distance bus 	<ul style="list-style-type: none"> activities •Limited enforcement capacity of traffic police and inspectors •Incompletion on the traffic accident and enforcement database •Complexity on the traffic accident investigation system and its data management •Lack of human power for traffic control and enforcement to meet the rapid expansion of the motorization •Not enough enforcement on the illegal occupation and illegal parking, illegal benders, etc 	<ul style="list-style-type: none"> areas; text books are not available •Insufficient text books and supplementary teaching materials •Lack of driver education system in the organization •Lack of traffic safety education trainers/ teachers for schools, communities and organizations •Widespread ignorance of traffic rules; unlicensed driving and motorcycle gang among young generation and students •Lack of continuous monitoring and evaluation on the campaign and propaganda traffic safety activities •Lack of coordination between school education, home education and community education •Not clear responsibility among concerned groups when organizing traffic safety campaign and propaganda activities 	<ul style="list-style-type: none"> the existing 115 EMCs in major cities (only about 10-15% in Hanoi) •Lack of emergency transportation system and emergency medical facilities •Insufficient training system for emergency medical technology and First-Aid technique •Lack of standardization of the medical emergency service •No medical emergency team in the local hospitals •Inadequate and unpopular accident and other insurance system

Source: JICA Study Team

9.3 Identification of Current Traffic Safety Issues

As a policy issue, 10 key areas are identified in the earlier subsection (9.1). This subsection will discuss about planning issues in order to develop and implement effective traffic safety measures. For the identification of the planning issues, the following two factors are taken into consideration: (i) promotion of ongoing efforts effectively and (ii) introduction of new measures using examples from other developed countries.

The policy and planning issues identified in this report will be subjected to further discussions with respective organizations, and is expected to be revised accordingly. Those policy and planning issues however will be a basic framework of the Master Plan as well as the 5-Year Action Program so that it is important to build a consensus

among the respective agencies and committees.

Table 9.3.1 Proposed Planning Issues for the Master Plan

Policy Issues	Planning Issues	Remarks
1 Road Safety Environment Development	(1) System development for the desirable road environment - Traffic Safety Audit - Traffic Safety Corridor - Traffic Impact Assessment (2) Safety road development - Acceleration of black spots improvement - Functional road network development - measures for mixed-traffic (3) Traffic safety facilities development (4) Traffic management - Safety improvement at intersections - Parking management in urban areas - Pedestrian crossing facilities - Traffic demand management Traffic safety during road works and constructions	-Including urban bypass -Lane separation -Technical guideline
2 Safety Driving and Vehicle Safety Development		
a Safety Driving	(1) Drivers' licensing system - Review of M/C licensing system - Promotion of the licensing system in rural areas - Development of drivers' training and testing centers nationwide - Review of the licensing system for frequent violators - Development of computer network of the license database (2) Traffic safety management in the organizations - Traffic safety inspector in the organizations - Development of professional driver education system	
b Vehicle Safety	(1) Vehicle inspection system - Development of a computerized system and its network system for the database - Regular technical inspection for M/C - Enhancement of the vehicle inspection system in the rural areas (2) Vehicle registration system - Development of computerized system and its network system for the database - Review of the registration system	Parking Space for motor vehicles
3 Traffic Control and Enforcement Development	(1) Traffic control and regulation - Improvement of traffic control and regulation signages and markings - Improvement of traffic signal control - Review of traffic regulation (2) Traffic law enforcement - Establishment of traffic accident and violation database and its network system - Strengthening of enforcement facilities and equipment - Enhancement of the effective traffic enforcement activities - Strengthening of the penalties and fine system during violations	Including guidelines Speed Limit, etc. Including development of enforcement plans

