

6.4 Accidents and Safety on National Road No. 5

1) Topography

NR 5 lies on a plain and goes through many populated areas and rice fields. It runs parallel with the Hanoi-Hai Phong railway line. Its starting point is Cau Chui T-junction in Hanoi, running through Hung Yen and Hai Duong provinces and ending in Chua Ve port in Hai Phong. This road is 106 km long.

The technical conditions of NR 5 are as follows:

- From Km 0 to Km 6+600: foundation width : 30.5m, including 6 lanes for motorized vehicles : 23.5m; two lanes for non-motorized vehicles: $2 \times 2.5\text{m} = 5\text{m}$; central median: 1.5m; earth shoulder: $2 \times 0.25\text{m} = 0.5\text{m}$;
- From Km 6+600 to Km 93: foundation width: 23m, including 4 lanes for motorized vehicles: $4 \times 4\text{m} = 16\text{m}$; two lanes for non-motorized vehicles: $2 \times 2.5\text{m} = 5\text{m}$; central median: 1.5m; earth shoulder: $2 \times 0.25\text{m} = 0.5\text{m}$;
- From Km 93 to Km 106: foundation width: 34m, including 4 lanes for motorized vehicles: $4 \times 3.75\text{m} = 15\text{m}$; two lanes for non-motorized vehicles: $2 \times 3\text{m} = 6\text{m}$; central median: 1m; two sidewalks: $2 \times 6\text{m} = 12\text{m}$;

Distances between typical locations on this road (km) are as follows:

Hanoi (Chuong Duong bridge)				
4	Chui bridge (starting point of NR 5)			
27	23	Noi Street (to Hung Yen by NR 39)		
56	52	29	Hai Duong town	
106	102	79	50	Hai Phong

2) Traffic Volume

NR 5 connects Hanoi and the northern provinces to Hai Phong sea port which has an import-export cargo throughput of about 10 million tons/year. Moreover, many industrial and export processing zones have recently been constructed along NR 5, hence the traffic density is relatively high and is increasing. The Cau Chui-Phu Thuy section has the highest traffic density with about 17,000 PCU/24 hours. The traffic volume in 2010 is expected to double from the 1999 figure.

Table 6.4.1
Traffic Volume on NR 5

Unit: PCU/day

No	Section	1999 survey	2005		2010		2020	
			Opt. 1	Opt. 2	Opt.1	Opt. 2	Opt.1	Opt. 2
1	Chui bridge – Phu Thuy	16,889	24,791	27,372	35,456	38,421	60,389	68,505
2	Phu Thuy – Hai Duong	11,239	16,487	18,200	23,573	25,539	39,923	45,260
3	Hai Duong – Hai Phong	8,722	12,894	14,261	18,549	20,128	32,285	36,731

Source: TDSI

Note: Opt. 1: Low assumption option; Opt. 2: High assumption option

3) Traffic Accidents on NR 5

Traffic accidents occurred most frequently on the section from Chui bridge T-junction in Hanoi City to Chua Ve port in Hai Phong City, in relation to other national roads under the supervision of RRMU II. This RRMU manages 2,663 km of national roads from the northern provinces to Thanh Hoa province. In period 1999- 2001, accidents on NR 5 occupied 32.20% of the total traffic accidents occurred on national roads under the management by RRMU II. ; the fatalities and injuries took about 24.84% and 16.45%, respectively (see Table 6.4.2 below).

Table 6.4.2
Traffic Accidents on NR 5

Year	Accidents	Fatalities	Injuries
1999	219/733	39/158	115/655
2000	374/979	53/190	179/866
2001	209/778	30/143	85/782

(Unavailable data for the months of February 1999, February and March 2001. 219/733: traffic accidents on NR 5/total traffic accidents occurred on national roads under the management by RRMU II).

4) Accident-prone Locations

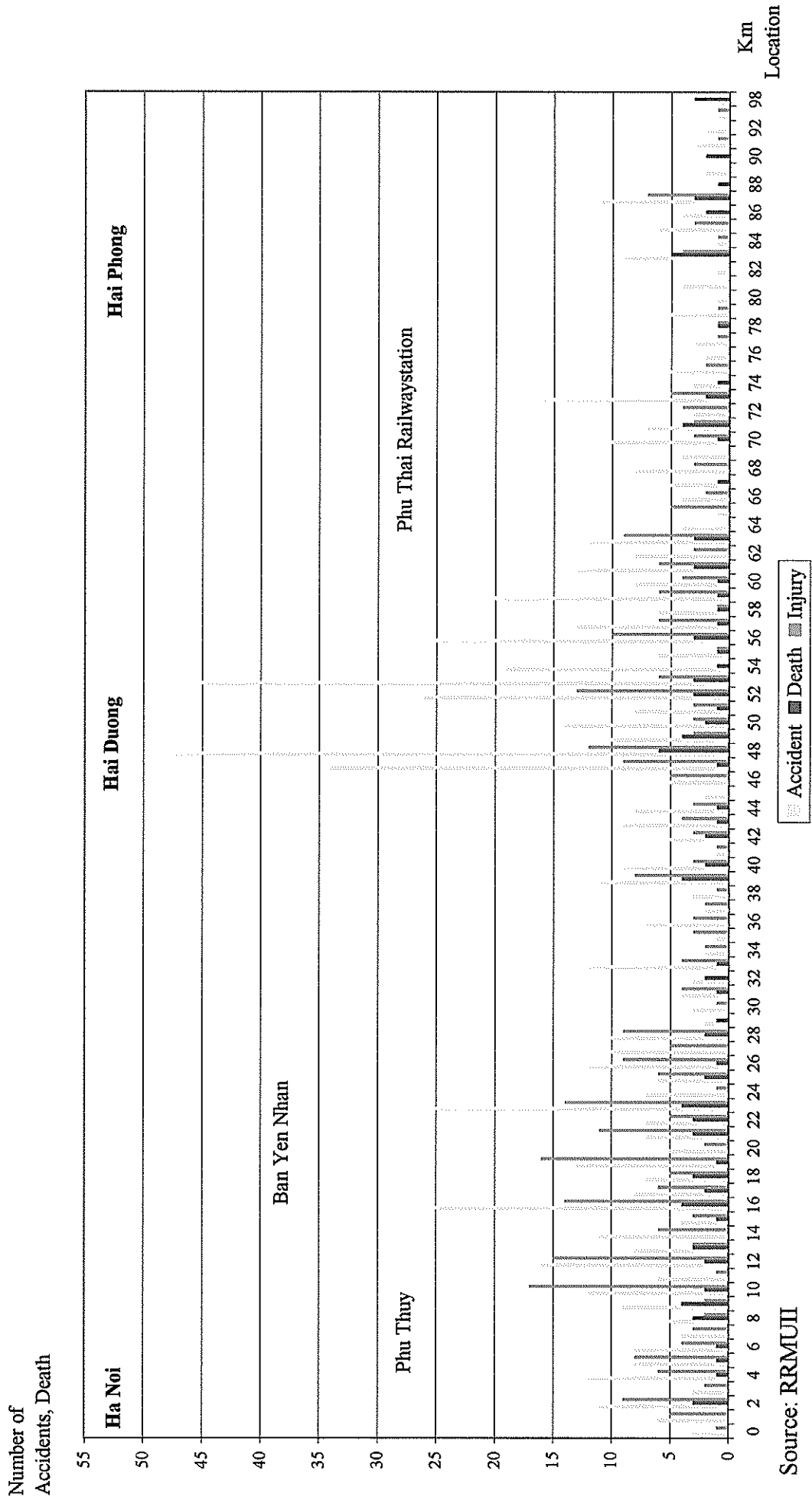
Data from 1999 up to the present showed that traffic accidents occurred on almost the whole stretch of NR 5, particularly at crossings and populated areas, as follows:

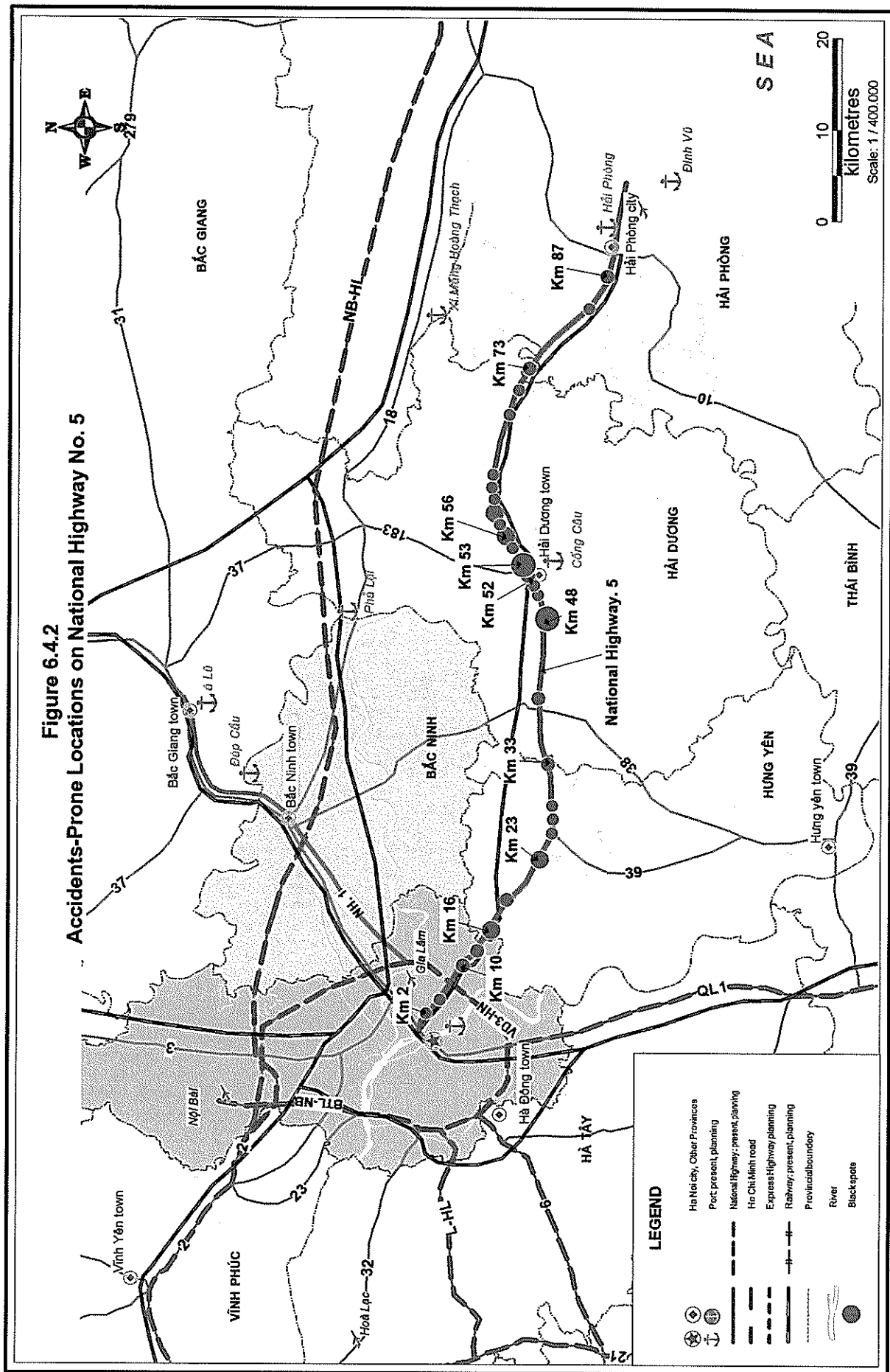
- 1) From Km 3 to Km 8+500;
- 2) From Km 12 to Km 24 (from Phu Thuy to the end of Noi Street);
- 3) From Km 48 to Km 60 (from Quan Goi to Lai Khe, through the T-Junction to Dong Trieu);
- 4) From Km 69 to Km 75 (Phu Thai railway station location). Details of accidents on NR 5 are shown on the next page.

5) Causes of Traffic Accidents

NR 5 has been reconstructed and upgraded to four lanes and now has a wide road foundation, with a smooth surface that encourages high-speed travel. However, due to poor observance of traffic laws and regulations by road users (i.e., speeding, dangerous overtaking, etc.) and residents living along the road, accidents frequently occur. Road user error causes about 90% of the accidents. This national road has level crossings with others, such as NR 39, 37, 183, as well as with roads to towns, sub-towns and residential areas. There is a lack of safe crossings for residents.

Figure 6.4.1
Road Traffic Accidents on National Highway N°5
(1999 - 2001)





6) Solution to reduce traffic accidents

Some improvement measures to reduce accidents on NR 5: After its upgrading was completed, construction of flyovers and feeder roads in residential areas commenced. It is divided into 2 stages, as follow:

- Stage I: construction of 10 flyovers (of which 6 flyovers for motorized vehicles with a weight of <3.5 tons and pedestrians and 4 flyovers for pedestrians and bicycle riders).
- Stage II: construction of 17 flyovers (of which 4 flyovers for motorized vehicles with a weight of <3.5 tons and pedestrians and 15 flyovers for pedestrians and bicycle riders); construction of ~32 km collectors; construction of three-level crossings on Phu Thuy (at Km 5, NR 1 and NR 5 crossing); on Noi street (at Km 23, NR 39 and NR 5 crossing); and on Quan Goi (at Km 34, NR 38 and NR 5 crossing).

Table 6.4.3
Major Causes of Accidents, 1999-2001

	Causes	Traffic Accidents	%
1	Road user errors:	781	97.37
	Speeding	387	48.25
	Dangerous overtaking	243	30.30
	Drunk driving	5	0.62
	Encroaching on lane	11	1.37
	Not keeping a safe distance	103	12.84
	Driver fatigue	24	2.99
	Careless pedestrians	8	1.00
2	Unsafe vehicles	17	2.12
3	Roads and bridges	1	0.12
4	Others	3	0.38
5	Unknown causes	0	0
	Total	802	100.00

Source: RRMU II (Unavailable data for February 1999; February and March 2001)

Table 6.4.4
Accident Pattern Along National Road No.5

Unit: %

Victim \ Offender		Automobile	Motorcycle	Bicycle/NMV	Pedestrians	Others	Total
Automobile	Accident	10.60	17.08	2.87	1.62	50.25	82.42
	Death	9.84	26.23	7.38	7.38	13.11	63.93
Motorcycle	Accident	2.12	7.86	1.87	0.87	1.50	14.21
	Death	6.56	9.02	1.64	4.92	3.28	25.41
Bicycle/NMV	Accident	0.25	0.37	0.12	0.00	0.12	0.87
	Death	1.64	0.00	0.00	0.00	0.00	1.64
Pedestrians	Accident	0.00	0.00	0.00	0.00	0.00	0.00
	Death	0.00	0.00	0.00	0.00	0.00	0.00
Others	Accident	0.37	0.87	0.37	0.12	0.75	2.49
	Death	1.64	3.28	0.82	2.46	0.82	9.02
Total	Accident	13.34	26.18	5.24	2.62	52.62	100.00
	Death	19.67	38.52	9.84	14.75	17.21	100.00

Source: RRMU II; Analysis based on accidents from 1999-2001

An analysis of accident causes on the most accident prone section from Km 47 to Km 57 (from Quan Goi to Lai Khe and T-junction toward Dong Trieu) based on 1999-2001 data is shown in Table 6.4.4.

Table 6.4.5
Road Users as Offenders and Victims of Accidents

Road User	Offenders (%)	Victims (%)
1. Automobiles	89.11	10.08
2. Motorcycles	8.47	8.87
3. Bicycles	0.40	2.82
4. Pedestrians	0.00	1.62
5. Others	2.02	76.02 ¹

¹ Such as roadside, road strip, trees, obstacles, barriers, etc.

Analysis based on accidents from 1999-2001; Total accident: 802 (see Table 6.4.3 above)

6.5 Inland Waterway Accidents and Safety in Tien Giang Province

1) General Situation

Tien Giang province is located in the Mekong River Delta. It has seven districts (Tan Phuoc, Chau Thanh, Cai Lay, Cho Gao, Cai Be, Go Cong Tay, and Go Cong Dong) and two towns (My Tho and Go Cong). It has an area of 236,700 ha and a population of 784,900 (2001 data).

Tien Giang province has 25 river and channel routes with a total length of 229 km, out of which 152 km are the length of the Tien River and the Cho Gao channel. Tien River and Cho Gao Channel are the two major inland waterway transport routes in the province which link the provinces in the Mekong River Delta to HCMC.

In recent years, inland waterway transport has rapidly increased in comparison with other transport types. This corresponds with the increase in freight and passenger transport demand. As of November 2001, 11,110 inland waterway transport means were registered in Tien Giang province of which 4,780 vessels for freight and passenger transport, 6,228 fishing boats and 102 passenger boats .

Besides the increase in special vessels for freight and passenger transport, family-run boats with a weight of from one to five tons also grew significantly. According to the estimation of the Provincial Traffic Safety Unit of Tien Giang, family-run boats totaled about 25,989 in 2001.

2) Status of Inland Waterway Accidents

Inland waterway accidents are rare in Tien Giang province. An average of 12-15 accidents occur per year, accounting for 3-4.5% of total inland waterway accidents in the whole country. The fatality/accident ratio is 1:1 which is similar to the rate of the whole country.

Table 6.5.1
Inland Waterway Accidents in Tien Giang

Year	Number of Accidents	Number of Fatalities	Number of Injuries	Property Damages (VND10 ³)
1996	15	21	2	524,970
1997	12	9	1	293,000
1998	12	8	1	450,000
1999	15	13	1	160,000
2000	15	7	2	190,000
6 months of 2001	16	6	1	2,000,000
Total	85	64	7	3,679,970

Source: Transport Safety Board, Tien Giang province

3) Main Causes of Inland Waterway Accidents

The following are the three main causes of 85 inland waterway accidents from 1996 to 2001:

- (a) Steersmen dangerously overtaking other boats: This is the primary cause of accidents, causing 42 accidents (49%). Steersmen who lack skills and knowledge of river rules and are in charge of unregistered ships often cause accidents on river sections.
- (b) Unlicensed captains and crew: This took 17% of the total. A large number of inland waterway vessels are controlled by unlicensed pilots. At present, the number of inland waterway vessels is 11,110. However, there are only 2,201 licensed and qualified seamen (only 19.8%) which is an alarming statistic. Due to this, family-use boats/ships have caused many accidents, taking 40% of the total accidents in the past.
- (c) Violations of inland waterway channels: Many illegal houses encroaching on riverbanks and channels were already removed. However, the incidence of re-encroachment of cleared-out houses is still high.

Table 6.5.2
Inland Waterway Accidents by Cause, 1996-2001

Year	Number of Accidents	Dangerous Overtaking	Channels	Careless Driving	Unlicensed Driving	Violation of Channels	Others
1996	15	6	1	1	4	1	3
1997	12	4	0	2	4	2	0
1998	12	7	0	0	0	5	0
1999	15	9	0	2	2	1	1
2000	15	7	0	0	3	0	1
6 months of 2001	16	9	0	0	4	0	3
Total	85	42	1	5	17	10	5

Source: Transport Safety Board, Tien Giang province; Analysis based some main causes.

4) Accident-prone Sections

Accidents mainly occurred on two major river routes, the Tien River and Cho Gao channel. They accounted for about 60-80% of the total inland waterway accidents in the province. Factors causing accidents were the high navigational density on these routes, different weight of ships/boats and the noncompliance with inland waterway traffic laws by boat pilots.

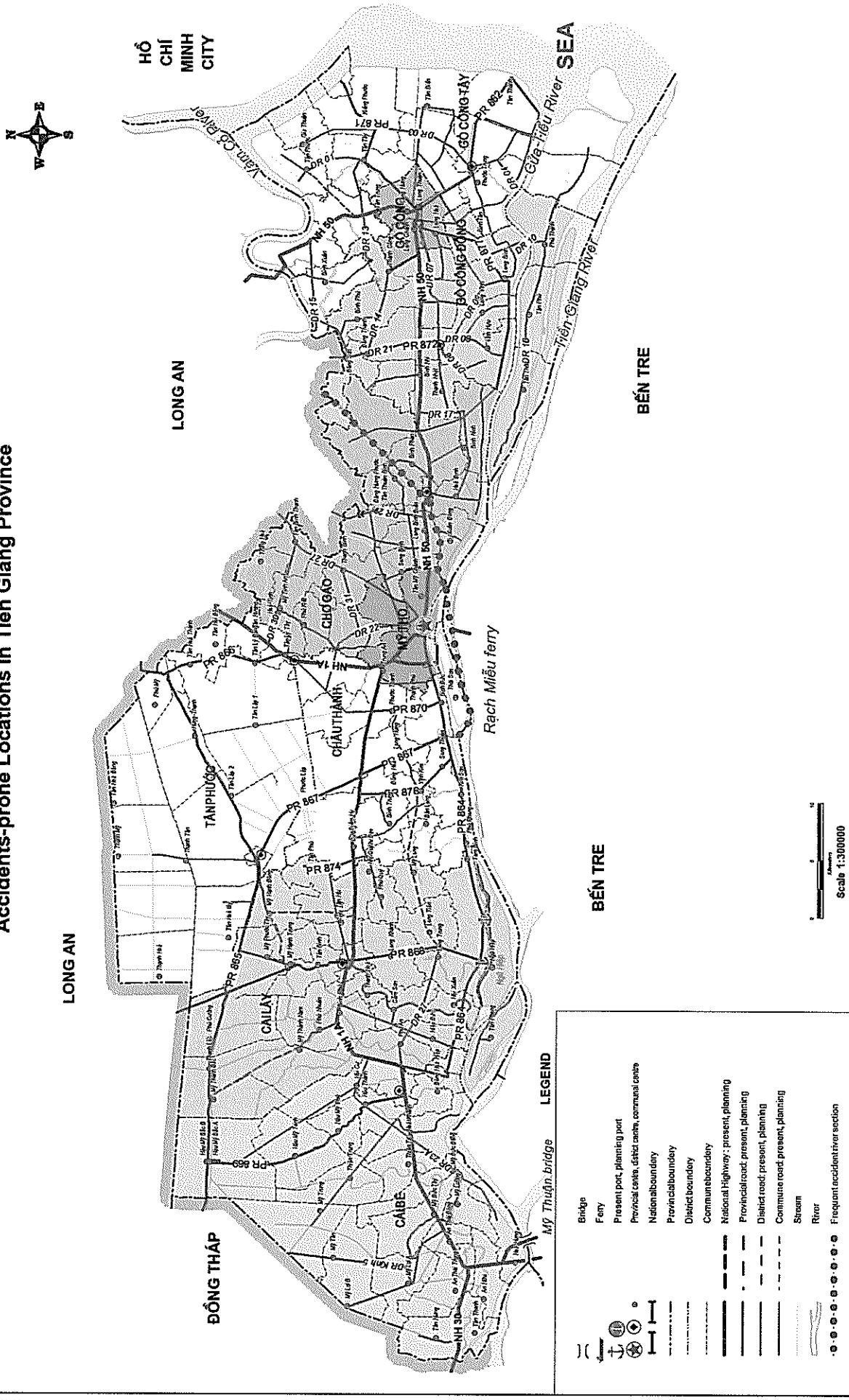
Table 6.5.3
Accident-prone Locations

	1996	1997	1998	1999	2000+2001
Accidents	15	12	13	15	31
On Tien River	6	4	2	7	17
On Cho Gao channel	6	3	3	2	5
Other Locations	3	5	8	6	9

Source: Transport Safety Board, Tien Giang province

Five years after the issuance of Government Decree No 40/CP on inland waterway traffic safety took effect, order has been restored, state management effectiveness has been strengthened in inland water transport, and the execution of traffic laws has been enhanced. However, traffic safety still remains complex. Inland waterway accidents are increasing; the re-encroachment on channels and safety corridors is still happening; many inland waterway vessels are often overloaded (60% of the total violation cases), while measures and sanctions are not powerful enough to stop first-time and habitual offenders.

Figure 6.5.1
Accidents-prone Locations in Tien Giang Province



5) Some Solutions to Reduce Inland Waterway Traffic Accidents

Recommended solutions include the following:

- (a) Issuing further MOT regulations and instructions on the registration and management classification of <5-ton inland waterway vessels;
- (b) Providing regular training courses to captains and crew of inland waterway vessels to enhance their skills and educate them on traffic safety and laws;
- (c) Delineating the responsibilities of the VIWA and the VINAMARINE over ship/vessel channels on Tien River to avoid obstacles in the licensing of related facilities;
- (d) Establishing the layout of ship/vessel channels on Tien River, including width, and regulations on installing and placing buoys and signals in coordination with maritime signals; and,
- (e) Strengthening the capacity of the Provincial Transport Safety Board in terms of manpower, equipment and facilities, so that it can implement traffic safety laws, more effectively and efficiently, especially on inland waterway safety in their province.

6.6 Medical Treatment at Cho Ray Hospital, HCMC

1) General Situation

Cho Ray General Hospital is one of largest hospitals in HCMC. This hospital has about 1,300 beds and more than 1,000 employees. The hospital is the leading one in the South, especially in therapy, surgery and brain scan.

2) Characteristics of Medical Treatment

In the period 1997-2001, the average daily emergency and admitted patients approximated 200 cases. Out of this number, traffic accidents accounted for 75-80 cases (about 40%). However, the proportion of traffic accident cases has been increasing.

There was a relatively high proportion of fatalities at the hospital or patients in such serious conditions that their families took them back home to wait for their demise. Of the total deaths, 65-70% were traffic accident victims.

Table 6.6.1
Death number in Cho Ray Hospital, 1999-2001

	1999		2000		2001	
	Number	%	Number	%	Number	%
Total death	1,773	100	1,697	100	1,754	100
Caused by traffic accidents	1,144	64.52	1,248	73.54	1,161	66.19

Source: Cho Ray Hospital

Emergency treatment of traffic accident victims suffering from concussion took a high proportion (about 80-90%) at Cho Ray Hospital. The average expense for a traffic accident emergency case is about VND 1.5 million, excluding operation and post-operation expenses. Details of patients treated at the Emergency Department of Cho Ray Hospital in 1996-1997 are shown in Table 6.6.2.

3) Data of Traffic Accident Cases: An assessment of the data from October 1999 to May 2001 provided by Dr. Truong Tan Viet, Director of Cho Ray Hospital, indicated the following:

- (1) Concussion cases from traffic accidents: 15,000 cases out of which males accounted for 60.5% and females 39.5%;
- (2) Road users: pedestrians (16.4%), drivers/riders (63.3%) and pillion passengers (20.3%);
- (3) Age: 20-25 years old (18.4%), 25-30 years old (14%);
- (4) Educational background: secondary (50%), primary (35%);
- (5) Occupation: manual laborers (43%), pupils/students (13%);
- (6) Time of traffic accident: 0000h-0600h (18.5%), 0600h-1200h (22.3%), 1200h-1800h (28.7%), and 1800h-2400h (30.5%);
- (7) Factor causing traffic accidents: mainly motorcycles at 79%, out of which motorcycles with a capacity of 50-100 cc shared 56% and those with a capacity of more than 100cc and more 23%;
- (8) Calls for emergency service: telephone call to traffic policemen (20%), telephone call to ambulance (8.4%), no calls (71.6%)

4) Recommendations on Health Care

Some recommendations on health care to reduce traffic accidents are as follows:

- (1) Strengthening precautionary measures, particularly:
 - Educating and disseminating traffic laws, regulations and health insurance through the media;
 - Enforcing helmet use to minimize concussion.
- (2) Improving medical facilities, particularly emergency equipment, and providing emergency treatment and medicines;
- (3) Improving the qualification of medical and Red Cross staff and officials by providing training courses, particularly on first aid/emergency treatment;
- (4) Including first aid/emergency treatment in driver training programs; and,
- (5) Supporting and increasing the financial resources for the following:
 - Facilities particularly equipment and local emergency stations;
 - Training courses on emergency aid and treatment; and
 - Research and application of scientific results relating to accident emergency aid and treatments.

Table 6.6.2
Emergency Patients at Cho Ray Hospital, 1996-1997

No	Action	1998	1999	2000	2001
	Medical examination	58,276	64,129	69,134	83,067
	• Therapy	12,534	15,539	19,267	23,575
	• Surgery	45,742	48,590	49,867	59,492
	Out of which:				
1	Psychical examination	34,769	35,761	34,995	40,421
2	Comprehensive examination: orthopedics, urology, thorax, optic, otorhinolaryngology, burns	10,946	12,828	14,872	19,071
	Causes:				
	Traffic accident	24,835	25,429	25,769	33,421
	On-the-job accident	934	1,270	1,210	1,465
	Weapon, explosives	83	37	29	45
	Wound	3,463	3,560	3,476	3,860
	Suicide	504	546	505	581
	Poisoned	150	139	273	225
	Other accidents	8,039	9,335	9,479	8,969
3	Minor operation	7,065	6,833	5,689	7,806
4	Major operation	5,018	6,648	7,196	7,880
5	Asked for discharge	258	376	483	437
6	Fatalities:				
	Therapy	23	34	24	31
	Surgery	525	463	313	346
7	Died before being admitted	181	200	213	254
8	Surgery	547	576	703	742
	Admitted in sanitarium	294	300	386	421
	Died	0	2	1	5
	Left	251	267	316	313
	Died before being admitted	0	1	0	3
	Moved to another hospital	2	6	0	0
9	Therapy	574	719	697	729
	Admitted in sanitarium	148	171	229	252
	Operated	109	118	121	112
	Died	0	6	1	0
	Moved to another hospital	4	0	0	0
	Left	313	424	346	365

Source: Emergency Department, Cho Ray Hospital, HCMC.

7 CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

1) General

The traffic safety situation in Vietnam is at a critical stage in all modes of transport including road, railway, maritime and inland waterways. The situation is particularly serious in the road sector, both in urban and inter-city roads. The number of road accidents has been sharply increasing. The expansion and improvement in infrastructure and rise in the number of vehicles, especially motorcycles, have ironically seen an alarming increase in road mishaps. The study indicates that the causes of such a sharp increase in traffic accidents are largely due to human factors, although the rail sector is more affected by obsolete and unsafe rolling stock and infrastructure. Meanwhile accidents in the water transport sector are caused by human and physical factors, including vessel and waterway conditions and inadequacy of safety facilities.

2) Severity in Road Traffic Accidents

The seriousness of road safety is one of the most significant concerns of the Government and society as a whole. Although causes are mostly attributed to human error, they are, however, interrelated with many other aspects which require adequate policy attention. It is concluded that the high occurrence of road traffic accidents is mainly due to the following factors:

Low awareness/knowledge of safety issues within the community, especially road users Violations of traffic safety laws and regulations is common. Although many road users acknowledge and understand traffic rules and regulations they are still violated. More than 80% of road mishaps are due to various forms of violations of traffic rules and regulations by road users.

Weak enforcement of traffic safety laws and regulations. Lax enforcement of traffic rules further aggravate the situation.

Ineffectiveness of the state administration due to lack of necessary legal arrangements: There are a lot of shortcomings in the state management of ministries, sub-sector agencies and local governments handling of traffic safety and order, including vehicle inspection, driver licensing and training.

Low Quality and Rapidly Increasing Quantity of motorized vehicles, especially motorcycles: Quality of vehicles is poor with many obsolete vehicles still being used on roads. The number of motorcycles in big cities, such as Hanoi and HCMC, increases by about 15-18% annually. The management of vehicles and drivers is not satisfactory.

Poor transport infrastructures: Although the transport infrastructure system has been improved, enlarged and upgraded in recent years, it is still relatively poor and not integrated. On-route traffic flow is mixed, with varying speeds. There are still a number of black spots along many major roads where proper physical and management measures are not provided

Insufficient education, propaganda and dissemination of traffic safety laws: Safety education for school children and safety campaigns at community and city levels have not been sufficiently undertaken by concerned organizations including government agencies, associations and private sector.

3) Core Issues to be Attended to by the Government

Core issues to be attended to by the Government are extensive and complex. They are listed below and should be addressed in an integral manner.

- Enhancing people's awareness, knowledge and execution of traffic laws and regulations through traffic law education and propaganda using media and by enlisting the heads of organizations and introducing traffic laws and regulations and the importance of road safety in schools, colleges and universities;
- Synchronously improving and constructing safe transport infrastructure, and enhancing the State's management responsibility of transport infrastructure;
- Improving the quality of transport means and enhancing state management of the quantity and quality of transport means;
- Organizing and equipping traffic safety enforcers with modern equipment to ensure traffic safety and order.
- Investing in equipment and facilities for traffic accident emergency stations; improving the professional skills of personnel responsible for traffic accident emergency treatment; applying scientific advances to improve traffic accident response.
- Developing a transport database on accident statistics and traffic safety; enhancing responsibilities of sharing and using traffic accident information among management agencies.

7.2 Recommended Measures

1) Need for an Overall Comprehensive Strategy on Traffic Safety

As an economy grows and society develops, safety becomes paramount and more important in government policies as it impacts on a wide range of socioeconomic activities. Vietnam's situation today is already quite serious. Nevertheless, unless a more integrated and determined strategy and long-term commitment are worked out so as to achieve a safer transport environment for its people, all attempts or projects will just be short-term or stopgap solutions which may not be sustainable. The formulation of a comprehensive strategy and the establishment of a concrete mechanism to promote traffic safety are thus urgently needed. The proposed strategy should incorporate the following planning elements in an integral manner:

(1) Strengthening Safety Planning and Implementation Capacity:

- a) Improving accident databases and analytical capacity;
- b) Developing adequate design standards;
- c) Establishing adequate costing/funding mechanisms for safety; projects/programs.

(2) Building Basic Social Infrastructure for Safety Enhancement: including;

- a) Enhancing awareness campaigns on safety on the entire society including the public and private sectors, various industries and communities, on which social consensus is built and a strong policy commitment can be established;
- b) Establishing a mechanism to promote publicity, campaign and education on traffic safety;
- c) Strengthening enforcement and expanded practice of basic traffic management.

(3) Developing or Improving Safety Measures and Mechanism:

- a) Improving vehicle safety through the strengthening of safety inspection and standards;
- b) Improving drivers' skills and safety consciousness through training and testing;
- c) Improving infrastructure with careful attention to existing black spots and potential hazards;
- d) Expanding/improving emergency services;
- e) Establishing an effective safety audit system.

(4) Developing Institutions:

- a) Enacting necessary laws and regulations for traffic safety;
- b) Strengthening safety organizations and their management capacity;
- c) Improving agency coordination relating to traffic safety.

(5) Formulating a Coordinated Program and Establishing a Workable Mechanism at the Local Level: The safety strategy should provide the Government and other stakeholders with a clear, long-term vision and targets (next 10 years) and specific medium-term (3-5 years) and short-term (1-3 years) actions.

2) Recommended Measures for the Road Sub-Sector

(1) Regarding Road Safety Planning: Existing traffic accident data is so inadequate that an in-depth analysis is restricted. Therefore proper policies and measures can be hardly formulated. Areas for improvement include the following:

- a) **Improving Accident Database:** Monitoring traffic accidents and collecting data based on road length. The collected data will be used as basis for analyzing accident causes, identifying common hazards and defining black

spots, developing appropriate improvement measures; delineating responsibilities of related agencies for processing of traffic accidents data and statistics on transport systems under their management.

b) **Strengthening Analysis/Planning Capacity:** Capacity of relevant safety institutions should be strengthened through training of personnel and provision of adequate equipment.

(2) **For Road Users:** This is one of most important factors, since the road user can either increase or prevent traffic accidents. In order to help road users understand and consciously observe traffic laws and traffic safety rules and regulations, it is necessary to closely combine the strengthening of traffic law education and dissemination with that of examining and dealing with violators. Specifically these are as follows:

a) **Launching Publicity/Campaign:** Publicity of traffic safety laws should be diversified in the social community, as i.e.:

- Oral propaganda: The speaker communicates traffic safety contents directly to the listener so that the listener can understand and follow the speaker's advices;
- Public address system: This measure can be applied in many localities. However, it is necessary to define the time and content based on local characteristics;
- Organizing law clubs, propaganda groups; exhibiting pictures on traffic safety; organizing traffic safety examinations;
- Publishing traffic laws and traffic safety subjects in newspapers and broadcasting the same on the radio or television;
- Publishing leaflets or placing notices on news boards;
- Disseminating traffic safety laws through traditional celebrations and cultural activities;
- Teaching traffic safety in elementary, secondary and vocational schools, as well as in colleges and universities;
- Launching regular model programs involving all sectors, levels and people in maintaining traffic safety and familiarizing people with traffic safety work;
- Mobilizing and getting skillful, law-abiding and safe road users as models; organizing contests to commend safe and skillful drivers.

b) **Establishing an Advanced Driver Training System** which will satisfy society's every demand, as follows:

- Forms of the training system can be public-founded, people-founded, semi-public, private, in service or self-teaching. The State will manage it after learners are trained, examined and licensed. Suitable measures

are necessary to monitor and supervise individuals with a driver's license (particularly drivers).

- Taking sterner measures against drivers causing road accidents. For example, if a driver has caused accident for the third time, he/she is banned from driving.

c) **Enhancing Safety Awareness** by emphasizing the importance of a stable psychological and physical health of drivers of motorized vehicles.

(3) **For Transport Vehicles:** Controlling road vehicles needs for attention on the following areas:

a) **Managing Demand:** At present, the growth of motorized vehicles is faster than the development of road infrastructure. Therefore, policies to reduce the rate of increase of individual vehicles should be issued, especially in urban areas. Administrative measures, i.e., banning or limiting the manufacture, import and export of vehicles, especially motorcycles, and economic measures, such as increasing current taxes and charges to vehicle owners and collecting road-use fees (directly or indirectly), should be established.

b) **Strictly Enforcing Vehicle Inspection:** Strictly implementing procedures, standards and technical examinations of motorized vehicles; permitting on public roads only those vehicles that meet all standards and conditions.

(4) **For Road Transport Infrastructure:**

a) **Improving Infrastructure:** Developing and upgrading road transport infrastructures in accordance with the approved transport development strategy; installing signals, signs, instruction boards, and convex mirrors at the right places; developing and installing warning signs and protective barriers as well as escape routes at curves on passes and slopes; establishing traffic and vehicle control stations at beginning and end of dangerous passes and sloping roads.

b) **Improving Design Standards:** Studying and investing in technical measures to deal with high-traffic road crossings (i.e., highways, major national roads, etc.), and road and railway crossings.

(5) **For Traffic Management:**

a) **Improving Traffic Management:** In order to reduce accidents in populated areas, the recommended measures are: developing bypasses; identifying safety corridors on both sides of major roads; installing pedestrian crossings, signs and lane markers to separate non-motorized and motorized traffic; constructing flyovers and grade-separated road crossings;

placing speed limit signs, rumble strips, lighting systems, etc. to limit speed on road sections going through towns, sub-towns, populated areas, and black spots.

- b) **Controlling the Use of Road Space:** It is recommended that strict measures to ban the use of public transport roads for other purposes are set up.
- c) **Improving Patrols:** Executing a 24-hour road patrol system by the Road Control Force.

(6) For Transport Organization and Management

- a) Organizing and managing traffic and transport on roads, particularly in urban and populated areas, in a proper manner.
- b) Ensuring road safety.
- c) Organizing transport activities; encouraging public transport use; limiting the growth of private vehicles to reduce road surface encroachment; organizing the management of terminals, parking locations, etc.
- d) Urging and enforcing motorcycle riders to wear helmets when using trunk roads.
- e) Issuing strict measures to enforce traffic laws and regulations; strictly sanctioning against violations of road traffic laws.

3) Recommended Measures for the Railway Sub-sector

(1) Measures for the Railway Authority

- a) **Training Railway Personnel to Enhance their Knowledge Levels:** Railway personnel must seriously and strictly follow promulgated regulations and norms particularly those on safe train operation. Production personnel should periodically enhance their professional knowledge through short-term training courses. Checking, inspecting and supervising train operations should be done regularly.
- b) **Improving the Quality of Infrastructures:** Railway infrastructures, such as bridges, track, stations, signal and telecommunications facilities, must be periodically inspected to ensure that they comply with the required standards. Upgrading railway lines to satisfy regulated technical standards, i.e replacement of rails and sleepers; enforcement of embankments; Constructing new railway sections to link with the existing gauge in a suitable and convenient manner; Gradually upgrading, renewing and completing the stations system in key areas; and installing optic cable information systems and digital electronic switchboards to replace the existing ones; gradually replacing semi-automatic signals with automatic signals and introducing the automatic train stop system.

- c) **Improving the Quality of Rolling Stock:** Renewing/replacing rolling stock: Diversifying locomotives with suitable traction powers; gradually replacing low capacity locomotives with high capacity ones; building new wagons to meet cargo transport needs; and building high quality passenger cars for North - South high quality trains and suburb trains
- d) **Regularly Checking the Safety of Train Operation:** Timely solving accidents and providing very strict measures for violators, especially railway safety violators.
- e) **Complying with Existing Regulations:** Coordinating with sectors and LGUs to effectively implement State regulations on railway traffic safety as provided in Government Decree No.30/CP.

(2) Measures Requiring Coordination with Other Sectors

- a) **Formulating Laws and Regulations:** Improving laws and regulations on railway traffic safety, such as the Railway Law, which needs further studying before it is promulgated.
- b) **Educating the Public on Traffic Safety Laws and Regulations:** Including traffic safety in general, railway traffic safety in particular, in the curriculum of all education levels; Disseminating regulations on railway traffic safety to all people and encouraging their strict compliance with them.

(3) Short-term Measures

- a) **Installing Barriers along Railway Corridors:** It is necessary to install barriers along railway lines running parallel with roads, e.g., NR 1.
- b) **Managing Roads Crossing Railway Lines:** The control of level crossings should be implemented more strictly.

4) Recommended Measures for the Inland Waterway Sub-sector

(1) Registering Inland Waterway Vessels

Related local agencies should be assigned to conduct the immediate overall registration of all inland waterway vessels operating all over the country. Through this new register of transport vessels used as freight and passenger transport, their compliance with technical standards of inland waterway transport vessels can be checked.

(2) Enhancing State Management of Inland Waterway Routes

The State's current biggest problem in ensuring inland waterway traffic safety is the fact that although inland waterway transport covers 53 of the 61

provinces and cities of Vietnam, only 22 provinces have state organizations managing inland waterways. That is, more than 59% of provinces and cities are not directly controlled by any state agency. Further, river and channel management is lax and minimal attention is paid on improving inland waterway organization, management and staff, and in strengthening inland waterway infrastructure. Therefore, a Traffic Safety Board should be established in each province and city to manage and check this sub-sector and prevent channel violations, which include obstructing channels by placing fish traps and constructing houses and other structures on the river.

(3) Planning and Decentralizing Inland Waterway Transport Management

The Nationwide Inland Waterway Plan has been approved by the Government, 3 February 2000. Based on this plan, it is necessary to formulate local inland waterway plans to guide port and terminal development and construction, and to avoid the spontaneous and thus disorderly development of inland waterway transport. Implementing the decentralization of inland waterway transport management is strongly recommended.

(4) Training Pilots of Inland Waterway Transport

Measures include: strengthening the training and management of pilots of inland waterway transport vessels; issuing professional skills certificates and business licenses to pilots, including those operating family-use transport vessels with small capacity. This is because accidents caused by family-use vessels make up 30-40% of total inland waterway accidents. Training captains and crews of such inland waterway transport needs to be improved and implemented soon.

(5) Educating the Community

Educating and enhancing the people's awareness of traffic laws should be done regularly through the media. Closely coordinating with other management agencies, such as policemen and inland waterway traffic inspectors, provincial and city Fatherland Front, in educating each resident, residential cluster, school and organization about traffic safety laws is necessary.

(6) Increasing Resources for Inland Waterway Traffic Safety Activities

The resources needed to carry out tasks aiming to enhance traffic safety in general, and inland waterway safety in particular, have been insufficient. For example, there is not enough manpower and equipment to patrol waterways, control and inspect vessels and enforce traffic safety laws.

There is insufficient budget as well for retrieval operations. Hence, many sunken boats still lie under the water because their owners do not have enough money to raise them and to pay for penalties, rendering such ships as

navigational hazards. State bodies, on the other hand, also do not have the budget for this task. Therefore, it is necessary to increase LGU funds allocated to inland waterway traffic safety.

5) Recommended Measures for the Maritime Sub-Sector

(1) Recommended Measures to Improve Sea Transport Safety

- a) Strengthening patrols of vessel channels, particularly sites of frequent accidents and where vessels can operate at night, to ensure compliance with traffic safety laws; proposing specific technical options and solutions to prevent traffic congestion or clear it within the shortest possible time.
- b) Checking the condition of marking buoys and maritime signals and the depth of vessel channels right after typhoons and remedying the situation, when necessary.
- c) Regularly checking vessel channels, marking buoys and signal systems; restoring damaged facilities and systems; identifying and quickly resolving errors that may occur during the operation of such systems; removing fish traps obstructing channels.
- d) Timely reporting maritime information; receiving, communicating and distributing emergency aid signals, warning signs and maritime safety information in compliance with legal regulations; ensuring the availability of lifeboats to rescue people.
- e) Strengthening the checking of the fendering system and anchorage pillars at wharves to ensure the safety of ship anchorage, ship accommodation, and loading and unloading.
- f) Checking the readiness and efficiency of cleanup personnel and equipment in case of oil spills at wharves; preventing fire and explosion on vessels and at ports.
- g) Requiring ship captains to check and prepare their ships before departure; watching duty and shift duty regimes during trip as well as during anchorage and loading at port; reporting and maintaining communication while at sea or other maritime channels.
- h) Strengthening maritime inspection and safety condition checking to prevent environmental pollution by vessels; fining maritime safety violators and environmental polluters in accordance with the law.
- i) Coordinating with local bodies to ensure traffic safety on vessel channels; removing fish traps.
- j) Carrying out timely investigation and defining the causes of, drawing experiences from and reporting maritime accidents to concerned agencies to prevent a recurrence.