Policy Issues	Planning Issues	Remarks
	(3) Accident investigation	
4 Traffic Safety Education and Propaganda Development		
a Traffic Safety Education	(1) Traffic safety education in schools - Consistent safety education system from kindergarten to university - Establishment of safe school zone - Promotion of traffic safety education in rural areas - Introduction of the participatory program	
b Traffic Safety Culture/Propaganda	(1) Traffic safety culture - Development of sustainable community traffic safety program - Promotion of research and development on the traffic safety culture in Vietnam - Trainers/Instructors Training (2) Campaigns/publicities Dissemination on traffic safety consciousness by mass media	
5 Medical Emergency and Accident Victim Support System	(1) Medical emergency system - Dissemination of the 115 System - Dissemination of and training on first-aid - Development of mass casualty management (2) Accident insurance system	
6 Institution and Resources Development		
a Administration	(1) Functional strengthening of NTSC (2) Updating road traffic safety related laws and regulations (3) Institutional strengthening of traffic safety in rural areas (4) Enhancement of comprehensive traffic safety program	Exp. Traffic Safety Law Promotion of 4Cs
b Research and Development	(1) Traffic Safety Research Center (Proposed) (2) Traffic safety database (3) Science and technology in traffic safety management	
c Resource Development	(1) Human resource development plan (2) Financial resource for traffic safety development program	

Source: JICA Study Team

9.4 Assessment of Road Traffic Accident Risk until 2020

1) Magnitude of Economic Losses Due to Road Traffic Accidents in the World

Apart from the humanitarian aspects of the road safety, traffic accidents have serious social and economic implication. Deaths and serious injuries as a result of traffic accidents represent a considerable waste of a nation's resources and cause anguish and grief to family and friends of those killed or maimed. Even if the emotional consequences of traffic accidents are ignored, the cost to the community in purely economic terms is high. Research in a number of countries indicates that such losses are normally in the range of 1 percent to 5 percent of a country's GDP as indicated in Table 9.4.1.

Table 9.4.1 Estimation of Economic Losses Due to Road Crashes in Some Countries

Countries	Costing Method	Study Year	Losses in Comparison with GDP (%)	Indicative Annual Cost in USD Mil based on 2005 GDP
Brazil	Gross Output	1997	2.0	15,880
Germany	Gross Output	1994	1.3	36,166
Malawi	Gross Output	1995	> 5.0	>100
Nepal	Gross Output	1996	0.5	37
New Zealand	Willingness to Pay	1991	4.1	4,469
Tanzania	Gross Output	1996	1.3	156
Thailand	Gross Output	1997	2.3	4,077
UK	Willingness to Pay	1998	2.1	46,032
USA	Willingness to Pay	1994	4.6	572,930
Zambia	Gross Output	1990	2.3	165

Source: "The Road Safety Cent" GTZ GmbH, Germany, 2006

2) Necessity for Road Accident Costing

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

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

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

3) Traffic Accidents Costing Methods

There are various methods for Traffic Accidents Methods as presented in Table 9.4.2 and it is evident that each method has its share of advantages and disadvantages. They generate in general substantially different numerical results.

As indicated in the above table, the Human Capital Method or Gross Output Method is commonly applied in the cases of developing countries. In the case of Vietnam, this method has been used by the ADB-funded studies and in the JBIC SAPROF for Traffic Safety in NH3, NH5, NH10, and NH18, and will also be used in this master plan study as discussed in the succeeding subsections.

Following this method, the cost of an accident is the sum of the casualty-related costs, plus the accident-related costs.

The *casualty-related cost* has three components: (1) Lost output, (2) Medical costs, and (3) value of pain, grief and suffering.

The, *accident-related cost* has two components: (1) Property damage and (2) Police and Administration.

Table 9.4.2 Various Traffic Accident Costing Methods

Traffic Accident Costing Method	Remark
Human Capital Method or Gross Output Method: The basis of this methodology is the idea that individuals can produce cumulative output throughout their lives. The main component of the costs of a road accident will then be the loss of output due to the accident. The overall costs to the national economy will include the accumulated lost output. The costs of accidents will represent accident related cost (vehicle damage charge, medical costs, police's activities and administration costs plus the costs reflecting pain, grief, and suffering) and the costs of future lost output.	Commonly applied in the cases of the developing countries.
Willingness-to-Pay Method or Value of Risk Change: This method estimates the amount of money people affected would pay to avoid an accident. Each individual has a risk of being involved in a fatal accident reduced by a small margin when a road safety improvement is introduced. Thus, the value of preventing one fatality in one accident is defined as the aggregate amount that all affected individuals in society are willing to pay for these small risk reductions.	Mainly applied in the cases of the developed countries
Net Output Method: This differs from the gross output methodology in that the extent of the present value of the victim's future consumption is subtracted from the gross output figure.	
Life Insurance Method: The cost of an accident is defined as the amount for which individuals are willing to insure themselves.	
Court Award Method: The sums awarded by courts to surviving dependents of those killed are treated as indicative of the cost that society associates with a fatality or the value that society would have placed on preventing a fatality. Real resource costs are then added to this figure to obtain the cost of an accident.	
Implicit Public Sector Valuation Method: It attempts to determine the costs and values that are implicitly related to accident prevention or investment programs that affect road safety.	