(2) Recommended Measures for Specific Agencies

a) For the Vietnam Shipping Register

- (a) Improving the training of sailors, officers and crew and the operating system of ship owners.
- (b) Ensuring the technical safety of ships and other inland waterway vessels.
- (c) Improving the quality of ports, berths and channels.

b) For Vietnamese Ports

- (a) Implementing a compulsory piloting regime and ship support system.
- (b) Preparing anchorage options for ships during typhoons.
- (c) Purchasing necessary safety equipment including cameras, radars, communication facilities, etc. to monitor the activities of maritime vessels transporting passengers and freight.

c) For Training Organizations

Training Organizations should be provided with sufficient training facilities under the provisions of the Convention STCW 78/95 to enable them to train officers and crew who will satisfy required standards.

Appendix

APPENDICES

	<u>Content</u>	<u>Page</u>
APPENDIX A	EXISTING LEGAL DOCUMENTS ON TRAFFIC SAFETY	A-1
APPENDIX B	STATISTICS AND DATABASE ON TRAFFIC ACCIDENTS OF SUBSECTORS & PROVINCES	
Appendix 5.1	Comparison of Railway and Inland Waterway Accidents	5B-1
Appendix 5.2-1(A,B)	Road Accidents by Province, 1995-2001	5B-2
Appendix 5.2-2	Number and Major Causes of Road Traffic Accidents	5B-4
Appendix 5.2-3	Diagram of a Traffic Accident	5B-5
Appendix 5.2-4	Examination Record of the Traffic Accident Scene	5B-6
Appendix 5.2-5	Record of Statements	5B-10
Appendix 5.2-6	Temporary Detention Record of Vehicles Involved in Traffic Accidents, Material Evidences and Documents	5B-11
Appendix 5.2-7	Record of Dealing with the Traffic Accident	5B-13
Appendix 5.2-8	Examination Record of Vehicles Involved in Traffic Accidents	5B-15
Appendix 5.2-9	Examination Record of Nonmotorized Vehicle Involved in Traffic Accidents	5B-19
Appendix 5.2-10	Proposed Forms for Hot Report on Road Traffic Accidents	5B-21
Appendix 5.2-11(A,B)	Proposed Forms for Report on Road Traffic Accidents	5B-22
Appendix 5.3-1	Railway Accidents by Severity, 1996-2001	5B-24
Appendix 5.3-2	Classification of Railway Accidents by Objective and Subjective Causes	5B-25
Appendix 5.3-3	Main Causes of Railway Accidents, 1996-2001	5B-26
Appendix 5.3-4	Responsibilities of Each Sector for Railway Accidents	5B-27
Appendix 5.3-5(A,B)	Accident Classification by Railway Management Unit (RMU)	5B-28
Appendix 5.3-6(A,B)	Total Late and Stalemate Time by Sector of Railway Management Units from 1996 to 2001	5B-30
Appendix 5.3-7(A,B,C)	Railway Accident by Railway Management Unit	5B-32
Appendix 5.4-1(A,B)	Inland Waterway Accidents by Province, 1999-2000	5B-35
Appendix 5.4-2(A,B)	Main Causes of Inland Waterway Accidents by Province, 1999-2000	5B-37
Appendix 5.4-3(A)	Accident-Prone Locations on the Main Rivers Managed by VIWA, 2000-2001	5B-39
Appendix 5.4-4	Main Inland Waterway Routes	5B-44
Appendix 5.4-5	Inland Waterway Accident Reporting Form	5B-45
Appendix 5.5-1(A,B,C)	Maritime Accidents	5B-46
Appendix 6.1-1(A,B)	Road Accidents in Ha Noi, 1998-2001	6B-1
Appendix 6.1-2(A,B)	Location of Serious Traffic Accidents in Ha Noi, 1998-2001	6B-3
Appendix 6.2-1	Road Accidents in HCM City, 1996-2001	6B-5
Appendix 6.2-2(A,B)	Main Causes of Road Traffic Accidents in HCM City	6B-6
Appendix 6.3-1(A,B)	Number and Major Causes of Road Traffic Accidents on the Section of NR 1 Managed by RRMU VII	6B-8
Appendix 6.3-2	Major Cause of Road Accidents on Section of NR 1 (Km 1873-Km 2062) (HCM City to Can Tho)	6B-10
Appendix 6.4-1	Number and Major Causes of Road Traffic Accidents on the NR 5	6B-11

APPENDIX A

EXISTING LEGAL DOCUMENTS ON TRAFFIC SAFETY

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EXISTING LEGAL DOCUMENTS ON TRAFFIC SAFETY

Road

- 1) *Decree No 07/2001/L/CTN, President, 12 July 2001, National Assembly 26/2001/QH10 on the issuance of the Road Act.*
The President of the Socialist Republic of Vietnam signed this order to issue the Road Act.
- 2) *Order No 26/2001/QH10, National Assembly, Legislature X of the Socialist Republic of Vietnam at 9th Working Session, Road Act.*
The Road Act includes nine chapters with 77 articles regulating road transport in the Socialist Republic of Vietnam. It consists of the following: Chapter 1 - General provision: coverage and objectives, development policy, propagation, prohibitions; Chapter 2 - Regulations of road traffic; Chapter 3 - Road infrastructure (infrastructures, classification, right of way, technical requirements, sign, station, protection, etc.); Chapter 4 - Road vehicle: technical requirements and management of road vehicles; Chapter 5 - Driver: requirements of vehicle driver, driving license and driver training; Chapter 6 - Road transportation: operation, and organization of road transportation; Chapter 7 - State management: function and duty of related agencies such as state management, inspection, control, patrol; Chapter 8 - Commendation, reward and penalty; Chapter 9 - Implementation provisions: effectivity.
- 3) *Decree 36/2001/ND-CP, Government, 10 July 2001, on the improvement of road and urban transport order and safety.*
Until the Road Act is issued, this is the legal document to ensure road traffic and urban traffic order and safety. Its main contents are similar to those of the Road Act.
- 4) *Decree 39/2001/ND-CP, Government, 13 July 2001, on sanctions against administrative violations of road and urban transport order and safety laws and regulations.*
This provides the coverage and objectives of administrative penalties for violations of road and urban transport order and safety, collection, payment and management fines.
- 5) *Circular No 16/2001/TT-BGTVT, Ministry of Transport, 5 September 2001, on instructions to giving sanctions against administrative violations of road and urban transport order and safety.*
- 6) *Directive No 23/2001/CT-BGTVT, Ministry of Transport, 18 December 2001, on the improvement of driver training centers, driver training and examination, and issuance of driving license.*
This requires the MOT and its agencies (i.e., VRA, PTAs, driver training units, etc.) to immediately implement the following: inspect driver training centers, issue criteria for driver training center accreditation and strengthen driver training program, management and inspection staff.
- 7) *Decision No 4170/2001/QD-BGTVT, Ministry of Transport, 7 December 2001, on the improvement of the training program for drivers of motorized vehicles.*
This provides an improved driver training program, including subjects for study, and for a retraining and reexamination of drivers for the issuance of different driving licenses for different vehicles such as A1, A2, A3, A4; B1-B2, C, etc.
- 8) *Decision No 4232/QD-BYT, Ministry of Health Care, 4 October 2001, on health standards for drivers of motorized vehicles.*
This provides specific health requirements for drivers.
- 9) *Decision No 4352/2001/QD-BGTVT, Ministry of Transport, 18 December 2001, on health standards for drivers of motorized vehicles.*
This comprises four chapters with 20 articles. Chapter 1 - General provision: coverage and objectives; general concept of a driving license, business time, etc.; Chapter 2: Types of driver's license (there are 10 types: A1, A2, A3, A4, B1, B2, C, D, E, F-semi trailer); Chapter 3 - Requirements, qualifications for taking driving tests and issuance of driving licenses (for persons taking driving tests: health certificate, training program, curriculum vitae; for persons taking driving test to upgrade driver's license); Chapter 4 - Implementation.
- 10) *Decision No 4353/2001/QD-BGTVT, Ministry of Transport, 18 December 2001, on the administration of driver training centers for drivers of motorized vehicles.*

- This comprises four chapters with 13 articles on infrastructure regulations, qualifications for driver training centers (classrooms, training materials, teachers, practice vehicles, etc.) and functions and duties of related management agencies.
- 11) *Decision No 4135/2001/QD-BGTVT, Ministry of Transport, 5 December 2001, on standards of motorized road vehicle registration station, Registration No: 22TCN-226-91.*
This lists the technical standards of motorized road vehicle registration stations: coverage, subject, location, inspection equipment, labor force, operation, and implementation.
 - 12) *Decision No 4105/2001/QD-BGTVT, Ministry of Transport, 4 December 2001, on periodic inspection of the technical safety and environmental protection standards of motorized road vehicles.*
This provides the regulation's coverage; improves technical safety inspection and environmental protection; regulates the issuance, re-issuance, change, and withdrawal of inspection license; regulates the functions and duties of vehicle owners; and lists implementation provisions.
 - 13) *Decision No 4134/2001/QD-BGTVT, Ministry of Transport, 5 December 2001, on standards of technical safety and environmental protection of motorized road vehicles. Registration No 22-TC-224-01.*
This provides the technical safety and environmental protection standards of motorized road vehicles (coverage, figure, structure, dimensions, cover, driving cabin, cargo location, body work, engine, power, driving system, etc.) and inspection period for each vehicle type.
 - 14) *Decision No 1690/QD-VT, Ministry of Transport, 15 September 1990, on the rules and regulations on freight transport by automobiles.*
This comprises nine chapters with 43 articles on the regulation's coverage, functions and duties of concerned parties (clients, drivers, etc.), regulated cargo for transportation, receiving and delivery, loading and unloading, service, tariff and implementation.
 - 15) *Decision No 1691/QD-VT, Ministry of Transport, 15 September 1990, on the rules and regulations on passenger transport by automobiles.*
This comprises six chapters with 51 articles on regulated passenger transportation: coverage, operation, bus terminal, bus station, transport safety, violation, reward, and implementation.
 - 16) *Decision No 3385/QD/PC-VT, Ministry of Transport, 23 December 1996, on temporary regulations on the management of city buses.*
This comprises five chapters with 21 articles on regulating city buses: coverage, technical requirements, procedure, organization and operation, and implementation.
 - 17) *Decision No 4126/2001/QD-GTVT, Ministry of Transport, 5 December 2001, on regulations on taxi operation.*
This regulates taxi operation: coverage, functions and duties of concerned parties (vehicle owner, driver, etc.), technical standards of vehicles, fare, station, inspection, control, and implementation.
 - 18) *Decision No 1748/QD-GTVT, Ministry of Transport, 12 July 1997, on temporary regulations on the organization, management and issuance of road transport license.*
This comprises four chapters with 13 articles on regulating road transport license: coverage, route management, transportation license issuance, procedure for business and implementation provision.
 - 19) *Decision No 2076/QD-GTVT, Ministry of Transport, 18 August 1998, on regulations on the issuance and use of road transport license.*
This regulates the issuance and use of road transport license: coverage, required documents and procedure for getting license, issuance, content and use of road transport license.
 - 20) *Decision No 4128/2001/QD-BGTVT, Ministry of Transport, 5 December 2001, on regulations on bus terminal operation.*
This regulates bus terminal operation: coverage; requirements for establishing bus terminals; bus terminal classifications (there are four classes based on the number of vehicles using them); bus terminal investment, management, operation; function and duties of related agencies (management, operating agency); inspection of bus terminals; violation, reward and implementation provisions.
 - 21) *Decision No 890/1999/QD-BGTVT, Ministry of Transport, 12 April 1999, on sectoral standards of interprovincial buses - General Requirements: Registration No 22-TCN 256-99.*
This provides the technical requirements for interprovincial passenger buses (capacity, life-under 12-15 years, fare, windows, seat, ventilation, etc.)
 - 22) *Decision No 1832/1999/QD-BGTVT, Ministry of Transport, 26 July 1999, on organizational*

and managerial regulations on motorcycles used as passenger transport.

This comprises three chapters with 13 articles on the use of motorcycles as passenger transport: coverage, management, operation (by group, association, etc.), procedure, inspection, violation, and implementation provisions.

Railway

- 1) *Decree 120/CP, Government, 12 August 1963, on railway traffic order and safety.*

This consists of five chapters and 20 articles, as follows: Chapter 1 - Regulations on coverage and objectives; Chapter 2 - Regulations on railway safety area in detail; Chapter 3 - Traffic safety regulations on both sides of the railway and at intersection between railway and road, responsibilities of related provincial agencies; Chapter 4 - Reward and punishment; Chapter 5 - Regulations on efficiency.

- 2) *Decree 39/CP, Government, 5 July 1997, on railway traffic order and safety.*

This consists of seven chapters and 66 articles, as follows: Chapter 1 - General regulations: regulation on coverage and objectives; Chapter 2 - Responsibilities of related agencies on railway traffic safety and regulations on function and duty of related agencies in ensuring railway traffic safety; Chapter 3 - regulations on railway construction safety and area, responsibilities of railway traffic safety management agencies, and conduct affecting railway operation safety; Chapter 4 - Railway staff and railway traffic means, function and duty of railway staff, periodic maintenance of railway; Chapter 5 - Railway traffic principles and rules to be displayed on signboards and signs to protect the railway, goods and passengers, etc.; Chapter 6 - Punishments for noncompliance of railway traffic order and safety; Chapter 7 - Regulations on railway efficiency.

- 3) *Decision 737/2001/QĐ BGTVT, Ministry of Transport, 19 March 2001, on road and railway crossings.*

This consists of eight chapters and 56 articles on the area, classifications, standards, traffic on, responsible organization, management and construction of road and railway crossing.

Inland Waterway

- 1) *Directive No 236 CT/GTVT, Minister of Transport, 21 July 1997, on reserved area of inland waterway facilities.*

This provides for the reserved area for navigational channels: rivers, canals, lakes, lagoons, estuaries, and gulf.

- 2) *Directive No 03/1999/CT-TTg, Prime Minister, 20 January 1999, on strengthening of State management of sand and gravel exploration and use and dredging of riverbed.*

This guides provincial and city People's Committee in the management of sand and gravel exploration and dredging of the riverbed which have undermined inland waterway transport safety, changed the water flow, caused landslide and riverbank erosion, and threatened the safety of dikes, breakwaters and culverts. This authorizes people's committees to suspend companies from surveying, exploring and gathering sand and gravel if they have violated rules and to revoke their license if they have no environmental clearance.

- 3) *Direction No 308/PC, Minister of Transport, 24 August 1996, on the implementation of government decrees on railway and inland waterway traffic order and safety.*

"Steering committees on traffic safety were established on basic 'steering committee on implementing decrees of the Government on railway and inland waterway traffic order and safety. Local units of the committee nominated transport sector and the police to act as standing members.

- 4) *Official document No 310-TC-LĐ, Inland Water Traffic Management Union, 5 May 1991, on inland waterway transport inspection.*

This states the objectives, principles and methodology to conduct inland waterway transport inspection.

- 5) *Direction No 718/TTg, Prime Minister, Government, 1 September 1997, on strengthening of the implementation of government decrees on traffic order and safety.*

To mobilize people to participate in traffic safety activities, the Prime Minister declared September as the "Traffic Safety Month". It also provides for the continuation of such activities so that it will be further popularized among people of all classes.

- 6) *Instruction No 454/TTg, Prime Minister, 5 July 1996, on the implementation of government decrees on railway and inland waterway traffic order and safety.*

This provides concrete guidelines in the implementation of Decree 36/CP, 39/CP, 40/CP. It aims to form a task force to maintain orderly traffic on important routes and areas; to clear railway and inland waterway corridors from obstacles and to prevent re-encroachment.

- 7) *Decree No 77/1998/ND-CP - Government, 26 September 1998, on amendments to Decree 40/CP, Government, 5 July 1996.*

This amends Decree 40/CP, Government, 5 July 1996, aiming at a clearer and more

- effective implementation of the decree which relates to the Ministry of Police.
- 8) *Decree No 40/CP, Government, 5 July 1996, on inland waterway traffic order and safety.*
This is considered as the foundation of all activities on inland waterway transport.
 - 9) *Decision No 2047 QD/PC, Ministry of Transport, 6 August 1996, on the management and issuance of license to use inland waterway area.*
This requires private organizations using inland waterways for business purposes to seek license from the concerned inland waterway management body.
 - 10) *Decision No 2046 QD/PC, Ministry of Transport, 6 August 1996, on the administration of river port and inland waterway berths.*
This decree regulates inland waterway port management and vessel operation to ensure traffic safety and order and to prevent environmental pollution of inland waterways.
 - 11) *Decision No 2050 QD/PC, Minister of Transport, 6 August 1996, on amendments to Vietnam's inland waterway signal rules.*
This amends the regulations on inland waterway signals provided for in Decision 1538 Q§/KHKT, 3 August 1992, Ministry of Transport.
 - 12) *Decision No 2049/PC, Ministry of Transport, 6 August 1996, on the carrying load of river vessels during flood season.*
This ensures the safety of inland waterway passengers and goods being transported during the rainy season.
 - 13) *Decision No 613/2000/QD-BGTVT, Minister of Transport, 16 March 2000, on inland waterway safety, particularly on navigation of bridges.*
This requires the installation of signboards about the vertical clearance of bridges and the depth of bridge pillar to ensure traffic safety at bridges and to comply with the standards provided for in TCVN 5664-1992 on technical classification of inland waterway.
 - 14) *Decision No 213-QD/LB interministerial Transport and Police, 27 January 1984, on traffic order and safety.*
To strengthen the implementation of traffic order and safety laws and improve the traffic situation, the ministries of transport and internal affairs jointly issued this regulation.
 - 15) *Circular No 53 TC/TCT, Minister of Finance, 16 August 1997, on the collection, transfer and management of fees for inland waterway order and safety.*
This provides guidelines in collecting, paying and managing fees to improve inland waterway traffic order and safety. Inland waterway vessels of the Ministry of Defense and the Ministry of Internal Affairs are exempt from this fee.
 - 16) *Circular 318 TT/PC, Ministry of Transport, 6 September 1996, on the implementation of Article 19 Decree 40/CP, Government, 5 July 1996, on inland waterway traffic order and safety.*
Implementation process had impediment. In order to ensure unified implementation item 1, point 9 of Decree 40/CP, Government, 5 July 1996, on ensuring inland waterway traffic order and safety. The Decree requires that construction work on inland waterways must have a written approval by the concerned inland waterway transport authority prior to construction.
 - 17) *Circular No 48/1999/TT-BTC, Ministry of Finance, 6 May 1999, on the use of the budget from penalties for traffic order and safety violations.*
This guides the management and use of penalties paid for petty violations to improve inland waterway traffic order and safety.
 - 18) *Circular No 10/1998/TTLT-GTVT-BQP-BNV Interministerial Transport, Defence, and Police, 13 January 1998, on the implementation of some provisions of Decree 40/CP, Government, on the management and inspection of navy ships and other inland waterway vessels of the armed forces.*
This requires inland waterway vessels of the armed forces to comply with safety standards and to be registered, managed and inspected.
 - 19) *Circular No 124-TT/PC, Ministry of Transport, 25 May 1984, on the management and operation of passenger boats.*
This regulates passenger boats to ensure traffic order and safety.

Maritime

A. International Legal Documents

As of now, Vietnam has acceded to four of 10 international treaties and conventions on maritime safety, initiated by the International Maritime Organization (IMO), including:

- 1) *The International Convention for the Safety of Life at Sea (SOLAS 74).*
This agreement defines technically safe conditions of vessel structure, equipment and operation; states responsibilities of nations in issuing licenses to vessels carrying their respective flags based on the general format of the IMO; ensures the implementation of the agreement and each signatory nation's right to inspect foreign vessels operating in their ports. Vietnam signed this agreement on 18 December 1990 which came into force on 18 March 1991.

- 2) *International Convention on Load Lines (LL 1966).*

This agreement standardizes regulations on the lowest limit of transportable capacity depending on season and vessel operating area to ensure safety of both vessel and passengers. Vietnam signed this agreement on 18 December 1990 which came into force on 18 March 1991.

- 3) *Convention on the International Regulations for Preventing Collisions at Sea (COLREG 72).*

This agreement stipulates regulations to prevent collision of vessels at sea. Vietnam signed this agreement on 18 December 1990 which came into force on the same day.

- 4) *The International Code on Standards for Training, Certification and Watch keeping for Seafarers (STCW-78) for human live safety (SOLAS 74)*

This agreement provides the minimum standards for seamen and officers before they are issued licenses. Vietnam signed this agreement on 18 December 1990 which came into force on 18 March 1991.

B. National Legal Documents

- 5) *Maritime Code, National Assembly, 12 July 1990.*

The National Assembly approved the Vietnam Maritime Law in 12 July 1990, and it came into effect on 1 January 1991. It consists of 18 chapters and 244 articles, some of which are as follows: Chapter 2 - Vessel: Item b): Maritime safety and prevention of environmental pollution. Regulation on standards of sea transport operation to ensure maritime safety and prevent environmental pollution; Chapter 3 - Crew: regulations on the conditions (e.g., health, professional level), rights and responsibilities of captains, officers and seamen; Chapter 4 - Port and port authority: regulations on state management of ports; Chapter 9 - Pilot: regulations on the duties and responsibilities of pilots; Chapter 10 - Vessel operation: duties and responsibilities; Chapter 11 - Maritime safety: regulations on maritime safety; Chapter 12 - Retrieval operations: regulations on retrieving sunken ships in Vietnam seas; Chapter 13 - Collisions: regulation on settling collisions between vessels, vessel and a river steamer, vessel and seaplane, and other sea transport.

- 6) *Decree No 13/CP, Government, 25 August 1994, on the management and operation of Vietnam ports.*

Decree 13/CP, Government, February 25, 1994, on management of Vietnam port and other maritime areas. The decree consists of four chapters and 61 articles. Chapter 2 - Regulations on opening and closing ports and flows belong to vessel; Chapter 3 - Regulations on maritime activities, procedures for docking by foreign vessels, procedures for arrival at and departure from port, pilot mechanism, regulations on docking, port calls, regulations on vessel cleanliness, prevention of fire, explosion and environmental pollution caused by vessel; Chapter 4 - Treating violations, including forms, such as administrative punishment, pecuniary penalty, cancellation of operating license, etc.

- 7) *Decree No 14/CP, Government, 25 February 1994, on the registration of seagoing vessel and crew.*

This includes registration of vessel owned by overseas Vietnamese, regulation for registered organizations, conditions of vessel registration, and procedure for transferring registration documents, re-registration, renaming of vessel, deletion of registration, pawning, mortgaging, etc.

- 8) *Decree No 203/TTg, Prime Minister, 28 December 1992, on the operation and organization of Vietnam vessels.*

This requires the Vietnam Register to classify, register and provide technical supervision to vessels, and to issue them certificates, certifying their compliance with international agreements on vessels operating on international sea routes.

- 9) *Decree No 204/TTg, Prime Minister, 28 December 1992, on maritime safety in Vietnam.*

This ensures maritime safety by issuing regulations on the principle and methodology of maritime inspection and defining the responsibilities and rights of the Vietnam maritime safety inspector; also includes the procedure on filing and settling complaints.

- 10) *Decree No 269/TTg, Prime Minister, 26 April 1996, on the improvement of Vietnam's coastal beacon system up to 2010 and 2020.*

This plans for Vietnam's coastal beacon system for 2010 and 2020, focusing on improving and developing the system to meet safety regulations and comply with global maritime agreements.

- 11) *Directive No 33/1999/CT-TTg, Prime Minister, 27 December 1999, on the responsibilities of ministries on traffic order and safety.*

This delineates the functions and duties of ministries and local governments, as follows: The MOT should coordinate with the Ministry

of Police and its local agencies in reducing traffic accidents and congestion and ensuring traffic safety. The Ministry of Education and Training should prepare a training program on traffic safety promotion. The Ministry of Finance should fund the above-mentioned activities. The NTSC should coordinate with related ministries and local agencies.

This details the functions and duties of the Vietnam Maritime Search and Rescue Coordination Center (VMRCC) which the MOT established on 1 December 1996. It has branches in Hai Phong, Da Nang and Vung Tau.

- 12) *Decision 780/TTg, Prime Minister, 23 October 1996, on the establishment of a national committee to rescue air and sea victims.*

This provides for the establishment of a national committee to search and rescue air and sea accident victims as well as the functions and duties of its members who will come from the ministries of transport, police, defense, fishery, and finance, as well as concerned provinces and cities.

- 13) *Decision No 2384/QD-PC, Minister of Transport, 17 November 1994, on the organization and examination of maritime pilots and issuance of a special certificate to them.*

This provides for the establishment of a maritime pilots' organization, examination and issuance of special certificate for Vietnamese maritime pilots. This decision details the legal regulations of chapter 3 of the Vietnam maritime law.

- 14) *Decision No 174/QD-PCVT, Minister of Transport, 5 December 1994, on the duties and functions of seamen.*

This stipulates the functions and duties of seamen.

- 15) *Decision No 49/QD-VT, Minister of Transport, 9 January 1993, on Vietnam maritime signal regulation.*

This decision regulates Vietnam's maritime signal system which includes buoys, beacons, and wireless signals such as radar reflex. The system is located along waterways and at anchorage.

- 16) *Decision No 1387/1998/QD-GTVT, Minister of Transport, 3 June 1998, on training, examination and duties of seamen and the issuance of professional certificates to them.*

This states the functions and duties of seamen and the conditions for getting a license; requires training and retraining to get a license; regulates examination and issuance of license to seamen; allows VINAMARINE to provide and implement guidelines on inspection.

- 17) *Decision No 2628/QD-TCCB, Minister of Transport, 2 October 1996, on strengthening the Vietnam Maritime Search and Rescue Coordination Center.*

APPENDIX B

STATISTICS AND DATABASE ON TRAFFIC ACCIDENTS OF SUBSECTORS AND PROVINCES

Appendix 5.1
Comparison of Railway and Inland Waterway Accidents

Year	Number of accidents						Fatalities						Injuries					
	Road	%	Rail	%	IWW	%	Road	%	Rail	%	IWW	%	Road	%	Rail	%	IWW	%
1990	5,565	91.1	361	5.9	184	3.0	2,087	92.0	116	5.1	65	2.9	4,468	93.9	265	5.6	23	0.5
1991	6,864	93.0	340	4.6	178	2.4	2,395	92.0	92	3.5	115	4.4	6,846	96.2	208	2.9	60	0.8
1992	8,165	93.8	379	4.4	163	1.9	2,755	93.0	105	3.5	103	3.5	9,040	96.7	295	3.2	13	0.1
1993	11,678	95.4	394	3.2	172	1.4	4,350	95.6	122	2.7	78	1.7	12,590	97.9	253	2.0	17	0.1
1994	13,118	95.3	423	3.1	219	1.6	4,533	92.6	141	2.9	223	4.6	13,056	97.6	289	2.2	29	0.2
1995	15,376	96.1	374	2.3	249	1.6	5,430	95.1	135	2.4	145	2.5	16,920	98.6	200	1.2	47	0.3
1996	19,075	97.1	225	1.1	338	1.7	5,581	94.1	88	1.5	263	4.4	21,556	99.3	128	0.6	34	0.2
1997	19,159	96.6	237	1.2	435	2.2	5,680	93.8	98	1.6	279	4.6	21,905	98.8	143	0.6	119	0.5
1998	19,975	96.6	271	1.3	422	2.0	6,067	95.2	122	1.9	184	2.9	22,723	98.9	159	0.7	93	0.4
1999	20,733	96.8	372	1.7	316	1.5	6,670	94.2	164	2.3	250	3.5	23,911	98.9	199	0.8	60	0.2
2000	22,486	96.9	336	1.4	385	1.7	7,500	94.8	151	1.908	261	3.3	25,400	98.9	213	0.8	67	0.3
2001	25,040	97.3	335	1.3	358	1.4	10,477	96.7	145	1.338	214	2.0	29,188	99.2	182	0.6	64	0.2
Total	187,234	96.2	4,047	2.1	3419	1.8	63,525	94.6	1479	2.2	2180	3.2	207,603	98.5	2534	1.2	626	0.3

Source: NTSC

Appendix 5.2 - 1(A)
Road Accidents by Provinces, 1995 - 2001

TT	Name of Province	1995			1996			1997			1998			1999			2000			2001		
		A	F	I	A	F	I	A	F	I	A	F	I	A	F	I	A	F	I	A	F	I
1	An Giang	352	79	401	306	105	316	286	85	355	428	105	505	426	71	589	404	136	446	525	205	548
2	B.Ria - V.Tau	189	177	194	174	149	143	215	161	179	212	162	206	206	191	207	219	217	204	253	285	217
3	Thai Nguyen							302	52	381	321	57	407	323	82	401	452	91	547	579	119	864
4	Bac Can	276	72	318	310	70	300	27	7	29	72	9	77	47	9	62	40	15	70	61	36	86
5	Ben Tre	304	32	302	213	22	286	165	28	196	186	47	159	204	33	318	185	72	335	266	104	371
6	Binh Dinh	375	157	524	411	129	416	494	84	587	578	97	797	567	149	653	582	151	792	795	187	1210
7	Binh Thuan	211	113	201	241	147	356	151	84	156	293	111	359	383	146	480	481	211	521	495	232	540
8	Can Tho	483	117	729	589	139	860	437	119	600	548	152	753	438	139	507	465	177	511	558	252	774
9	Cao Bang	20	9	34	25	10	49	139	13	138	154	12	170	130	24	170	115	25	145	165	36	226
10	Cong Tum	68	12	81	92	17	106	90	14	105	119	36	128	154	37	167	153	32	208	174	36	219
11	Dac Lac	591	178	637	302	178	472	284	149	353	391	178	399	391	162	385	370	286	399	459	348	479
12	Dong Nai	958	347	1269	610	374	592	646	322	778	565	274	663	1059	296	1149	510	355	594	548	405	670
13	Dong Thap	127	51	113	191	53	228	373	104	498	405	83	442	434	108	477	419	121	634	314	121	370
14	Gia Lai	214	111	354	299	116	375	272	114	318	296	113	322	131	118	173	187	161	199	212	160	213
15	Bac Giang							105	37	107	117	43	150	175	67	204	182	85	97	245	110	288
16	Bac Ninh	163	92	254	139	90	86	58	49	10	60	54	29	59	43	41	118	75	77	168	116	124
17	Ha Giang	30	10	27	33	19	53	82	14	68	101	10	134	70	10	76	93	24	120	149	62	227
18	Ha Noi	707	298	430	3260	283	3434	2969	294	3029	2223	231	2430	2231	291	2856	2414	360	2663	2002	470	2067
19	Ha Tay	295	143	287	315	142	299	391	159	375	322	151	302	306	148	372	352	201	295	435	256	372
20	Ha Tinh	220	98	201	178	100	158	228	113	208	189	107	179	192	112	283	228	121	221	293	195	276
21	Hai Duong							289	74	280	285	112	278	303	103	368	324	131	334	451	183	500
22	Hung Yen	408	128	413	389	125	373	188	48	205	207	35	122	294	63	304	203	70	196	353	92	471
23	Hai Phong	139	93	114	144	91	117	143	91	108	170	102	148	170	109	141	176	124	149	235	153	212
24	Hoa Binh	100	62	124	94	44	119	94	44	98	75	42	104	62	54	41	107	51	113	252	93	324
25	Khanh Hoa	279	126	330	182	102	155	199	109	226	261	153	252	253	137	296	335	206	333	390	282	385
26	Kien Giang	198	36	211	239	42	286	255	44	769	308	57	308	394	90	468	459	102	599	483	113	648
27	Lai Chau	82	38	104	52	8	59	108	10	112	102	13	113	134	13	183	124	19	165	148	27	149
28	Lam Dong	281	123	318	264	133	278	261	111	221	233	133	267	311	194	310	274	133	303	362	203	386
29	Lang Son	316	46	379	304	44	293	251	43	333	328	62	363	313	56	315	369	57	409	334	100	443
30	Lao Cai	150	43	203	158	22	175	140	15	158	159	23	197	184	21	135	142	30	186	181	56	250
31	Long An	561	103	644	895	146	1056	625	124	795	476	112	634	481	131	640	541	141	913	641	195	855
32	Bac Lieu							195	38	201	314	55	365	423	60	507	485	60	583	604	103	780
33	Ca Mau	275	25	325	283	36	317	158	19	171	227	33	302	137	23	216	211	20	275	558	41	916

Appendix 5.2 - 1(B)
Road Accidents by Provinces, 1995 - 2001

TT	Name of Province	1995			1996			1997			1998			1999			2000			2001		
		A	F	I	A	F	I	A	F	I	A	F	I	A	F	I	A	F	I	A	F	I
34	Nam Dinh							93	54	60	107	63	66	99	64	74	204	80	183	207	113	150
35	Ha Nam	166	88	136	163	85	131	80	65	35	108	74	66	121	86	168	133	80	146	172	122	139
36	Nghe An	289	131	262	310	143	287	333	153	222	334	176	321	388	167	419	449	245	381	540	324	490
37	Ninh Binh	172	72	162	237	44	272	177	68	197	156	52	171	213	96	216	235	91	225	301	125	324
38	Ninh Thuan	285	57	319	349	72	346	264	53	276	271	48	288	355	85	407	234	79	308	236	73	362
39	Phu Yen	168	77	235	189	70	209	161	108	189	187	103	216	172	113	154	179	97	230	208	118	210
40	Quang Binh	226	69	215	287	81	281	267	72	237	259	81	230	253	69	242	288	79	303	463	173	520
41	Da Nang							280	98	320	283	87	361	263	94	308	215	75	299	287	149	345
42	Quang Nam	435	173	542	476	183	713	229	93	323	257	94	316	261	118	333	353	139	526	440	136	567
43	Quang Ngai	564	81	710	510	81	496	402	87	459	514	61	628	548	124	582	632	116	749	818	115	1056
44	Quang Ninh	152	111	119	151	105	128	186	123	149	223	119	226	281	135	264	340	174	332	383	231	337
45	Quang Tri	105	45	107	113	59	121	114	63	115	116	81	110	127	54	107	154	80	152	143	85	141
46	Soc Trang	116	38	120	230	48	348	222	40	297	301	55	383	386	62	519	386	68	578	496	103	710
47	Son La	43	19	59	39	14	50	127	15	137	142	21	132	192	29	195	155	33	195	283	78	335
48	Binh duong							783	129	1138	711	157	1007	833	167	1267	761	202	1085	956	261	1257
49	Binh Phuoc	786	216	1019	771	166	1059	237	58	317	399	86	572	406	109	591	563	163	809	448	175	623
50	Tay Ninh	536	84	595	590	123	960	276	82	323	314	94	472	239	120	189	252	144	226	198	163	137
51	Thai Binh	234	82	254	177	73	181	179	56	208	144	51	155	174	61	144	202	64	216	204	88	202
52	Thanh Hoa	129	100	66	131	110	51	119	102	48	154	146	65	169	158	166	265	276	201	253	245	157
53	T.T.Hue	234	69	292	208	53	224	159	57	189	155	105	159	114	87	123	119	89	82	172	137	148
54	Tien Giang	169	121	113	127	138	110	175	149	143	177	172	122	184	190	158	226	226	161	246	247	146
55	Ho C.Minh City	1556	564	1636	2276	791	2647	2204	871	2735	2259	910	2435	2418	912	2657	2038	938	2465	2519	1224	2738
56	Tra Vinh	20	8	23	253	34	290	321	41	351	234	39	214	326	43	272	290	73	314	398	115	572
57	Tuyen Quang	143	29	145	190	25	197	178	40	214	178	33	227	193	35	210	227	46	295	212	51	255
58	Vinh Long	347	71	445	373	46	501	477	94	821	951	67	1359	87	70	112	167	98	210	171	183	211
59	Vinh Phuc	187	99	166	195	85	142	124	50	124	118	48	108	184	59	179	163	76	45	173	89	167
60	Phu Tho							341	76	80	151	57	183	314	53	338	206	41	259	308	114	275
61	Yen Bai	42	19	47	38	16	55	31	11	51	47	23	67	28	20	23	34	23	18	117	64	154
	Total	17471	5342	17308	19075	5581	21556	19159	5680	21905	19975	6067	22723	20713	6670	23911	21189	7955	24629	25040	10477	29188

Note: A accident number

F: fatalities

I: Injuries

Source: Road-Railway Traffic Police Bureau

Appendix 5.2 - 2
Number and Major Causes of Road Traffic Accidents

N ^o	Causes	1996		1997		1998		1999		2000		2001	
		Analyzed Accidents	%	Analyzed Accidents	%	Analyzed Accidents	%	Analyzed Accidents	%	Analyzed Accidents	%	Analyzed Accidents	%
	Total analyzed accidents	12,006	100	9,672	100	6,808	100	13,603	100	12,259	100	14,332	100
1	Road users	9,431	78.6	6,935	71.7	5,518	81.1	10,040	73.8	9,163	74.7	10,896	76.0
	Over speeding	4,115	34.3	3,044	31.5	2,373	34.9	4,761	35.0	4,633	37.8	4,686	32.7
	Dangerous overtaking	3,375	28.1	2,618	27.1	2,342	34.4	3,722	27.4	2,866	23.4	3,686	25.7
	Drunk driving	1,383	11.5	847	8.8	607	8.9	945	6.9	784	6.4	841	5.9
	Without observation	373	3.1	271	2.8	155	2.3	612	4.5	630	5.1	1,183	8.3
	Pedestrian	0	0.0	0	0.0	0	0.0	0	0.0	250	2.0	500	3.5
	Non driving license	185	1.5	155	1.6	41	0.6	0	0.0	0	0.0	0	0.0
2	Unsafe vehicles	269	2.2	193	2.0	155	2.3	185	1.4	215	1.8	191	1.3
3	Roads and bridges	51	0.4	53	0.5	0	0.0	12	0.1	14	0.1	33	0.2
4	Other	2,255	18.8	2,491	25.8	1,135	16.7	3,366	24.7	2,867	23.4	3,212	22.4
	Total analyzed accidents by objects	10,704	100	9,547	100.00	6,591	100	13,048	100	12,165	100	14,212	100
1	Automobile drivers	3,149	29.4	2,665	27.91	1,786	27.10	3,425	26.2	3,307	27.2	3,199	22.5
2	Motorbike riders	6,799	63.5	5,818	60.94	4,111	62.37	8,130	62.3	7,851	64.5	10,142	71.4
3	Others	756	7.1	1,064	11.14	694	10.53	1,493	11.4	1,007	8.3	871	6.1
	Total analyzed accidents by location	n.a.	n.a.	9,283	100.00	5,644	100	13,784	100.0	12,340	100.0	14,675	100.0
1	National Roads	n.a.	n.a.	5,004	53.90	3,044	53.93	6,694	48.6	6,344	51.4	7,172	48.9
2	Provincial Roads	n.a.	n.a.	928	10.00	895	15.86	2,784	20.2	2,853	23.1	3,842	26.2
3	Inner city, inner urban roads	n.a.	n.a.	2,947	31.99	1,510	26.75	2,676	19.4	2,128	17.2	2,516	17.1
4	Others	n.a.	n.a.	381	4.10	195	3.45	1,630	11.8	1,015	8.2	1,145	7.8

Source: Road - Railway Traffic Police Bureau

n.a: Not available

Appendix 5.2 - 3

HOCHIMINH CITY POLICEMEN

DIAGRAM OF A TRAFFIC ACCIDENT

Sample No 003/GT
 Issued following the Official Letter No 554A/12
 On 20/12/1972

Happened at.....hour.....minute, on date of.....month of.....year of.....in: ...
 (Clearly stating address, road, street, district, if in city; and hamlet, commune, district, if in countryside)

Scale:.....

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																					1	
2																					2	
3																					3	
4																					4	
5																					5	
6																					6	
7																					7	
8																					8	
9																					9	
10																					10	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
LEGENDS				Persons joining in the examination <i>(Full name and signature)</i>				Witnesses <i>(Full name and signature)</i>				Person in charge of examining <i>(Grade, full name and signature)</i>				Diagram maker <i>(Grade, full name and signature)</i>						

Appendix 5.2-4

HOCHIMINH CITY
POLICEMEN

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

No:.....

EXAMINATION RECORD OF TRAFFIC ACCIDENT SCENE

(.....AGAINST.....)

I. At.....hour.....minute, on date of.....month of.....year of
After receiving information (or order) from.....
.....and basing on the Regulation on Road Traffic Safety Order in
pursuant to the Inter-Ministry Decision No 176/QDLB-GTVT-NV on 9/12/1089.

Here in, I am:.....Grade.....

Position.....in charge of the examination, and together with following persons:

1-.....Grade..... Position.....

2-.....Grade..... Position.....

to examine at the scene of the traffic accident:.....

Joining in our examination are the following persons:

1-.....Position.....

Office or Address:.....

2-.....Position.....

Office or Address:.....

With the witness of the following persons:

1-.....Identification.....No.....issued by....

.....on date of.....month of.....year of 19.....

Office:.....; Permanent address.....

2-.....Identification.....No.....issued by....

.....on date of.....month of.....year of 19.....

Office:.....; Permanent address.....

3-.....Identification.....No.....issued by....

.....on date of.....month of.....year of 19.....

Office:.....; Permanent address.....

The examination is carried out athour.....minute on/...../19....., and in
conditions of (sunshine, rain, light, dark, touched or untouched scene)

.....
.....
.....
.....
.....
.....
.....

III. INITIAL WORK TO BE DEALT WITH AT THE SCENE

(It is necessary to take notes on work which need to be solved just after the examination, such as, pulling vehicle to one side of road for clearance, taking things and goods dropped on road away, place where victim has been taken to, place where vehicles, relating things have been brought to, and etc.).....
.....
.....
.....

IV. AFTER THE EXAMINATION

The examination is finished at.....hour.....minute, on date of.....month of.....year of 19..
This record has been read in front of examiners and witnesses (or other opinions on this record), and signed by them, hereinafter:
.....
.....
.....
.....

**Full names, signatures
of examiners**

**Grade, full name, signature of the person
in charge of the examination**

**Full names, signatures
of witnesses**

**Grade, full name, signature
of the record maker**

Appendix 5.2-5

HOCHIMINH CITY POLICEMEN
ROAD TRAFFIC POLICEMEN OFFICE

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

No:.....

RECORD OF STATEMENTS

At.....hour.....minute, on date of.....month of.....year of
In.....
Herein, I am.....Position.....
and Mr. (Ms):.....Position.....

Noting the statements of the following person:

Full name:.....Male (Female):.....
Other name:.....
Born in day of.....month of.....year of 19.....in.....
Place of residence registration:.....
Present address:.....
Occupation:.....
Identification card No:.....issued on...../...../.....in.....

Who has relationship with the offender (or temporarily arrested person) as:.....
and join in this procedure as:.....
Mr. (Ms):.....has been explained on rights and duties of.....
in pursuance to the Article.....of the Criminal Procedure Code, and (s)he confirms
and signs, hereinafter:

QUESTIONS AND ANSWERS

Appendix 5.2-6

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

SAMPLE No 36/GT
issued following the Decision No 1093/QĐ-BCA(C11)
dated on 06/12/2000

TEMPORARY DETENTION RECORD OF VEHICLES INVOLVED IN TRAFFIC
ACCIDENTS, MATERIAL EVIDENCES AND DOCUMENTS

Happened in:.....

At.....hour.....minute, on date of.....month of.....year ofin.....

Here in we are:

1-.....position.....grade.....

Office:

2-.....position.....grade.....

Office:

With the witness of:

1- Mr. (Ms):.....Born in year of:.....

Identification card No:.....issued on...../...../.....in.....

Address:.....

2- Mr. (Ms):.....Born in year of:.....

Identification card No:.....issued on...../...../.....in.....

Address:.....

Vehicle owner/vehicle controller or holder of material evidences and documents
relating to the traffic accident:

1- Mr. (Ms):.....Born in year of:.....

Identification card No:.....issued on...../...../.....in.....

Address:.....

2- Mr. (Ms):.....Born in year of:.....

Identification card No:.....issued on...../...../.....in.....

Address:.....

Making this record to give temporary detention to the vehicle.....

type.....Registration plate No.....

and to material evidences, and documents in the traffic accident:.....

.....

happened at:.....hour.....on date of.....month ofyear of.....in.....

belonging to commune/quarter of.....district/prefecture/town of.....

province/city of.....

Appendix 5.2-7

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

SAMPLE No 35/GT issued following
the Decision No 1093/QĐ-BCA(C11)
dated on 06/12/2000

RECORD OF DEALING WITH THE TRAFFIC ACCIDENT

At.....hour....., on date of.....month of.....year ofin.....

On pursuance to the Administrative Violation Order date on 06/07/1995 of the National Assembly Standing Committee;

On pursuance to the Article.....Decree No.....on day of.....month of.....year of.....of the Government on ensuring traffic safety order.....

In accordance to the requests of relating parties;

We are..... grade..... position.....

and..... grade..... position.....