Source: JICA Study Team

For this method, it is necessary to include an estimate on the productive loss to the country of someone killed or crippled. The more seriously injured can remain in hospital for days, or in some cases, for months and some may require medical treatment for the rest of their lives because of the seriousness of the injuries. Thus, the use of some hospital beds and highly skilled medical staff can be attributed to the cost of traffic accidents. In addition, the costs incurred by police at accident sites and insurance processing costs should be added to the other, more visible costs of accidents such as vehicle repair costs.

International research has shown that the number of working years lost as a result of road accidents is higher than is lost from other causes of premature death. About 70 percent of the "years of life" lost due to road accidents are working years, hence, developing countries lose the most economically active and productive years from such persons. Comparison with the other costs of premature death in developing countries, particularly malaria and infectious diseases, indicates that deaths from road accidents seem to be increasing. The economic losses involved can often be a major drain upon the economy of a country, particularly a developing country that needs to import medical supplies and vehicle parts. In such cases, much of the losses are often sustained as foreign exchange losses.

4) Socio-Economic Losses Due to Road Traffic Accidents

(i) Rough Estimation: ESCAP Formula

In general, the losses due to road traffic accidents are often neglected in the very poor countries where motorization rate is still very low. However, while motorization rate is expected to rapidly increase in developing countries, the level of traffic safety awareness is still low.

Following ESCAP, economic costs of road accidents when expressed as a percentage of GDP roughly appears to follow the following relationship:

$$\text{Losses [\% of GDP]} = 0.0297 * \text{EXP}(-8*10^{(-5)}) * (\text{GDP per capita})$$

In other words, losses are roughly 3 per cent in poorer developing countries and become less than 1 per cent for developed economies. (Source: Road Safety in Asia and the Pacific – ESCAP document No. E/ESCAP/MCT/SGO/9, Busan, Korea, September 2006)

This formula provides roughly a threshold: if the losses of any country is less than the value calculated by this formula, it means that among the countries with the same development level, the road traffic safety in this country (roughly) is better than others; and vice versa.¹

With such relationship, the losses due to road traffic accidents in Vietnam in 2006-2007 are roughly 2.80 % of GDP.

Table 9.4.3 Rough Estimation of Losses by Road Traffic Accidents by the ESCAP Formula for the case of Vietnam

Year	GDP per Capita (USD)	Losses (% of GDP)	Remark
2002	440	2.87	Values of GDP per Capita are from Official data of GSO
2003	492	2.86	
2004	553	2.84	
2005	639	2.82	
2006	725.3	2.80	
2007	777 - 835	2.79 – 2.80	Value of GDP per capita is calculated indirectly from available data and another value is extracted from http://vietnamnet.vn/chinhtri/2007/09/739313/
2020	1,810 – 1,940	2.54 – 2.57	Value of GDP per capita is estimated by Study team (Table III.9.5.7)

Source: JICA Study Team

(ii) Estimation of Economic Losses for 2003 by ADB

In 2004, an ADB-funded ASEAN Regional Safety Program has been implemented in which a group of Vietnamese and International Experts have used the Human Capital Method to estimate the losses due to road traffic accidents. The costs are estimated separately for three types of accidents: fatal, injury and damage-only by using published traffic accident data of 2002 and 2003. The annual economic losses from road accidents of Vietnam and other ASEAN countries are summarized in Table 9.4.4

The value 2.45% is smaller than the “threshold” of 2.86-2.87% by ESCAP formula. According to the authors of ADB-ASEAN program, this seems to be

¹ This threshold value means in no case the “acceptable level of traffic accident situation”

underestimated due to lack of correct data, particularly data on minor accidents and those resulting in damage-only. Anyway, this is the first officially published value and the number “USD 885 Millions” is referred to many times in the public media as the country’s annual losses due to road traffic accidents. However, ADB experts estimation is only for year 2003 and so these values should be revised based on updated data.