Office:

Together with the following persons:

1- Mr. (Ms):.....Born in year of:.....Occupation:.....
Address:.....
is.....

2- Mr. (Ms):.....Born in year of:.....Occupation:.....
Address:.....
is.....

3- Mr. (Ms):.....Born in year of:.....Occupation:.....
Address:.....
is.....

4- Mr. (Ms):.....Born in year of:.....Occupation:.....
Address:.....
is.....

5- Mr. (Ms):.....Born in year of:.....Occupation:.....
Address:.....
is.....

To make this record to deal with the accident happened at.....hour.....on...../...../.....

The accident content: (Clearly noting name, age, address of the person caused accident; vehicle owner, victim, registration plates of the vehicle caused accident, and of the vehicle suffered accident, and giving a brief of the happened and the extent of damage)

.....
.....
.....

Appendix 5.2-8

HOCHIMINH CITY POLICEMEN

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

Sample No 004/GT issued following
the Official Letter No 554/A 12
dated on 20/12/1972

EXAMINATION RECORD OF VEHICLES INVOLVED
IN TRAFFIC ACCIDENTS

IN:.....

At.....hour.....minute, on date of.....month of.....year of

Here in we are:

1-.....Position.....Grade.....

2-.....Position.....Grade.....

And the following persons:

1-.....Position.....

Office or Address:.....

2-.....Position.....

Office or Address:.....

Making the examination of the vehicle:.....

Mark.....Type:Registration No.....

of.....

controlled by Mr. (Ms).....

age:.....Position.....

Permanent address:.....

causing accident athour.....minute, on date of.....month of.....year of 19.....

in.....

DURING THE EXAMINATION

a) As regard documents (clearly making notes on documents relating to the vehicle, and Goods transport license. Expired or illegal documents should be noting clearly).....

.....
.....
.....
.....
.....

Appendix 5.2 - 10

MINISTRY OF POLICE
POLICE
CODE

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

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

HOT REPORT ON ROAD TRAFFIC ACCIDENTS

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						
Ruin						
Damage						

6. Note process, preliminary on causes briefly:

.....
.....
.....
.....

DATE MONTH YEAR

CHIEF OFFICER
(Sign, full name)

Brief report of traffic accident is completed immediately after accident
2 copies, 1 copy at PC26, 1 copy sent to YRA
In order to coordinate with complete report form, need to fill: Number of report, code, year.

MINISTRY OF POLICE

POLICE

CODE

REPORT ON ROAD TRAFFIC ACCIDENTS

Form 44GT

Promulgate as Decision 1093/QD-BCA(CII)

Date 06 - 12 - 2000

Number of report:

[Empty box for number of report]

1. Time occur accident:

Hour Day Month Year Date

2. Place occur accident

At Km Name of road Distric, prefecture

3. Deaths:

[Empty box for deaths]

4. Injuries:

[Empty box for injuries]

5. Number of vehicles are ruined:

Car Bus Truck Motor Bicycle Other

6. Number of vehicles are damaged:

Car Bus Truck Motor Bicycle Other

7. Property damage account to money:

(x million)

8. Weather:

Sunny Cloudy rainy Foggy Storm Flood Foggy Winny

9. Traffic density:

Quiet Nomal Crowed

10. Caused accident and gone away:

Has been found Has not been found yet

11. Accident type:

- Motor bike and motor bike	01
- Motor bike and car	02

- Motor bike with nonmotored vehicle

	03
- Motor bike with pedestrian	04
- Motor bike with railway	05
- Car with car	06
- Car with nonmotored vehicle	07
- Car with pedestrian	08
- Car with railway	09
- Vehicles fall itself	10
- Others	11

12. Present situation of road:

12.1 Road surface type:

Asphalt concrete Cement concrete Macadam Earth

12.2 Road type:

Straight Curved Pass, Slope on bridge on ferry

12.3 Illumination:

Has None

12.4 Traffic junction:

Controll No controll

12.5 Intersection with rail way:

protect fence without protect fence

12.6 Traffic organization

1 way 2 ways with Seperate range 2 ways without Seperate range

12.7 Road class:

I II III IV V VI

12.8 Signal:

Has None

12.9 Road surface condition:

Dry Wet, smooth Marshy Flooded Repairing Other

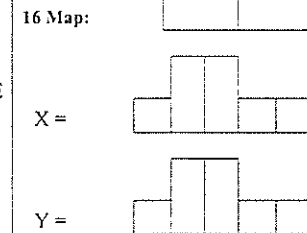
13. Description on accident by policeman (brief processing, preliminary of causes):

[Dotted lines for description]

15. Sketching out accident diagram (Distance to milestone, mark place and direction of each vehicles and and others at accident place...):

[Large empty box for sketching]

USE IN COMPUTER ROOM ONLY



DATE MONTH YEAR

CHIEF OFFICER (Sign, Stamp)

WRITER (Sign, full name)

14. Planned settlement:

- Transfer to investigate police office	01
- Transfer investigate army office	02
- Settling by diplomatic relationship	03
- Transfer to people's Court	04
- Administrative punishment	05

SB-22

Appendix 5.2 - 11 (B)

17. Vehicles:									
	Means of transport	Mark	Registered number	Owner means	Address of owner means	Deadline of registration	Movement before the accident	Transport situation	Technical situation
PT 1									
PT 2									
PT 3									

18. Driver:												
	Full name	Age	Sex	Nationality	Address	Seniority	Number of drive- license/class	class drive- licese	Concentration of alcohol	Helmet/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	In vehicles	Pedestrian	Occupation	Action befor 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 stuation of vehicles (in item 17. Vehicles)			Controlling mistake (in item 18. Driver)				Action befor accident (in item 19. Detail on persons in vehicles and pedestrian)	
1 - Go straight	5 - Turn right	9 - Going uphill	1- Steering-wheel system is broken down	4 - Foot brake system is broken down	7 - Repairing is not enough standard	1 - Running over regulation speed	4 - Misuse lane	7 - Driving with out observation	10 - Do not observe	1 - Pass through the road	5 - Jumping, falling
2 - Take a roundabout come back	6 - Stop suddenly	10 - Going down the slope	2- Transitional system is broken	5 - Hand brake system is broken down	8 - Direction indicator light is broken	2 - Do not slow down speed in regulation cases	5 - Do not give the sign befor returning	8 - Stopping against regulation	11- Against regulation	2 - Working in the road	6 - Sitting in the top of vehicle
3 - Stand back	7 - Pass over left	11- Others	3 - Brake system is not enough safe	6 - Holed tube Break tyre	9 - Other defects	3 - Pass over against regulation	6 - Do not obey traffic signboard	9 - Do not ensure safe distance	12 - Do not obey ferry regulation	3 - Walking in a road side	7 - Sitting in a car
4 - Turn left	8 - Pass over right								13 - Other fault	4- Relaxing, Sleeping in a ro	8 - Other actions

Appendix 5.3 - 1
Railway Accident by Severity, 1996 - 2001

Serious level	1996		1997		1998		1999		2000		10 months of 2001	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Too serious accidents	1	0.1	3	0.3	1	0.1	1	0.1	3	0.2	2	0.1
Serious accidents	3	0.2	2	0.2	0	0.0	2	0.2	6	0.4	3	0.2
Light accidents	54	3.0	44	3.9	56	5.2	70	6.8	77	5.6	85	5.9
Other	297	16.4	277	24.6	342	31.7	444	42.9	550	40.1	486	33.7
Rule violation	6	0.3	0	0.0	9	0.8	3	0.3	8	0.6	13	0.9
Obstruction	1810	100	1126	100	1079	100	1034	100	1371	100	1441	100
Total	2171	119.945	1452	128.952	1487	137.813	1554	150.29	2015	146.973	2030	140.874

Source: Vietnam Railway Unions

Light accident is an accident without a killed person, number of its heavy injured persons is 2 and less (according to the Health Organization's regulation), or causes the damage of the transport means that don't require to do any big repair.

Serious accident is an accident with 2 and less killed persons or with 3 heavy injured persons, or causes the damage of the transport means that needs to do a big repair (i.e. overhaul) or causes traffic jam within 12-14 hours.

Too serious accidents is an accident with 3 and more killed persons or with 4 and more heavy injured persons, or causes the damage of transport means that needs liquidation, or causes traffic jam more than 24 hours.

Rule violation is the violation of train operation rules schedules (no accident occurred)

Obstruction is obstacles that cause incompliance with the Time table (eg. time delay)

Appendix 5.3 - 2
Classification of Railway Accident by Objective and Subjective Causes

Causes	Too serious accidents							Serious accidents							Light Accidents							Rule violation						
	1996	1997	1998	1999	2000	10 months of 2001	Total	1996	1997	1998	1999	2000	10 months of 2001	Total	1996	1997	1998	1999	2000	10 months of 2001	Total	1996	1997	1998	1999	2000	10 months of 2001	Total
Subjective	0	0	0	0	1	2	3	0	0	0	0	1	0	1	18	12	17	17	25	29	118	5	0	9	3	8	11	36
Objective	1	3	1	1	2	0	8	3	2	0	2	5	3	15	31	28	34	50	50	53	246	1	0	0	0	0	2	3
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	5	3	2	3	22	0	0	0	0	0	0	0
Total	1	3	1	1	3	2	11	3	2	0	2	6	3	16	54	44	56	70	77	85	386	6	0	9	3	8	13	39

Source: Vietnam Railway Unions

Objective causes are the ones caused not by railway subsector

Unknown: The accidents occurred but their causes have not been identified.

Appendix 5.3 - 3
Main Causes of Railway Accidents, 1996 - 2001

Causes	Number of accidents							Fatalities							Injuries							
	1996	1997	1998	1999	2000	10 months of 2001	Total	1996	1997	1998	1999	2000	10 months of 2001	Total	1996	1997	1998	1999	2000	10 months of 2001	Total	
Burn on train	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Afoul, Crash, Overlap	276	258	322	429	547	467	2299	131	104	122	170	181	168	876	171	170	213	289	438	358	1639	
Fall from train	2	1	2	3	2	4	14	0	0	0	2	1	1	4	2	1	2	1	1	3	10	
Leap to train	2	5	4	1	3	1	16	0	2	0	0	1	0	3	2	3	4	1	2	1	13	
Stone throwing	3	4	2	1	2	3	15	0	0	0	0	0	0	0	3	4	2	1	2	3	15	
Other	12	9	12	10	7	10	60	5	9	7	9	4	8	42	7	2	5	1	3	2	20	
Total	295	277	342	444	561	485	2404	136	115	129	181	187	177	925	185	180	226	293	446	367	1697	

Source: Vietnam Railway Unions

Appendix 5.3 - 4
Responsibilities of Each Sector for Railway Accidents

Responsibilities of sector	1996						1997						1998					
	Number	%	Delay		Congestion		Number	%	Delay		Congestion		Number	%	Delay		Congestion	
			Hour	minute	Hour	minute			Hour	minute	Hour	minute			Hour	minute		
Railway station	131	6.0	101	10	4	45	58	4.0	43	2	0	50	42	2.8	11	13	0	40
Locomotive	533	24.6	700	28	238	47	294	20.2	285	39	122	59	272	18.3	313	13	148	41
Route and Bridge	44	2.0	55	25	69	57	48	3.3	60	18	82	56	57	3.8	95	43	72	30
Wagon	755	34.8	449	44	145	48	459	31.6	271	10	111	46	458	30.8	170	25	87	37
Communication Facilities	65	3.0	12	21	1	22	61	4.2	14	11	0	50	31	2.1	3	14	1	35
Other sector	10	0.5	13	0	14	42	14	1.0	61	26	19	21	8	0.5	7	59	19	7
Unknown	628	28.9	555	24	447	11	513	35.3	339	13	317	18	614	41.3	516	1	371	23
Total	2171	100	1996	188	949	293	1452	100	1103	177	671	305	1487	100	1119	202	721	263

Responsibilities of sector	1999						2000						2001					
	Number	%	Delay		Congestion		Number	%	Delay		Congestion		Number	%	Delay		Congestion	
			Hour	minute	Hour	minute			Hour	minute	Hour	minute			Hour	minute		
Railway station	48	3.1	24	31	6	4	66	3.3	63	44	8	9	59	2.9	51	13	9	50
Locomotive	307	19.8	280	20	182	28	419	20.8	580	15	193	39	446	22.0	559	13	154	20
Route and Bridge	39	2.5	107	32	77	12	77	3.8	148	35	93	14	72	3.5	156	32	87	48
Wagon	352	22.7	195	1	67	27	504	25.0	218	9	84	6	569	28.0	445	29	97	45
Communication Facilities	63	4.1	5	40	0	45	54	2.7	5	31	0	20	48	2.4	5	45	1	58
Other sector	11	0.7	7	0	9	2	18	0.9	94	41	39	59	16	0.8	35	58	27	9
Unknown	731	47.0	492	41	403	9	875	43.4	516	50	466	28	816	40.2	614	37	435	55
Total	1554	100	1123	219	753	147	2015	100	1694	273	917	175	2030	100	1878	233	818	298

Source: Vietnam Railway Unions

Appendix 5.3 - 5(A)
Accident Classification by Railway Management Unit (RMU)

Sector	Too serious accidents				Serious accidents				Light accidents				Others				Rule violation				Train operating hindrance			
	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total
Railway station	0	0	0	0	0	0	0	0	18	0	0	18	3	1	2	6	3	3	2	8	55	142	175	372
1996	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	0	1	12	80	34	126
1997	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	7	22	28	57
1998	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	1	2	13	6	19	38
1999	0	0	0	0	0	0	0	0	2	0	0	2	1	0	1	2	0	0	0	0	4	8	32	44
2000	0	0	0	0	0	0	0	0	6	0	0	6	1	0	1	2	1	1	0	2	11	15	30	56
10 months of 2001	0	0	0	0	0	0	0	0	4	0	0	4	0	1	0	1	2	0	1	3	8	11	32	51
Locomotive	1	0	0	1	0	0	0	0	3	3	1	7	1	0	0	1	4	2	9	15	616	777	854	2247
1996	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	1	0	0	1	135	167	228	530
1997	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	73	109	111	293
1998	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2	0	3	5	103	85	78	266
1999	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	2	3	90	89	124	303
2000	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	109	162	145	416
10 months of 2001	0	0	0	0	0	0	0	0	1	1	0	2	1	0	0	1	0	1	3	4	106	165	168	439
Route and bridge	0	0	1	1	1	0	0	1	46	1	7	54	6	0	5	11	1	1	1	3	79	27	161	267
1996	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	11	1	27	39
1997	0	0	0	0	0	0	0	0	4	0	1	5	0	0	1	1	0	0	0	0	8	8	26	42
1998	0	0	0	0	0	0	0	0	8	1	0	9	0	0	2	2	0	0	0	0	18	2	26	46
1999	0	0	0	0	0	0	0	0	5	0	1	6	1	0	1	2	0	0	0	0	10	2	19	31
2000	0	0	0	0	1	0	0	1	13	0	2	15	3	0	0	3	1	0	1	2	16	6	34	56
10 months of 2001	0	0	1	1	0	0	0	0	11	0	3	14	2	0	1	3	0	1	0	1	16	8	29	53
Wagon	0	1	0	1	0	0	0	0	17	2	6	25	0	0	1	1	0	0	0	0	963	1144	963	3070
1996	0	0	0	0	0	0	0	0	1	1	3	5	0	0	0	0	0	0	0	0	205	282	263	750
1997	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	0	0	0	0	0	180	162	113	455
1998	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	189	171	95	455
1999	0	0	0	0	0	0	0	0	4	0	1	5	0	0	0	0	0	0	0	0	123	135	89	347
2000	0	0	0	0	0	0	0	0	2	0	1	3	0	0	1	1	0	0	0	0	145	179	176	500
10 months of 2001	0	1	0	1	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	121	215	227	563

Appendix 5.3 - 5(B)
Accident Classification by Railway Management Unit (RMU)

Sector	Too serious accidents				Serious accidents				Light accidents				Others				Rule violation				Train operating hindrance			
	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total	RMU1	RMU2	RMU3	Total
Communication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	41	51	228	320
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	55	65
1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	12	38	61
1998	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1	22	31
1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	4	49	63
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17	35	54
10 months of 2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	5	12	29	46
Facilities	0	0	0	0	0	0	0	0	7	1	6	14	1	0	1	2	4	0	4	8	13	16	24	53
1996	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	1	0	2	3	0	2	3	5
1997	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	1	0	0	0	0	1	1	9	11
1998	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	1	0	1	2	1	1	2	4
1999	0	0	0	0	0	0	0	0	2	0	1	3	0	0	0	0	0	0	0	0	3	1	4	8
2000	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	2	3	8	4	15
10 months of 2001	0	0	0	0	0	0	0	0	2	1	1	4	0	0	1	1	1	0	0	1	5	3	2	10
Other sector	2	3	3	8	6	3	6	15	146	26	74	246	1253	413	709	2375	1	1	1	3	638	218	674	1530
1996	0	1	0	1	1	1	1	3	13	3	15	31	121	53	123	297	0	0	1	1	124	37	134	295
1997	1	2	0	3	1	0	1	2	18	2	8	28	124	59	91	274	0	0	0	0	96	27	83	206
1998	0	0	1	1	0	0	0	0	22	2	10	34	176	63	101	340	0	0	0	0	103	25	111	239
1999	1	0	0	1	1	0	1	2	31	2	17	50	258	60	122	440	0	0	0	0	87	31	120	238
2000	0	0	2	2	1	2	2	5	34	3	13	50	311	88	145	544	0	0	0	0	110	51	113	274
10 months of 2001	0	0	0	0	2	0	1	3	28	14	11	53	263	90	127	480	1	1	0	2	118	47	113	278
Unknown	0	0	0	0	0	0	0	0	17	1	4	22	0	0	0	0	0	0	0	0	1		1	2
1996	0	0	0	0	0	0	0	0	4	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	0	0	0	0	0	1	0	0	1
1998	0	0	0	0	0	0	0	0	4	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
10 months of 2001	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1	1
Total	3	4	4	11	7	3	6	16	254	34	98	386	1264	414	718	2396	15	7	17	39	2406	2375	3080	7861

Source: Vietnam Railway Unions

Appendix 5.3 - 6(A)

Total Late and Stalemate Time by Sector of Railway Management Units from 1996 to 2001

Sector	Total				Late								Hindrance							
	RMU1	RMU2	RMU3	Total	RMU1		RMU2		RMU3		Total		RMU1		RMU2		RMU3		Total	
					hour	minute	hour	minute	hour	minute	hour	minute	hour	minute	hour	minute	hour	minute	hour	minute
Railway station	79	146	179	404	97	40	99	41	97	32	294	53	26	37	1	55	1	46	30	18
1996	16	81	34	131	9	45	62	59	28	26	101	10	4	5	0	40	0	0	4	45
1997	8	22	28	58	0	57	16	4	26	1	43	2	0	42	0	8	0	0	0	50
1998	15	7	20	42	6	6	2	32	2	35	11	13	0	20	0	0	0	20	0	40
1999	7	8	33	48	17	8	3	32	3	51	24	31	6	4	0	0	0	0	6	4
2000	19	16	31	66	33	30	9	44	20	30	63	44	6	27	1	1	0	41	8	9
10 months of 2001	14	12	33	59	30	14	4	50	16	9	51	13	8	59	0	6	0	45	9	50
Locomotive	625	782	864	2271	1074	9	731	28	913	31	2719	8	415	9	306	34	319	11	1040	54
1996	137	168	228	533	256	28	172	5	271	55	700	28	75	31	74	7	89	9	238	47
1997	73	109	112	294	142	40	61	22	81	37	285	39	47	52	40	38	34	29	122	59
1998	105	86	81	272	171	0	55	47	86	26	313	13	88	8	27	50	32	43	148	41
1999	92	89	126	307	114	28	37	20	128	32	280	20	80	57	43	52	57	39	182	28
2000	110	163	146	419	228	37	183	9	168	29	580	15	71	43	59	23	62	33	193	39
10 months of 2001	108	167	171	446	160	56	221	45	176	32	559	13	50	58	60	44	42	38	154	20
Route, bridge	133	29	175	337	487	57	27	14	108	54	624	5	347	20	16	25	119	52	483	37
1996	16	1	27	44	41	11	0	37	13	37	55	25	41	58	0	0	27	59	69	57
1997	12	8	28	48	31	28	21	17	7	33	60	18	55	36	9	31	17	49	82	56
1998	26	3	28	57	85	22	1	44	8	37	95	43	55	55	2	37	13	58	72	30
1999	16	2	21	39	77	33	0	0	29	59	107	32	55	33	1	35	20	4	77	12
2000	34	6	37	77	128	51	2	32	17	12	148	35	73	23	1	36	18	15	93	14
10 months of 2001	29	9	34	72	123	32	1	4	31	56	156	32	64	55	1	6	21	47	87	48
Wagon	980	1147	970	3097	750	58	583	28	415	32	1749	58	300	49	145	54	147	46	594	29
1996	206	283	266	755	176	18	140	13	133	13	449	44	57	51	36	31	51	26	145	48
1997	183	162	114	459	159	10	77	19	34	41	271	10	56	52	24	1	30	53	111	46
1998	192	171	95	458	90	3	46	45	33	37	170	25	54	27	16	15	16	55	87	37
1999	127	135	90	352	94	48	43	27	56	46	195	1	41	1	8	45	17	41	67	27
2000	147	179	178	504	100	11	60	0	57	58	218	9	44	40	18	9	21	17	84	6
10 months of 2001	125	217	227	569	130	28	215	44	99	17	445	29	45	58	42	13	9	34	97	45

Appendix 5.3 - 6(B)

Total Late and Stalemate Time by Sector of Railway Management Units from 1996 to 2001

Sector	Total				Late								Hindrance							
	RMU1	RMU2	RMU3	Total	RMU1		RMU2		RMU3		Total		RMU1		RMU2		RMU3		Total	
					hour	minute	hour	minute	hour	minute	hour	minute	hour	minute	hour	minute	hour	minute	hour	minute
Communication	43	51	228	322	13	42	12	31	20	29	46	42	3	50	0	59	2	1	6	50
1996	5	5	55	65	3	21	1	2	7	58	12	21	0	50	0	0	0	32	1	22
1997	11	12	38	61	4	59	6	25	2	47	14	11	0	6	0	28	0	16	0	50
1998	8	1	22	31	1	37	0	12	1	25	3	14	1	6	0	0	0	29	1	35
1999	10	4	49	63	1	41	0	38	3	21	5	40	0	38	0	0	0	7	0	45
2000	2	17	35	54	0	11	2	10	3	10	5	31	0	0	0	0	0	20	0	20
10 months of 2001	7	12	29	48	1	53	2	4	1	48	5	45	1	10	0	31	0	17	1	58
Facilities	25	17	35	77	155	13	30	57	33	54	220	4	73	14	14	10	41	56	129	20
1996	1	2	7	10	0	0	2	7	10	53	13	0	0	20	0	40	13	42	14	42
1997	4	1	9	14	61	18	0	0	0	8	61	26	13	51	0	18	5	12	19	21
1998	3	1	4	8	1	32	0	0	6	27	7	59	11	6	0	11	7	50	19	7
1999	5	1	5	11	6	48	0	0	0	12	7	0	7	47	0	28	0	47	9	2
2000	4	8	6	18	56	38	26	32	11	31	94	41	23	21	8	49	7	49	39	59
10 months of 2001	8	4	4	16	28	57	2	18	4	43	35	58	16	49	3	44	6	36	27	9
Other sector	2046	664	1467	4177	1677	34	655	52	701	20	3034	46	1311	10	396	18	733	56	2441	24
1996	259	95	274	628	268	50	182	50	103	44	555	24	183	39	99	47	163	45	447	11
1997	240	90	183	513	276	50	27	11	35	12	339	13	228	54	36	46	51	38	317	18
1998	301	90	223	614	123	54	218	30	173	37	516	1	157	6	98	30	115	47	371	23
1999	378	93	260	731	300	20	48	9	144	12	492	41	220	51	39	31	142	47	403	9
2000	456	144	275	875	327	37	39	7	150	6	516	50	242	16	52	50	171	22	466	28
10 months of 2001	412	152	252	816	380	3	140	5	94	29	614	37	278	24	68	54	88	37	435	55
Unknown	18	1	5	24	127	27	113	57	3	32	244	56	91	3	25	20	10	26	126	49
1996	4	0	1	5	30	35	81	1	0	0	111	36	25	55	0	0	5	26	31	21
1997	4	0	1	5	30	18	0	0	0	40	30	58	20	5	0	0	0	0	20	5
1998	4	0	1	5	2	7	0	0	2	27	4	34	23	50	0	0	0	0	23	50
1999	1	1	1	3	4	0	9	54	0	0	13	54	0	0	4	20	5	0	9	20
2000	2	0	0	2	47	46	23	2	0	0	70	48	13	0	21	0	0	0	34	0
10 months of 2001	3	0	1	4	12	41	0	0	0	25	13	6	8	13	0	0	0	0	8	13
Total	3949	2837	3923	10709	4384	40	2255	8	2294	44	8934	32	2569	12	907	35	1376	54	4853	41

SB-31

Source: Vietnam Railway Unions

Appendix 5.3 - 7: Railway Accidents by Railway Management Units

1 - Too Serious Accidents by RMUs

Sector	RMU1						RMU2						RMU3					
	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001
Railway station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Locomotive	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Route and Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Wagon	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Communication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Facilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other sector	0	1	0	1	0	0	1	2	0	0	0	0	0	0	1	0	2	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	1	0	1	2	0	0	0	1	0	0	1	0	2	1

Source: Vietnam Railway Unions

2 - Serious Accidents by RMUs

Sector	RMU1						RMU2						RMU3					
	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001
Railway station	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Locomotive	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Route and Bridge	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Wagon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Communication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Facilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other sector	1	1	0	1	1	2	1	0	0	0	2	0	1	1	0	1	2	1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	1	2	2	1	0	0	0	2	0	1	1	0	1	2	1

Source: Vietnam Railway Unions

Appendix 5.3 - 7: Railway Accidents by Railway Management Units

3 - Light Accidents by RMU_s

Sector	RMU1						RMU2						RMU3						
	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001	
Railway station	4	0	2	2	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Locomotive	1	0	0	1	0	1	1	0	1	0	0	1	0	1	0	0	0	0	0
Route and Bridge	5	4	8	5	13	11	0	0	1	0	0	0	0	1	0	1	2	3	3
Wagon	1	3	3	4	2	4	1	0	0	0	0	1	3	1	0	1	1	1	0
Communication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Facilities	0	2	1	2	0	2	0	0	0	0	0	1	2	0	1	1	1	1	1
Other sector	13	18	22	31	34	28	3	2	2	2	3	14	15	8	10	17	13	11	11
Unknown	4	3	4	1	2	3	0	0	0	1	0	0	1	1	1	1	0	0	0
Total	28	30	40	46	57	53	5	2	4	3	3	17	21	12	12	21	17	15	15

Source: Vietnam Railway Unions

4 - Other Accidents by RMU_s

Sector	RMU1						RMU2						RMU3						
	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001	
Railway station	0	1	0	1	1	0	0	0	0	0	0	1	0	0	0	1	1	1	0
Locomotive	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Route and Bridge	0	0	0	1	3	2	0	0	0	0	0	0	0	1	2	1	0	1	1
Wagon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Communication	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Facilities	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Other sector	121	124	176	258	311	263	53	59	63	60	88	90	123	91	101	122	145	127	127
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	121	126	176	260	315	266	53	59	63	60	88	91	123	92	103	124	147	129	129

Source: Vietnam Railway Unions

Appendix 5.3 - 7: Railway Accidents by Railway Management Units

5 - Rule Violations by RMUs

Sector	RMU1						RMU2						RMU3					
	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001
Railway station	0	0	0	0	1	2	1	0	1	0	1	0	0	0	1	0	0	1
Locomotive	1	0	2	1	0	0	0	0	0	0	1	1	0	0	3	2	1	3
Route and Bridge	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0
Wagon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Communication	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Facilities	1	0	1	0	1	1	0	0	0	0	0	0	2	0	1	0	1	0
Other sector	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	3	1	3	6	1	0	1	0	2	3	3	0	5	2	3	4

Source: Vietnam Railway Unions

6 - Train Operating Hindrance by RMUs

Sector	RMU1						RMU2						RMU3					
	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001	1996	1997	1998	1999	2000	10 months of 2001
Railway station	12	7	13	4	11	8	80	22	6	8	15	11	34	28	19	32	30	32
Locomotive	135	73	103	90	109	106	167	109	85	89	162	165	228	111	78	124	145	168
Route and Bridge	11	8	18	10	16	16	1	8	2	2	6	8	27	26	26	19	34	29
Wagon	205	180	189	123	145	121	282	162	171	135	179	215	263	113	95	89	176	227
Communication	5	11	8	10	2	5	5	12	1	4	17	12	55	38	22	49	35	29
Facilities	0	1	1	3	3	5	2	1	1	1	8	3	3	9	2	4	4	2
Other sector	124	96	103	87	110	118	37	27	25	31	51	47	134	83	111	120	113	113
Unknown	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	492	377	435	327	396	379	574	341	291	270	438	461	744	408	353	437	537	601

Source: Vietnam Railway Unions

Appendix 5.4 - 1(A)
Inland Waterway Accidents by Province, 1999 - 2000

N°	Name of Province	Number of accidents		Fatalities		Injuries		Sunk vessels		Too serious		Serious		Light serious	
		1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000
1	Du Nang	3	1	1	1	0	0	1		0	0	0	1	3	0
2	Dong Nai	8	7	9	4	0	0	1	5	2	1	1	4	5	2
3	Dong Thap	12	14	11	7	3	4	0	10	0	1	10	6	2	7
4	An Giang	10	15	6	7	0	0	9	7	0	0	5	7	5	8
5	Binh Dinh	0	3	0	0	0	0	0	2	0	0	0	0	0	3
6	Binh Duong	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7	Binh Phuoc	0	1	0	4	0	0	0	1	0	1	0	0	0	0
8	Binh Thuan	0	2	0	10	0	7	0	0	0	2	0	0	0	0
9	Ba Ria - Vung Tau	15	15	5	4	9	0	6	7	0	1	6	3	9	11
10	Bac Can	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Bac Giang	2	1	5	1	0	0	0	0	1	0	1	1	0	0
12	Bac Ninh	2	0	1	0	0	0	2	0	0	0	1	0	1	0
13	Bac Lieu	11	12	8	5	5	4	0	4	0	0	8	4	3	8
14	Ben Tre	3	7	1	4	0	0	1	0	0	0	1	4	2	3
15	Ca Mau	21	25	13	20	17	3	7	1	1	1	17	15	3	9
16	Can Tho	21	14	7	13	4	12	3	2	0	3	9	10	12	1
17	Ha Noi	3	1	0	0	0	0	3	1	0	0	0	0	3	1
18	Ha Nam	2	0	0	0	0	0	2	0	0	0	1	0	1	0
19	Ha Tay	3	1	2	7	0	0	2	0	0	1	1	0	2	0
20	Ha Tinh	6	2	3	1	1	0	2	1	0	0	3	1	3	1
21	Hai Duong	9	16	1	0	0	1	8	4	0	0	2	3	7	13
22	Hai Phong	7	13	13	13	1	1	5	11	2	1	3	5	2	7
23	Kien Giang	17	9	6	2	9	4	3	3	0	0	9	2	8	7
24	Hung Yen	1	0	0	0	0	0	0	0	0	0	0	0	1	0
25	Hoa Binh	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	Khanh Hoa	1	0	2	0	0	0	0	0	0	0	1	0	0	0
27	Lao Cai	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Lai Chau	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Long An	16	21	8	6	5	2	5	14	0	1	7	7	9	13
30	Nam Dinh	6	8	3	4	0	0	3	3	1	0	0	5	5	4
31	Nghe An	4	2	9	0	1	0	0	0	1	0	3	0	0	2
32	Ninh Binh	2	4	0	0	0	0	0	3	0	1	0	1	2	2

Appendix 5.4 - 1(B)
Inland Waterway Accidents by Province, 1999 - 2000

N°	Name of Province	Number of accidents		Fatalities		Injuries		Sunk vessels		Too serious		Serious		Light serious	
		1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000
33	Ninh Thuan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	Phu Tho	1	3	2	2	0	0	0	0	0	0	1	2	0	1
35	Phu Yen	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Quang Binh	0	2	0	5	0	0	0	1	0	1	0	1	0	0
37	Quang Nam	2	2	6	1	0	1	0	0	1	0	1	1	0	1
38	Quang Ngai	1	2	11	5	0	0	0	0	1	1	0	1	0	0
39	Quang Ninh	12	25	24	21	2	3	10	16	2	3	6	6	4	16
40	Quang Tri	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Son La	7	1	20	2	0	0	0	0	3	0	3	1	1	0
42	Soc Trang	12	17	9	5	0	9	0	0	1	1	6	7	5	9
43	Tay Ninh	2	2	3	6	0	0	0	0	0	2	2	0	0	0
44	Thai Binh	4	10	13	2	0	0	2	3	1	0	1	3	2	7
45	Thai Nguyen	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	Thanh Hoa	4	3	17	4	0	1	0	2	2	1	1	0	1	1
47	Thua Thien Hue	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	Tien Giang	15	15	13	7	1	2	5	4	1	1	5	6	6	10
49	Ho Chi Minh City	50	39	5	8	1	2	15	0	1	2	12	9	37	28
50	Tra Vinh	10	5	6	2	1	0	0	0	0	0	5	2	5	3
51	Tuyen Quang	3	6	5	26	0	1	0	2	1	2	2	2	0	2
52	Vinh Long	9	17	7	8	2	2	1	0	0	0	6	9	3	8
53	Vinh Phuc	2	0	1	0	0	0	1	0	0	0	1	0	1	0
54	Yen Bai	0	1	0	5	0	0	0	0	0	1	0	0	0	0
	Total	319	345	256	222	62	59	97	107	22	29	141	129	153	189

Source: Inland Waterway Traffic Police Bureau

Notice: Water transport is not available in 7 provinces of Gia Lai, KonTum, DakLak, Ha Giang, Lam Dong, Cao Bang and Lang Son

Light accident is an accident without a killed person, number of its heavy injured persons is 2 and less (according to the Health Organization's regulation), or causes the damage of the transport means that don't require to do any big repair.

Serious accident is an accident with 2 and less killed persons or with 3 heavy injured persons, or causes the damage of the transport means that needs to do a big repair (i.e. overhaul) or causes traffic jam within 12-14 hours.

Too serious accidents is an accident with 3 and more killed persons or with 4 and more heavy injured persons, or causes the damage of transport means that needs liquidation, or causes traffic jam more than 24 hours.

Appendix 5.4 - 2(A)

Main Causes of Inland Waterway from 1999 to 2000 by Province

No	Name of province	Number of accidents		Fatalities		Injuries		Sunk vessels		Property damage (Mill. VND)		Over taking		Overloaded		Unsafe transport means		Licenses		Narrow passage		Drunk driving		Others	
		1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000
1	Da Nang	3	1	1	1	0	0	1	0	200	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1
2	Dong Nai	8	7	9	4	0	0	1	5	112	0	2	2	2	0	2	3	0	0	1	0	0	0	1	2
3	Dong Thap	12	14	11	7	3	4	0	10	17	259	4	6	0	0	4	0	0	2	0	0	2	0	2	5
4	An Giang	10	15	6	7	0	0	9	7	100	150	5	8	0	0	2	0	0	2	2	3	0	0	1	2
5	Binh Dinh	0	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
6	Binh Duong	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7	Binh Phuoc	0	1	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8	Binh Thuan	0	2	0	10	0	7	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
9	Ba Ria - Vung Tau	15	15	5	4	9	0	6	7	635	1271	4	4	0	2	2	0	2	1	1	4	0	0	6	4
10	Bac Can	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Bac Giang	2	1	5	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
12	Bac Ninh	2	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
13	Bac Lieu	11	12	8	5	5	4	0	4	500	35	7	10	0	0	1	1	0	1	1	0	0	2	0	
14	Ben Tre	3	7	1	4	0	0	1	0	210	100	3	2	0	1	0	0	0	4	0	1	0	1	0	0
15	Ca Mau	21	25	13	20	17	3	7	1	60	327	12	7	0	5	3	2	1	1	3	5	0	1	0	4
16	Can Tho	21	14	7	13	4	12	3	2	201	474	9	4	0	2	4	0	3	1	1	4	0	0	4	3
17	Ha Nam	2	0	0	0	0	0	2	0	100	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
18	Ha Noi	3	1	0	0	0	0	3	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	1	0
19	Ha Tay	3	1	2	7	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	1	0
20	Ha Tinh	6	2	3	1	1	0	2	1	160	0	3	0	0	1	0	1	0	0	0	0	0	0	3	0
21	Hai Duong	9	16	1	0	0	1	8	4	150	0	4	11	0	3	2	0	0	1	2	0	0	0	1	2
22	Hai Phong	7	13	13	13	1	1	5	11	100	0	2	5	2	0	0	0	0	4	1	2	0	0	2	2
23	Hung Yen	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
24	Hoa Binh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Khanh Hoa	1	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
26	Kien Giang	17	9	6	2	9	4	3	3	287	0	7	6	1	1	2	0	0	0	4	0	0	0	3	2
27	Lao Cai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 5.4 - 2(B)

Main Causes of Inland Waterway from 1999 to 2000 by Province

No	Name of province	Number of accidents		Fatalities		Injuries		Sunk vessels		Property damage (Mill. VND)		Over taking		Overloaded		Unsafe transport means		Licenses		Narrow passage		Drunk driving		Others	
		1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000	1999	2000
28	Lai Chau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Long An	16	21	8	6	5	2	5	14	185	50	3	3	1	11	0	0	0	0	5	3	0	0	7	4
30	Nam Dinh	6	8	3	4	0	0	3	3	0	66	2	1	1	1	1	0	0	0	1	2	0	0	1	4
31	Nghe An	4	2	9	0	1	0	0	0	0	0	0	2	1	0	0	0	0	0	1	0	0	0	2	0
32	Ninh Binh	2	4	0	0	0	0	0	3	0	300	0	0	0	0	0	0	0	0	0	2	0	0	2	2
33	Ninh Thuan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	Phu Tho	1	3	2	2	0	0	0	0	0	0	0	2	1	0	0	0	0	1	0	0	0	0	0	0
35	Phu Yen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Quang Binh	0	2	0	5	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
37	Quang Nam	2	2	6	1	0	1	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0
38	Quang Ninh	12	25	24	21	2	3	10	16	106	138	6	9	1	5	0	3	2	0	0	0	0	3	8	
39	Quang Ngai	1	2	11	5	0	0	0	0	0	100	0	1	1	0	0	0	1	0	0	0	0	0	0	0
40	Quang Tri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	Son La	7	1	20	2	0	0	0	0	20	0	0	0	5	0	0	0	0	1	0	0	0	0	2	0
42	Soc Trang	12	17	9	5	0	9	0	0	113	278	4	6	2	3	1	0	0	4	2	1	0	0	3	3
43	Tay Ninh	2	2	3	6	0	0	0	0	120	14	1	1	1	0	0	0	0	0	1	0	0	0	0	0
44	Thai Binh	4	10	13	2	0	0	2	3	48	150	1	3	1	1	0	0	0	0	0	0	0	0	2	6
45	Thai Nguyen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	Thanh Hoa	4	3	17	4	0	1	0	2	0	0	0	0	2	0	0	0	0	0	2	0	0	0	2	1
47	Thua Thien Hue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	Tien Giang	15	15	13	7	1	2	5	4	302	0	5	6	1	2	2	1	1	0	1	2	0	1	2	5
49	Ho Chi Minh City	50	39	5	8	1	2	15	0	855	0	28	7	1	5	11	2	3	10	4	6	0	0	3	9
50	Tra Vinh	10	5	6	2	1	0	0	0	40	502	5	2	0	0	1	0	0	1	2	2	0	0	2	0
51	Tuyen Quang	3	6	5	26	0	1	0	2	0	88	0	0	1	0	0	0	0	0	1	3	1	0	0	3
52	Vinh Long	9	17	7	8	2	2	1	0	130	101	4	10	0	4	4	0	0	0	0	0	0	1	3	
53	Vinh Phuc	2	0	1	0	0	0	1	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
54	Yen Bai	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	Total	319	345	256	222	62	59	97	107	4757	4403	126	120	30	48	44	14	12	36	34	47	5	3	65	81

Source: NTSC

Appendix 5.4 - 3(A)

Accident - Prone Locations on the Main Rivers Managed by VIWA in 2000-2001

No	Location	Name of River	Locality (Commune, District, Province)	Area	Accident		Fatality		Injury	
					2000	2001	2000	2001	2000	2001
1	Km 6	Da Bach River	Lien Khe, Thuy Nguyen, Hai Phong	North	1	0	7	0	0	0
2	Km 8+500	Da Bach River	Phuong Nam - Uong Bi - Quang Ninh	North	0	1	0	0	0	0
3	Km 9+500	Da Bach River	Phuong Nam - Uong Bi - Quang Ninh	North	1	0	0	0	0	0
4	Km13	Da Bach River	Gia Duc, Thuy Nguyen, Hai Phong	North	1	0	0	0	0	0
5	Km 17	Da Bach River	Dien Cong - Uong Bi - Quang Ninh	North	1	0	2	0	0	0
6	Km 15	Day River	Hong Quang - Ung Hoa - Ha Tay	North	1	0	0	0	0	0
7	Km 71	Day River	Gia Thich - Gia Vien - Ninh Binh	North	2	0	0	0	0	0
8	Km 72+00	Day River	Yen Bang - Y Yen - Nam Dinh	North	0	1	0	0	0	0
9	Km 86	Day River	Ninh Khang - Hoa Lu - Ninh Binh	North	1	0	0	0	0	0
10	Km 89	Day River	Yen Binh - Y Yen - Nam Dinh	North	1	0	0	0	0	0
11	Km 102	Day River	Khanh Cu - Yen Khanh - Ninh Binh	North	1	0	0	0	0	0
12	Km 128	Day River	Nghia Son - Nghia Hung, Nam Dinh	North	1	0	0	0	0	0
13	Km 132+900	Day River	Nghia Hong - Nghia Hung - Nam Dinh	North	1	0	0	0	0	0
14	Km 140+200	Day River	Nghia Thuy - Nghia Hung - Nam Dinh	North	1	0	0	0	0	0
15	Km 6	Duong River	Mai Lam - Dong Anh - Ha Noi	North	1	0	0	0	0	0
16	Km 9+00,+500	Duong River	Yen Vien - Gia Lam - Ha Noi	North	1	1	0	0	0	0
17	Km 19	Duong River	Dong Vien - Gia Lam - Ha Noi	North	0	1	0	0	0	0
18	Km 20+400	Duong River	Le Chi - Gia Lam - Ha Noi	North	0	1	0	0	0	0
19	Km 57	Duong River	Chau Phong - Que Vo - Bac Ninh	North	1	0	1	0	0	0
20	Km 64,+200	Duong River	Van Doan area	North	0	2	0	1	0	0
21	Km 2+00	Dao Nam Dinh River	Nam Phong - Nam Dinh City	North	0	1	0	0	0	0
22	Km 6+00	Dao Nam Dinh River	Nam Phong - Nam Dinh City	North	0	1	0	1	0	0
23	Km 27	Dao Nam Dinh River	Nghia Thien - Nghia Hung - Nam Dinh	North	1	0	0	0	0	0
24	Km 29+700	Dao Nam Dinh River	Nghia Minh - Nghia Hung - Nam Dinh	North	0	1	0	1	0	0
25	Km 31+500	Dao Nam Dinh River	Yen Nhan - Y Yen - Nam Dinh	North	0	1	0	1	0	0
26	Hon Bai Tho	Bach Dang River	Bach Dang - Ha Long - Quang Ninh	North	1	0	0	0	0	0
27	Qua Soai L.point	Bach Dang River		North	1	0	0	0	0	0
28	Km 2+100	Bach Dang River	Phuc Lo - Thuy Nguyen - Hai Phong	North	1	0	0	0	0	0
29	Km 74	Cau River	Viet Long - Soc Son - Ha Noi	North	0	1	0	1	0	0
30	Km 84+100	Cau River	Trung Gia - Soc Son - Ha Noi	North	1	0	0	0	0	0
31	Km 2+800	Cau Xe River	Quang Trung - Tu Ky - Hai Duong	North	2	0	0	0	0	0
32	Km 0+200,+800	Cam River	Dai Ban - An Hai - Hai Phong	North	2	0	1	0	0	0
33	Km 2+200	Cam River	Dai Ban - An Hai - Hai Phong	North	1	0	0	0	0	0
34	Km 5+500	Cam River	Kieu Bai - Thuy Nguyen - Hai Phong	North	1	0	0	0	0	0
35	Km 3	Chanh River	Nam Ha - Yen Hung - Quang Ninh	North	2	0	1	0	0	0
36	Km 12+500	Chanh River	Xuan Van - Yen Son - Tuyen Quang	North	1	0	1	0	0	0
37	Km 4+600	Han River	Thai Thinh - Kinh Mon - Hai Duong	North	1	0	2	0	0	0
38	Km 7+800	Han River	Hop Thanh - Thuy Nguyen - Hai Phong	North	1	0	1	0	0	0
39	Km 8+400	Han River	Thai Thinh - Kinh Mon - Hai Duong	North	1	0	0	0	0	0
40	Km	Hong River	Hong An - Hung Ha - Thai Binh	North	0	1	0	0	0	0
41	Km 11	Hong River	Vinh Lai - Lam Thao - Phu Tho	North	1	0	0	0	0	0