Table 9.4.4 Annual Economic Losses Due to Road Accidents

(estimated with data of 2002, 2003 in the ADB-ASEAN Program 2004)

No	Country	USD Million	Percentage of Annual GDP (%)
1	Brunei Darussalam	65	1.00
2	Cambodia	116	3.21
3	Indonesia	6,032	2.91
4	Laos	47	2.70
5	Malaysia	2,400	2.40
6	Myanmar	200	3.00
7	Philippines	1,900	2.60
8	Singapore	457	0.50
9	Thailand	3,000	2.10
10	Vietnam	885	2.45
	Total ASEAN	15,102	2.23

Source: JICA Study Team

(iii) Updated Estimation of Economic Losses for 2007

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

The results are shown in Tables 9.4.5 and 9.4.6. The losses due to road traffic accidents in 2007 are estimated at 2.89% of GDP with an amount of about 32,600 VND Billions (about USD 2 Billions).

Table 9.4.5 Estimated Road Traffic Accident Costs by the Human Capital Method

Accident Type	Average Cost (USD)
Fatal	31,777
Serious Injury	9,488
Minor Injury	1,071
Damage-Only	354

Source: JICA Study Team

Table 9.4.6 Economic Losses Due to Road Traffic Accidents in Vietnam for 2007

No	Indicator	Value	Remark
1	Losses calculated in Percentage of GDP	2.89 % GDP	Estimated 2007 GDP is 1,130 000 Billion VND (Source: MOF)
2	Losses calculated in USD	2,041 USD Millions	
3	Losses calculated in VND	32,619 VND Billions	

Source: JICA Study Team

The value 2.89 % is higher than the 2.80% (of GDP) “threshold” by ESCAP formula.

For 2007 only, the absolute economic losses reached a huge amount of USD 2 Billions. This therefore justifies economically the conclusion of Resolution No 32/2007/CP-NQ dated 29 June 2006 that traffic accidents have now become “extremely serious and crucial social concern”.

(iv) Estimation of Economic Losses until 2020

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

As presented in Chapter 2, an increasing rate of road traffic accidents until 2020 at about 8-10% per year is estimated under the assumption that conventional traffic safety measures will be maintained with no major traffic safety projects/program implemented. This rate is a little higher than that of GDP, but for purposes of simplification, the economic losses percentage is proposed to remain at 2.89%. Table 9.4.7 gives the estimated economic losses in the coming years which show remarkable increases in the economic losses from base year 2007 until planning year 2020. Figure 9.4.1 illustrates the high growth of these economic losses.

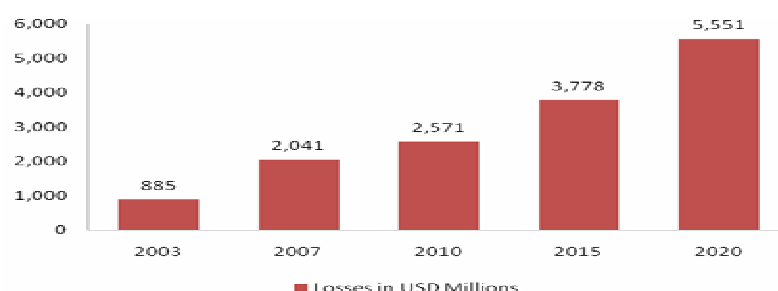
Table 9.4.7 Estimated Economic Losses Due to Road Traffic Accidents until 2020

Year	GDP in VND Billions	Losses in VND Billions	Losses in USD Billions
2007	1,130,000	32,657	2.0
2008	1,220,400	35,270	2.2
2009	1,318,032	38,091	2.4
2010	1,423,475	41,138	2.6
2011	1,537,353	44,429	2.8
2012	1,660,341	47,984	3.0
2013	1,793,168	51,823	3.2
2014	1,936,621	55,968	3.5
2015	2,091,551	60,446	3.8
2016	2,258,875	65,281	4.1
2017	2,439,585	70,504	4.4
2018	2,634,752	76,144	4.8
2019	2,845,532	82,236	5.1
2020	3,073,175	88,815	5.6

Note: Fixed exchange rate 1 USD = 16 000 VND

Source: JICA Study Team

Figure 9.4.1 Economic Losses Due to Road Traffic Accidents until 2020



Source: JICA Study Team