Appendix 5.4 - 3(A)

Accident - Prone Locations on the Main Rivers Managed by VIWA in 2000-2001

No	Location	Name of River	Locality (Commune, District, Province)	Area	Accident		Fatality		Injury	
					2000	2001	2000	2001	2000	2001
42	Km 33	Hong River	Trung Ha - Yen Lac - Vinh Phuc	North	0	1	0	0	0	0
43	Km 50	Hong River	Lien Trung - Dan Phuong - Ha Tay	North	1	0	7	0	0	0
44	Km 55	Hong River	Vong La - Dong Anh - Ha Noi	North	1	0	0	0	0	0
45	Km 66	Hong River	Quang Chau - Tien Lu - Hung Yen	North	1	0	0	0	0	0
46	Km 70	Hong River	Long Bien Bridge - Gia Lam - Ha Noi	North	1	0	0	0	0	0
47	Km 70+00,+300,+700	Hong River	Gia Lam - Ha Noi	North	2	2	0	0	0	0
48	Km 71+500	Hong River	Phuc Tan - Hoan Kiem - Ha Noi	North	0	1	0	0	0	0
49	Km 72+500	Hong River	Long Bien - Gia Lam - Ha Noi	North	0	1	0	0	0	0
50		Hong River	Bat Trang - Gia Lam - Ha Noi	North	1	0	0	0	0	0
51	Km 75	Hong River	Tan Lu - Hung Ha - Thai Binh	North	1	0	0	0	0	0
52	Km 76	Hong River	Phu Son - Hung Ha - Thai Binh	North	1	0	0	0	0	0
53	Km 78	Hong River	Tien Duc - Hung Ha - Thai Binh	North	1	0	0	0	0	0
54	Km 83+500	Hong River	Minh Tan - Hung Ha - Thai Binh	North	1	0	0	0	0	0
55	Km 86+800	Hong River	Duyen Ha - Thanh Tri - Ha Noi	North	0	1	0	0	0	0
56	Km 90	Hong River	Hong Minh - Hung Ha - Thai Binh	North	1	0	1	0	0	0
57	Km 101	Hong River	Xuan Chau - Xuan Truong - Nam Dinh	North	1	0	0	0	0	0
58	Km 107	Hong River	Khanh Tien - Yen Khanh - Ninh Binh	North	1	0	0	0	0	0
59	Km 116	Hong River	My Tan - My Loc - Nam Dinh	North	1	0	0	0	0	0
60	Km 141+700	Hong River	Vu Van - Vu Thu - Thai Binh	North	1	0	0	0	0	0
61	Km 146	Hong River	My Tan - My Loc - Nam Dinh	North	0	1	0	0	0	0
62	Km 147+200	Hong River	Xuan Tan - Xuan Truong - Nam Dinh	North	1	0	0	0	0	0
63	Km 167+700	Hong River	Nam Phai - Tien Hai - Thai Binh	North	1	0	2	0	0	0
64	Km 0+900	Kinh Mon River	Kinh Long - Kinh Mon - Hai Duong	North	1	0	0	0	0	0
65	Km 01+00	Kinh Mon River	Cong Hoa - Nam Sach - Hai Duong	North	0	1	0	0	0	0
66	Km 27+200	Kinh Mon River	Long Xuyen - Kinh Mon - Hai Duong	North	0	1	0	0	0	0
67	Km 10+500	Kinh Thay River	Van An - Chi Linh - Hai Duong	North	1	0	0	0	0	0
68	Km 12	Kinh Thay River	Thanh Quang - Nam Sach - Hai Duong	North	1	1	0	0	0	0
69	Km 20+500	Kinh Thay River	Quang Trung - Kinh Mon - Hai Duong	North	0	1	0	1	0	0
70	Km 21+00,+500	Kinh Thay River	Phuc Thanh - Kinh Mon - Hai Duong	North	0	2	0	0	0	0
71	Km 24+500	Kinh Thay River	Le Ninh - Kinh Mon - Hai Duong	North	2	2	0	0	0	0
72	Km 25+500,+600	Kinh Thay River	Le Ninh - Kinh Mon - Hai Duong	North	1	2	0	0	0	0
73	Km 30+500	Kinh Thay River	Bach Dang - Kinh Mon - Hai Duong	North	1	0	0	0	0	0
74	Km 35,+500	Kinh Thay River	Hong Phong - Dong Trieu - Quang Ninh	North	2	0	0	0	0	0
75	Km 1+200	Lo River	Viet Tri Port - Phu Tho	North	1	0	0	0	0	0
76	Km 2+500,+700	Lo River	Viet Tri City - Phu Tho	North	2	0	0	0	0	0
77	Km 7	Lo River	Lau Thuong - Viet Tri - Phu Tho	North	1	0	0	0	0	0
78	Km 07+300	Lo River	Dien Lau - Viet Tri - Phu Tho	North	0	1	0	0	0	0
79	Km 9+500	Lo River	Dien Lau - Viet Tri - Phu Tho	North	0	1	0	0	0	0
80	Km 10+100	Lo River	Duc Bac - Lap Thach - Vinh Phuc	North	1	0	1	0	0	0
81	Km 14+00,+400	Lo River	Tu Yen - Lap Thach - Vinh Phuc	North	0	2	0	0	0	0
82	Km 17	Lo River	Tu Da - Phu Ninh - Phu Tho	North	2	0	2	0	0	0

Appendix 5.4 - 3(A)

Accident - Prone Locations on the Main Rivers Managed by VIWA in 2000-2001

No	Location	Name of River	Locality (Commune, District, Province)	Area	Accident		Fatality		Injury	
					2000	2001	2000	2001	2000	2001
83	Km 18	Lo River	Tu Da - Phu Ninh - Phu Tho	North	1	0	0	0	0	0
84	Km 21	Lo River	Binh Bo - Phu Ninh - Phu Tho	North	1	0	0	0	0	0
85	Km 22	Lo River	Binh Bo - Phu Ninh - Phu Tho	North	1	1	0	0	0	0
86	Km 23	Lo River	Binh Bo - Phu Ninh - Phu Tho	North	0	1	0	0	0	0
87	Km 23+200	Lo River	Binh Bo - Phu Ninh - Phu Tho	North	1	0	0	0	0	0
88	Km 27+500	Lo River	Binh Bo - Phu Ninh - Phu Tho	North	0	1	0	0	0	0
89	Km 53+800	Lo River	Van Son - Son Duong - Tuyen Quang	North	1	0	1	0	0	0
90	Km 112+500	Lo River	Thang Quan - Yen Son - Tuyen Quang	North	1	0	9	0	0	0
91	Km 0+600	Lach Tray River	Bat Trang - An Lao - Hai Phong	North	0	1	0	0	0	0
92	Km 2+400	Lach Tray River	Dai Duc - Kim Thanh - Hai Duong	North	1	0	0	0	1	0
93	Km 4+500	Lach Tray River	Bat Trang - An Lao - Hai Phong	North	1	0	0	0	0	0
94	Km 6+700	Lach Tray River	Dai Duc - Kim Thanh - Hai Duong	North	1	0	0	0	0	0
95	Km 12+500	Lach Tray River	Hai Phong	North	1	0	0	0	0	0
96	Km 15+300,+400	Lach Tray River	Truong Thanh - An Lao - Hai Phong	North	2	0	0	0	0	0
97	Km 16+500,+900	Lach Tray River	Truong Thanh - An Lao - Hai Phong	North	2	0	2	0	0	0
98	Km 17+00	Lach Tray River	Le Loi - An Hai - Hai Phong	North	0	1	0	0	0	0
99	Km 21+900	Lach Tray River	Quoc Tuan - An Hai - Hai Phong	North	1	0	0	0	0	0
100	Km 26+500	Lach Tray River	Hong Thai - An Hai - Hai Phong	North	1	0	0	0	0	0
101	Km 29	Lach Tray River	Quan Tru - Kien An - Hai Phong	North	1	0	1	0	0	0
102	Km 03+200	Lai Vu River	Ai Quoc - Nam Sach - Hai Duong	North	0	1	0	0	0	0
103	Km 04+300	Lai Vu River	Lai Vu - Kim Thanh - Hai Duong	North	0	1	0	0	0	0
104	Km 6+00	Lai Vu River	Lai Vu - Kim Thanh - Hai Duong	North	0	1	0	0	0	0
105	Km 22+00	Lai Vu River	Thanh Xuan - Thanh Ha - Hai Duong	North	0	1	0	0	0	0
106	Km 6+500	Luoc River	Tan Le - Hung Ha - Thai Binh	North	1	0	0	0	0	0
107	Km 20+400	Luoc River	Tien Lu - Hung Yen	North	1	0	0	0	0	0
108	Km 25	Luoc River	Nguyen Ha - Phu Cu - Hung Yen	North	1	0	0	0	0	0
109	Km 48	Luoc River	Hiep Luc - Ninh Giang - Hai Duong	North	1	0	0	0	0	0
110	Km 57	Luoc River	Thang Thuy - Vinh Bao - Hai Phong	North	1	0	0	0	0	0
111	Km 4	Mao Khe River	Hung Dao - Dong Trieu - Quang Ninh	North	1	0	0	0	0	0
112	Km 6+500	Mao Khe River	Hung Dao - Dong Trieu - Quang Ninh	North	1	0	0	0	0	0
113	Km 17+080	Mao Khe River	Minh Tan - Kinh Mon - Hai Duong	North	1	0	1	0	0	0
114	Km 27	Ninh Co River	Truc Cuong - Truc Ninh - Nam Dinh	North	1	0	1	0	0	0
115	Km 0+050,+500	Phi Liet River	Phu Thu - Kinh Mon - Hai Duong	North	1	1	0	0	0	0
116	Km 2+100	Phi Liet River		North	1	0	0	0	0	0
117	Km 4	Phi Liet River	Lai Xuan - Thuy Nguyen - Hai Phong	North	1	0	0	0	0	0
118	Km 5+850	Phi Liet River	Lai Xuan - Thuy Nguyen - Hai Phong	North	1	0	0	0	0	0
119	Km 4+500	Vac River	Khanh Thuong - Yen Mo - Ninh Binh	North	1	0	0	0	0	0
120	Km 11	Vac River	Roa Bridge	North	1	0	0	0	0	0
121	Km 21+200	Vac River	Phat Diem - Kim Son - Ninh Binh	North	1	0	0	0	0	0
122	Km 26	Vac River	Kim Chinh - Kim Son - Ninh Binh	North	1	0	0	0	0	0
123	Km 0+600	Ong Hien - Ta Nien Canal	Vinh Hiep - Rach Gia - Kien Giang	South	1	0	0	0	0	0

Appendix 5.4 - 3(A)

Accident - Prone Locations on the Main Rivers Managed by VIWA in 2000-2001

No	Location	Name of River	Locality (Commune, District, Province)	Area	Accident		Fatality		Injury	
					2000	2001	2000	2001	2000	2001
124	Km 4+00	Ong Hien - Ta Nien Canal	Vinh Hiep - Rach Gia - Kien Giang	South	0	1	0	0	0	0
125	Km 7+500	Ong Hien - Ta Nien Canal	Rach Soi - Rach Gia town - Kien Giang	South	0	1	0	0	0	0
126	Km 8	Ong Hien - Ta Nien Canal	Rach Gia town - Kien Giang	South	1	0	0	0	0	0
127	Km 12+200	Ong Hien - Ta Nien Canal	Vinh Hoa Hiep - Chau Thanh - Kien Giang	South	1	0	0	0	0	0
128	Km 18+300	Cho Gao Canal	Binh Phan - Cho Gao - Vinh Long	South	0	1	0	0	0	0
129	Km 19+00	Cho Gao Canal	Binh Phan - Cho Gao - Vinh Long	South	0	1	0	0	0	0
130	Km 20+400	Cho Gao Canal	Cho gao town - Tien Giang	South	1	0	0	0	0	0
131	Km 21+400	Cho Gao Canal	Cho gao town - Tien Giang	South	1	0	1	0	2	0
132	Km 0+200	Cho Gao Canal	Cho Lach - Ben Tre	South	1	0	0	0	0	0
133	Km 2+850,+900	Cho Gao Canal	Gia Dinh - Cho Lach - Ben Tre	South	2	0	0	0	0	0
134	Km 3	Cho Gao Canal	Cho Lach town - Cho Lach - Ben Tre	South	1	0	0	0	0	0
135	Km 5	Cho Gao Canal	Hoa Nghia - Cho Lach - Ben Tre	South	1	0	0	0	0	0
136	Km 19+00	Mang Thit Canal	Tan Long Hoi - Mang Thit	South	0	1	0	0	0	0
137	Km 20+00	Mang Thit Canal	Tan An Luong - Vung Liem - Vinh Long	South	0	3	0	0	0	0
138	Km 24+00	Mang Thit Canal	Xuan Hiep - Tro on - Vinh Long	South	0	1	0	0	0	0
139	Km 26+700	Mang Thit Canal	Xuan Hiep - Tro on - Vinh Long	South	0	1	0	0	0	0
140	Km 32+500	Rach Gia - Ha Tien Canal	Binh An - Hon Dat - Kien Giang	South	1	0	0	0	0	0
141	Km 40	Rach Gia - Ha Tien Canal	Binh Giang - Hon Dat - Kien Giang	South	1	0	0	0	0	0
142	Km 54+500	Rach Gia - Ha Tien Canal	Hon Dat town - Hon Dat - An Giang	South	0	1	0	0	0	0
143	Km 56+200	Rach Gia - Ha Tien Canal	Hon Dat town - Hon Dat - An Giang	South	1	0	0	0	0	0
144	Km 64+300	Rach Gia - Ha Tien Canal	S-n Bi'n, Hbn \$Et, Kien Giang	South	1	0	0	0	0	0
145	Km 68+00	Rach Gia - Ha Tien Canal	An Thai Trung - Cai Be - Kien Giang	South	0	1	0	0	0	0
146	Km 74+00	Rach Gia - Ha Tien Canal	My Lam - Hon Dat - Ha Tien	South	0	1	0	0	0	0
147	Km 75+200	Rach Gia - Ha Tien Canal	My Lam - Hon Dat - Ha Tien	South	1	0	0	0	0	0
148	Km 0+600	Rach Gia - Long Xuyen Canal	My Binh - Long Xuyen - An Giang	South	1	0	0	0	0	0
149	Km 40+00	Rach Gia - Long Xuyen Canal	Thoai Giang - Thoai Dat - An Giang	South	0	1	0	1	0	0
150	Km 63+300	Rach Gia - Long Xuyen Canal	Vinh Hiep - Rach Gia town - Kien Giang	South	0	1	0	0	0	0
151	Km 1+00	Rach La Canal	Binh Xuan - Go Cong Dong - Tien Giang	South	0	1	0	0	0	0
152	Km 2+00	Rach La Canal	Thanh Vinh Dong - Chau Thanh - An Giang	South	0	1	0	0	0	0
153	Km 6+00	Rach La Canal	Dong Son - Go Cong Tay - Tien Giang	South	0	1	0	0	0	0
154	Km 8+500	Rach La Canal	Dong Son - Go Cong Tay - Tien Giang	South	0	1	0	0	0	0
155	Km 4+500	Rach Soi - Hau Giang Canal	Vinh Trinh - Thot Not - Can Tho	South	1	0	0	0	0	0
156	Km 26+00,+200	Rach Soi - Hau Giang Canal	Thanh An - Thot Not - Can Tho	South	0	2	0	0	0	0
157	Km 57+00	Rach Soi - Hau Giang Canal	Rach Soi - Rach Gia town - Kien Giang	South	0	1	0	0	0	0
158	Km 58+00,+500	Rach Soi - Hau Giang Canal	An Hoa - Rach Gia town - Kien Giang	South	0	2	0	0	0	0
159	Km 00+800	Thap Muoi No.1 Canal	Thanh Hoa - Thanh Hoa - Long An	South	0	1	0	0	0	0
160	Km 4+400	Thap Muoi No.1 Canal	Thanh Hoa - Long An	South	1	0	1	0	0	0
161	Km 14+500	Thap Muoi No.1 Canal	Tan Thanh - Long An	South	1	0	6	0	0	0
162	Km 32+225	Thap Muoi No.1 Canal	Nhon Hoa Lap - Tan Thanh - Long An	South	0	1	0	0	0	0
163	Km 17+800	Dong Nai River	Thuong Tan - Tan Uyen, Binh Duong	South	1	0	1	0	0	0
164	Km 33+300	Dong Nai River	Long Binh - District No. 9 - Ho Chi Minh City	South	0	1	0	3	0	0

Appendix 5.4 - 3(A)

Accident - Prone Locations on the Main Rivers Managed by VIWA in 2000-2001

No	Location	Name of River	Locality (Commune, District, Province)	Area	Accident		Fatality		Injury	
					2000	2001	2000	2001	2000	2001
165	Km 51+600	Dong Nai River		South	1	0	0	0	0	0
166	Km 54+250	Dong Nai River	Dong nai Bridge	South	0	1	0	0	0	0
167	Km 55+900	Dong Nai River	Thu Duc Port	South	1	0	1	0	0	0
168	Km 65	Dong Nai River		South	1	0	0	0	0	0
169	Km 9+500	Ben Tre River	Ben Tre town - Ben Tre	South	0	1	0	0	0	0
170	Km 13+300,+400,+450	Ben Tre River	BT Bridge - Ben Tre	South	2	1	0	1	0	0
171	Km 16+500	Ben Tre River	My Thach An - Ben Tre	South	1	0	1	0	0	0
172	Km 03+150	Co Chien River	An - Long Ho - Long	South	0	1	0	0	0	0
173	Km 27+200	Co Chien River	Tan Thieng - Cho Lach - Ben Tre	South	0	1	0	0	0	0
174	Km 61+500	Co Chien River	Long Duc - Tra Vinh town - Tra Vinh	South	0	1	0	2	0	0
175	Km 2+500	Can Giuoc River	Long Phung - Can Giuoc - Long An	South	1	0	1	0	0	0
176	Km 21+300	Can Giuoc River	Long Phung - Can Giuoc - Long An	South	1	0	0	0	0	0
177	Km 23	Can Giuoc River	Phuoc Dong - Can Duoc - Long An	South	1	0	0	0	0	0
178	CÇu An Th'ch	Cho Dem - Ben Luc R.		South	1	0	0	0	0	0
179	Km	Cho Dem - Ben Luc R.	Tan Nhut - Binh Chanh - Ho Chi Minh City	South	0	1	0	0	0	0
180	Km 20+00,+150	Cho Dem - Ben Luc R.	An Thanh - Ben Luc - Long An	South	0	2	0	1	0	1
181	Km 7+100	Hau River	Phuoc Binh - Long Xuyen - An Giang	South	0	1	0	1	0	1
182	Km 34+00	Hau River	Binh Thanh Dong - Phu Tan - An Giang	South	0	1	0	0	0	0
183	Km 36+00	Hau River	Binh Thuy - Chiau phu - An giang	South	1	0	1	0	0	0
184	Km 64+300	Hau River	Cho Moi - An Giang	South	1	0	0	0	0	0
185	Km 74+500	Hau River	Thoi Thuan - Thot Not - Can Tho	South	0	1	0	1	0	0
186	Km 42+530	Sai Gon Riiver	Cau Phu Long	South	0	1	0	0	0	0
187	Km 43+700	Sai Gon Riiver	Thanh Tuyen - Dan Thong, - Binh Duong	South	1	0	0	0	0	0
188	Km 71	Sai Gon Riiver	Phu Hoa Dong - Cu Chi - Ho Chi Minh City	South	1	0	3	0	0	0
189	Km 127+00	Tien River	Hoa Hung - Cai Be - Tien Giang	South	0	1	0	0	0	0
190	Km 129+400	Tien River	My Thuan ferry area	South	1	0	2	0	1	0
191	Km 130+300	Tien River	Hoa Hung - Cai Be - Tien Giang	South	0	1	0	0	0	0
192	Km 131+100	Tien River	My Thuan bridge 400 m Upstream	South	0	1	0	0	0	0
193	Km 240+00,+400	Tien River	Tan Chau - Tan Chau - An Giang	South	0	3	0	1	0	0
194	Km 242+00	Tien River	Tan Chau - Tan Chau - An Giang	South	0	1	0	0	0	0
195	Km 246+500	Tien River	Thuong Phuoc 2 - Hong Ngu - Dong Thap	South	0	1	0	2	0	0
196	Km 18+00	Vam Co River		South	1	1	0	0	0	0
197	CÇu BOn Loc	Vam Co Dong River		South	1	0	0	0	0	0
198	Km 19+00	Vam Co Tay River	Tan Lap - Moc Hoa - Long An	South	0	1	0	0	0	2
199	Km 49+500	Vam Co Tay River	My Thanh - Thu Thua - Long An	South	0	1	0	0	0	0
200	Km 85+200	Vam Co Tay River	Thach Hoa town - Thach Hoa - Long An	South	0	1	0	0	0	0
201	Km 95+500	Vam Co Tay River	Thach Phu - Thach Hoa - Long An	South	0	1	0	0	0	1
		Total			139	97	62	19	4	5

SB-43

Appendix 5.4 - 4
Main Inland Waterway Routes

Area	Number	Route name	River and canal name	Length (km)	Minimum depth (m)
North	1	Quang Ninh-Ninh Binh	Luoc, Dao, Day river	323	1.5 - 2.0
	2	Quang Ninh-Ha Noi,	Kinh Thay, Duong, Hong river	313	
		Ha Noi - Viet Tri		79	
	3	Lach Giang-Nam Dinh-Ha Noi	Ninh Co, Hong river	181	
	4	Day Mouth - Ninh Binh	Day river	72	
South	1	Ho Chi Minh City - Kien Luong (Route1)	Dong Tien, Vam Nao, Mac Can Dung canal	288	2.0 - 3.0
	2	Ho Chi Minh City - Kien Luong (Route2)	Cho Gao, Rach Soi-Hau Giang, Rach Gia-Ha Tien canal	319	
	3	Ho Chi Minh City-Ca Mau	Cho Gao, Ni Co Lai, Xa No canal	341	
	4	Tieu Mouth - Tan Chau	Tien Giang river	227	
	5	Dinh An Mouth - Tan Chau	Hau Giang river	235	

Source: Vietnam Inland Waterways Administration

Appendix 5.4 - 5

Vietnam Inland Waterway Authority SOCIALIST REPUBLIC OF VIETNAM
I.W NAVIGATION ORDER UNIT No: Independence - Freedom - Happiness

No:/TTGT , date of month of year of 200...

INLAND WATERWAY ACCIDENT REPORTING FORM

1. Time of accident: at hour on date of month of year of 200.....
2. Location of accident:
 - Commune, hamlet:.....; - District, province:.....
 - Name of river/channel:; - Location of km of the river:.....
3. Information on ships/boats in the accident:
 - a. Name of boat/ship 1: ; Registration number:
 - Full name of controller:.....; Address:
 -; Professional license/certification:
 - Dimensions of boat/ship: L x B x H = ; Hull structure (iron, wood, ...)
 - Actual loading capacity: Passenger:.....persons; Freight: type of goods: ;
Weight: tons
 - b. Name of boat/ship 2:..... ; Registration number:
 - Full name of controller:; Address:
 -; Professional license/certification:
 - Dimensions of boat/ship: L x B x H = ; Hull structure (iron, wood, ...)
 -
 - Actual loading capacity: Passenger:.....persons; Freight: type of goods: ;
Weight: tons
4. Initial information on the damage:
 - Name of sank boat/ship:..... ; damaged in:
 - Human loss: number of fatalities:..... persons ; number of injuries: persons
(A specific and detail list is attached, if any)
 - Freight damage: type of goods: ; weight: tons.
 - Damage on facility by the crash/collision.....:
5. The organization of life rescue, and ship/boat and goods lift has been implemented as follows:
.....
6. Influence level on the navigation:
.....
.....
7. Preliminary happening of the accident basing on initial statements of ship/boat controllers, of victims and of witnesses (with an attached sketch):
.....
.....
- 8- Preliminary definition of accident cause:
.....
- 9- Problems need to be continuously solved and proposals:
.....
.....

REPORT MAKER

Appendix 5.5 - 1(A)
Maritime Accidents

1996

N°	Accident classification	Number of accidents				Persons		Property damage
		Too serious	Serious	Light	Total	F	I	
	Total	30	41	44	115	21	11	a. Transport means:
	<i>I. Out of which</i>							6 sea going vessels, mud suck vessel
1	Caused by vessel controller	15	20	23	58	0	3	6 fishing vessel, 2 barges, 2 motored boats
2	Caused by vessel technic	6	17	10	33	4	2	were sunk
3	Narrow passage	0	0	0	0	0	0	b. Goods
4	Climate, storm	5	2	4	11	17	2	3000 T Goods
5	Others	4	2	7	13	0	4	120 T Oil
	<i>II. Out of which</i>							
1	Domestic vessels	0	0	0	0	0	0	
2	Foreign vessels	0	0	0	0	0	0	
	<i>III. Out of which</i>							
1	Collision	0	0	0	15	0	0	
2	Crash	0	0	0	0	0	0	
3	Running aground, Ship strikes rock	0	0	0	7	0	0	
4	Ship's shell is broken	0	0	0	0	0	0	
5	Burned	0	0	0	0	0	0	
6	Exploded	0	0	0	0	0	0	
7	Oil spill	0	0	0	0	0	0	
8	Natural calamity	0	0	0	0	0	0	c. Total damage
9	Engine, equipment break down	0	0	0	0	0	0	
10	Missing	0	0	0	0	0	0	VND: 20,000,000,000 USD:0

1997

N°	Accident classification	Number of accidents				Persons		Property damage
		Too serious	Serious	Light	Total	F	I	
	Total	16	36	35	87	26	11	a. Transport means:
	<i>I. Out of which</i>							Domestic means:
1	Caused by vessel controller	8	12	9	29	0	2	Vessel HP01 sunk
2	Caused by vessel technic	3	15	16	34	5	5	Vessel Song Ma 04
3	Narrow passage	0	0	0	0	0	0	Ferry carrying equipment
4	Climate, storm	5	9	10	24	21	4	4 river boats
	<i>II. Out of which</i>							3 barges
1	Domestic vessels	8	16	23	47	0	0	8 fishing boats
2	Foreign vessels	8	20	12	40	0	0	Foreign vessel:
	<i>III. Out of which</i>							Vessel PROMEX CITA (sunk itself)
1	Collision	1	9	1	11	2	3	
2	Crash	5	5	7	17	0	3	b. Goods
3	Running aground, Ship strikes rock	4	4	8	16	0	1	665 T coal
4	Ship's shell is broken	2	2	1	5	1	0	174 T clinker
5	Burned	0	1	0	1	2	1	6T fish
6	Exploded	0	0	0	0	0	0	12 T other fish
7	Oil spill	0	1	0	1	0	0	
8	Natural calamity	3	3	2	8	21	3	c. Total damage
9	Engine, equipment break down	1	11	16	28	0	0	
10	Missing	0	0	0	0	0	0	VND: 3,331,700,000 USD: 200,000

Appendix 5.5 - 1(B)

1998

N ^o	Accident classification	Number of accidents				Persons		Property damage
		Too serious	Serious	Light	Total	F	I	
	Total	23	21	40	84	21	14	a. Transport means:
	<i>I. Out of which</i>							Fishing boat BD5201TS:180Mill.VND; Boat BT550
1	Caused by vessel controller	13	8	17	38	14	6	Vessel NH0330; Fishing vessel QuyNhuu:300Mill.VND
2	Caused by vessel technic	4	10	10	24	1	1	Vessel Thanh Trung18:780Mill.VND; Fishing boat
3	Narrow passage	0	1	5	6	0	0	Boat TG 0279:800Mill.; Boat AG 3342:250Mill.
4	Climate, storm	6	2	8	16	6	7	Barge HP 2108, HP1601, Fishing boat Quang Ninh
	<i>II. Out of which</i>							Barge G11:100Mill;Fishing vessel QD6181:400Mill.VND
1	Domestic vessels	14	16	32	62	15	7	Vessel BaTo be stranded, 700Milli.VND
2	Foreign vessels	9	5	8	22	6	7	Maritime Vessel01sunk, Vessel HP0638TS
	<i>III. Out of which</i>							Vessel Sunny be stranded
1	Collision	13	6	5	24	14	6	Wood boat 0653VT, Barge HP1216:400Mill.VND.
2	Crash	2	2	14	18	0	0	1 steel vessel TT150T, Barge HH0653
3	Running aground, Ship strikes rock	4	5	9	18	2	5	Cambodia wood carrying vessel, Fishing
4	Ship's shell is broken	1	3	1	5	0	0	vessel KH5335
5	Burned	0	0	0	0	0	0	b. Goods
6	Exploded	0	0	0	0	0	0	3 T coal; 35T stone; 30T sand; 27T Clinker
7	Oil spill	0	0	0	0	0	0	300Tcement;30m3 Woods;190T rice
8	Natural calamity	3	1	0	4	5	2	c. Other damage such as repair, tug, rescue
9	Engine, equipment break down	0	4	11	15	0	1	
10	Missing	0	0	0	0	0	0	VND:1,079,525,000 USD: 72,000

1999

N ^o	Accident classification	Number of accidents				Persons		Property damage
		Too serious	Serious	Light	Total	F	I	
	Total	22	37	58	117	11	8	a. Transport means sunk:
	<i>I. Out of which</i>							Vessel VEGA; Thien an 02 Long Chau
1	Caused by vessel controller	13	20	31	64	6	5	Ani- 08;Song Ma 18; Barge SD170;8 Fishing Vessels
2	Caused by vessel technic	7	16	17	40	5	3	2 Boats HQ557
3	Narrow passage	0	0	1	1	0	0	Vessel Tien Way was damaged
4	Climate, storm	2	1	9	12	0	0	Hoang Dieu 04; Huan Luyen35; Lam Son12
	<i>II. Out of which</i>							Bac Son; Tu Van; Hong Hai Binh
1	Domestic vessels	12	23	44	79	7	5	An Giang 5; Fishing vessel Loi Chau 329
2	Foreign vessels	10	14	14	38	4	3	
	<i>III. Out of which</i>							b. Goods:
1	Collision	9	15	11	35	7	5	5000T ure;18.2T fish
2	Crash	3	4	12	19	0	0	250T coconut;4100T Clinker;250T coal;
3	Running aground, Ship strikes rock	3	3	11	17	0	0	5000m fishing nets;500Tcement ;
4	Ship's shell is broken	2	0	4	6	1	0	and construction glass
5	Burned	0	0	0	0	0	0	
6	Exploded	1	0	0	1	2	2	c. Other: Repairing, tug, rescue cost
7	Oil spill	1	1	0	2	0	0	
8	Natural calamity	1	0	8	9	0	0	
9	Engine, equipment break down	2	14	12	28	1	1	Oil over: 100600 T Diesel
10	Missing	0	0	0	0	0	0	VND: 6,741,500,000 USD:36,819.2

Appendix 6.1 - 1(A)
Road Accidents in Ha Noi, 1998 - 2001

Year	Month	A	S. A	Fatalities		Serious injure		Light injure		Property damage		Total	Caused by Object							
				A	P	A	P	A	P	A	Cost (Mill.VND)		Vehicle belong to			Motor bicycle	Bycicle	Pedestrian	Other	Note
													Ha noi City	Army	Other provice					
1998	1	198	21	21	22	0	3	163	207	14	25.5	21	3	1	3	11	2	1	0	
	2	223	25	24	26	1	4	190	244	13	53.2	25	7	1	7	7	1	2	0	
	3	186	16	15	20	1	4	160	185	10	69	16	3	1	2	9	1	0	0	
	4	222	28	26	26	2	3	182	232	12	63	28	3	0	8	13	1	3	0	
	5	333	25	25	26	0	2	191	253	17	110.2	25	7	1	5	7	3	2	0	
	6	222	22	21	2	1	3	190	248	10	69.5	22	6	1	3	10	1	1	0	
	7	174	18	18	20	0	0	146	192	10	58.5	18	4	0	4	9	1	0	0	
	8	244	22	22	24	0	0	197	270	25	92.7	22	6	1	0	11	3	1	0	
	9	260	21	19	25	2	10	214	302	25	129.5	21	4	0	0	12	2	1	2	
	10	256	26	24	25	2	4	209	297	21	103.7	26	6	1	0	17	1	1	0	
	11	260	29	29	30	0	1	213	285	18	63	29	2	2	7	1	15	2	0	
	12	235	22	22	22	0	3	199	261	14	60	22	2	0	1	16	1	2	0	
	Total	2813	275	266	268	9	37	2254	2976	189	897.8	275	53	9	40	123	32	16	2	
1999	1	213	27	27	27	0	7	173	226	13	29.5	27	4	1	4	16	1	1	0	
	2	199	24	24	25	0	1	165	207	10	178	24	6	0	4	12	2	0	0	
	3	162	18	17	17	1	1	140	180	4	20	18	2	0	2	10	4	0	0	
	4	222	20	20	22	0	3	196	261	6	116	20	4	1	4	9	2	0	0	
	5	242	22	20	23	2	2	210	262	10	0	22	5	0	3	13	0	1	0	
	6	222	26	26	29	0	0	187	240	9	0	26	9	0	1	16	0	0	0	
	7	237	26	25	26	1	1	207	264	4	0	26	5	0	5	13	0	3	0	
	8	212	12	12	13	0	2	197	257	3	13	12	1	2	1	7	1	0	0	
	9	184	16	16	17	0	0	168	206	0	0	16	7	0	2	7	0	0	0	
	10	246	22	21	21	1	1	218	262	6	30	22	5	2	2	11	1	1	0	
	11	232	33	32	32	1	2	200	252	5	35	33	9	1	3	17	1	1	1	
	12	200	27	27	33	0	0	165	219	8	138	27	5	0	2	18	0	2	0	
	Total	2571	273	267	285	6	20	2226	2836	78	559.5	273	62	7	33	149	12	9	1	

Appendix 6.1 - 1(B)
Road Accidents in Ha Noi, 1998 - 2001

Year	Month	A	S. A	Fatalities		Serious injure		Light injure		Propertiy damage		Total	Caused by Object							
				A	P	A	P	A	P	A	Cost (Mill.VND)		Vehicle belong to			Motor bicycle	Bycicle	Pedestrian	Other	Note
													Ha noi City	Army	Other provice					
2000	1	218	29	29	31	0	0	185	254	4	18	29	7	0	1	17	0	3	1	
	2	191	34	34	37	0	0	151	213	6	19.5	34	9	0	0	23	1	1	0	
	3	149	15	15	16	0	0	131	159	3	7.5	15	6	1	0	6	0	2	0	
	4	210	33	33	33	0	0	168	228	9	32	33	12	0	5	15	0	1	0	
	5	220	28	28	29	0	0	183	253	9	94	28	7	0	5	14	0	2	0	
	6	209	33	33	38	0	0	167	237	9	52	33	8	0	6	16	1	2	0	
	7	202	31	31	33	0	0	156	210	15	179	31	8	0	6	16	0	1	0	
	8	221	34	34	37	0	0	178	232	9	50	34	3	0	6	23	0	2	0	
	9	227	29	29	31	0	6	184	257	14	192	29	8	0	0	19	0	2	0	
	10	208	35	35	36	0	0	165	202	8	100	35	8	0	6	19	0	2	0	
	11	230	32	32	36	0	0	191	248	7	75	32	7	0	2	22	1	0	0	
	12	219	30	30	31	0	0	178	244	11	145	30	7	0	4	17	0	2	0	
	Total	2504	363	363	388	0	6	2037	2737	104	964	363	90	1	41	207	3	20	1	
2001	1	224	45	45	46	0	0	164	217	15	120	45	12	0	7	19	1	3	3	
	2	178	38	38	39	0	0	134	188	6	74	38	8	0	4	24	1	1	0	
	3	136	32	32	33	0	0	105	145	1	24	32	6	0	5	18	1	2	0	
	4	181	44	44	48	0	0	137	174	6	50	44	11	0	6	23	0	2	2	
	5	178	28	28	30	0	0	146	214	4	38	28	9	0	5	14	0	0	0	
	6	176	32	32	33	0	0	136	184	8	50	32	4	0	2	24	0	1	1	
	7	165	29	29	3	0	0	130	166	6	85	29	11	0	0	17	0	0	1	
	8	185	34	34	35	0	0	140	185	11	188	34	6	0	3	23	1	1	0	
	9	184	40	40	42	0	0	141	190	3	45	40	13	0	5	20	0	2	0	
	10	180	44	44	45	0	0	132	168	4	30	44	13	0	4	23	0	3	1	
	11	211	44	44	48	0	0	159	227	8	172	44	10	0	7	25	1	0	1	
	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	1998	410	410	402	0	0	1524	2058	72	876	410	103	0	48	230	5	15	9	

Source: Hanoi traffic safety committee
A: accidents; S.A: serious accidents; P: Person

Appendix 6.1 - 2(A)
Location of Serious Traffic Accidents in Hanoi 1998-2001

TT	Location	1998	1999	2000	2001
I	Sections of National highway	103	116	147	129
1	Duong Bridge	2	0	1	0
2	NH 1A	20	34	51	33
3	NH 1B	0	0	0	6
4	NH 2	8	13	12	13
5	NH 23	4	2	1	3
6	NH 3	31	37	43	47
7	NH 32	6	8	13	2
8	NH 5	27	18	25	25
9	NH6	5	4	1	
II	Provincial, intercommue Road	35	35	50	69
1	Thanh Tri Dyke	0	0	0	4
2	Vinh Tuy Dyke	2	0	0	0
3	Road 181 Phu Thuy	1	1	0	1
4	Road 69	0	3	0	0
5	Road 70	2	0	5	8
6	Khoi 4 Dong Anh Road	1	0	0	0
7	North of Thang Long Road	10	8	19	15
8	Chuong Duong Bridge	0	0	3	1
9	Thang Long Bridge	3	0	3	3
10	Lang - Hoa Lac Road	0	6	6	10
11	Dong Anh intercommue road	5	0	1	9
12	Co Nhue Intercommue road	0	0	2	3
13	Phu Thuy intercommue road	0	0	1	4
14	South of Thang Long Road	7	7	8	6
15	Ninh Hiep - Phu Dong	1	0	0	0
16	Thang Long road	3	10	2	1
17	River crossing	0	0	0	4
III	Road in the center	76	81	113	136
1	Au Co	0	5	3	0
2	Dai Co Viet	0	1	1	0
3	Dai La	2	0	1	0
4	Nguyen Khoai dyke	0	2	0	0
5	Buoi Road	1	4	2	1
6	Gia Lam bus station	0	0	0	1
7	Lang road	3	4	5	3
8	Thanh Nien Road	0	2	0	0
9	Dinh Tien Hoang	4	3	5	0
10	Ba Trieu	0	1	1	0
11	North of Linh Dam road	0	0	2	0
12	Bac Son	0	0	0	1
13	Bach Mai	1	4	2	2
14	Bui Thi Xuan	0	0	1	1
15	Cau Giay	0	2	1	4
16	Chua Boc	2	0	1	0
17	Giai Phong	6	8	11	17
18	Ha Huy Tap	0	0	0	7
19	Hoang Hoa Tham	1	4	2	2
20	Hoang Quoc Viet	0	2	7	3
21	Huynh Thuc Khang	1	0	3	0
22	Kham Thien	1	2	0	0
23	Kim Ma	1	3	4	8
24	Kim Nguu	4	0	2	3
25	Lang Ha	3	0	1	0

Appendix 6.2 - 1
Road Accidents in Ho Chi Minh City, 1996 - 2001

Year	Total				Human damage						Vehicle damage							
	Crash	(%) Compared to previous	A	(%) Compared to previous	F	(%) Compared to previous	Serious injury	(%) Compared to previous	Light injury	(%) Compared to previous	Total	(%) Compared to previous	Automobile	(%) Compared to previous	Motorbicycle	(%) Compared to previous	Non motored vehicle Trucks	(%) Compared to previous
1996	8944		1749		653		1388		661		2353		227		1810		316	
1997	8875		1765		671		1460		620		2353		263		1855		235	
Compared to previous year (%)		99.23		100.91		102.76		105.19		93.80		100.00		115.86		102.49		74.37
1998	11064		2259		910		1832		603		2323		225		1861		237	
Compared to previous year (%)		124.66		127.99		135.62		125.48		97.26		98.73		85.55		100.32		100.85
1999	11879		2418		912		2026		631		3137		218		2800		119	
Compared to previous year (%)		107.37		107.04		100.22		110.59		104.64		135.04		96.89		150.46		50.21
2000	14799		2299		929		1863		643		3052		328		2603		121	
Compared to previous year (%)		124.58		95.08		101.86		91.95		101.90		97.29		150.46		92.96		101.68
2001	14241		2519		1224		1941		797		3428		n.a.		n.a.		n.a.	
Compared to previous year (%)		96.23		109.57		131.75		104.19		123.95		112.32		n.a.		n.a.		n.a.

Source: HCM city road traffic police

A: Accidents

F: Fatalities

Appendix 6.2 - 2(B)
Main causes of road traffic accidents in Ho Chi Minh city

N°	Causes	2000				2001				Total 1996-2001				%
		A	F	I	Vehicle damage	A	F	I	Vehicle damage	A	F	I	Vehicle damage	
A	Motor vehicle controller	2233	908	2429	2996	2480	1204	2714	3459	12221	4976	13770	16091	93.94
1	Over speeding	632	215	621	695	592	277	564	0	3220	1225	3345	2862	24.75
2	Dangerous overtaking	18	5	19	25	4	3	4	0	540	158	683	796	4.15
3	Running wrong way	4	1	6	3	0	0	0	0	157	82	184	208	1.21
4	Encroaching lane	768	308	987	1236	1268	594	1574	0	4191	1676	5398	4533	32.21
5	Unsafe distance	197	112	206	291	21	9	24	0	1011	484	950	1222	7.77
6	Do not signalled to change direction	305	110	315	435	176	66	185	0	1133	349	1351	1414	8.71
7	Go on no entry , contrary direction	28	8	45	43	22	7	37	0	170	54	226	226	1.31
8	Drunk driving	43	10	56	52	40	17	45	0	411	150	502	451	3.16
9	Without license	8	1	10	9	9	3	17	0	100	32	120	107	0.77
10	Itself	126	86	66	101	85	56	56	0	531	352	315	304	4.08
11	Others	100	50	92	100	263	172	208	0	730	405	661	470	5.61
12	To Pass the red light	4	2	6	6	0	0	0	0	27	9	35	39	0.21
B	Vehicle technic	8	3	8	12	2	0	6	6	76	44	95	103	0.58
13	Tyre break down	1	0	1	1	0	0	0	0	9	1	9	8	0.07
14	Brake	3	1	4	7	1	0	5	0	22	18	36	47	0.17
15	Tyre get out	1	1	0	0	1	0	1	0	5	4	5	4	0.04
16	Do not close vehicle doors	2	1	2	3	0	0	0	0	5	2	4	5	0.04
17	Without light at night	0	0	0	0	0	0	0	0	14	6	15	18	0.11
18	Others	1	0	1	1	0	0	0	0	9	3	21	12	0.07
19	Railway	0	0	0	0	0	0	0	0	12	10	5	3	0.09
C	Non motor vehicle controller	45	13	50	36	12	4	8	9	363	126	346	393	2.79
1	Encroaching lane	14	6	13	12	4	1	3	0	63	16	62	61	0.48
2	Dangerous overtaking	6	1	6	6	5	2	3	0	134	43	139	156	1.03
3	Over speeding	0	0	0	0	0	0	0	0	1	1	0	1	0.01
4	Drunk drinking	2	0	2	2	0	0	0	0	15	4	12	13	0.12
5	To fall to road	2	1	2	2	0	0	0	0	15	11	5	9	0.12
6	Go on no entry , contrary direction	0	0	0	0	0	0	0	0	21	7	20	34	0.16
7	Others	21	5	27	14	3	1	2	0	114	44	108	110	0.88
D	Pedestrian	14	5	20	8	25	16	10	8	345	148	290	105	2.65
8	Drunk	0	0	0	0	0	0	0	0	1	0	1	0	0.01
9	Crossing	12	4	15	5	25	16	10	8	239	94	204	67	1.84
10	Playing on the road	0	0	0	0	0	0	0	0	2	0	2	0	0.02
11	Going on the road	0	0	0	0	0	0	0	0	58	21	53	21	0.45
12	To hang to vehicle	0	0	0	0	0	0	0	0	5	4	1	1	0.04
13	Others	2	1	5	3	0	0	0	0	40	29	29	16	0.31
E	Road and Bridge	0	0	0	0	0	0	0	0	5	3	3	4	0.04
1	Road hole	0	0	0	0	0	0	0	0	3	2	1	1	0.02
2	Obstacles	0	0	0	0	0	0	0	0	0	0	0	0	0.00
3	Road, bridge, ferry	0	0	0	0	0	0	0	0	0	0	0	0	0.00
4	Others	0	0	0	0	0	0	0	0	2	1	2	3	0.02
	Total	2300	929	2507	3052	2519	1224	2738	3482	13010	5297	14504	16696	100.00

Source: Road Traffic police station HCM;

A: Accidents; F: fatalities; I: Injuries

Appendix 6.3 - 1 (A)

Number and Major Causes of Road Traffic Accidents on the Section of NR 1 Managed by RRMUVII

NR	N ^o	Main causes	1996						1997						1998								
			A	% Compared to total	F	%	I	%	P	A	% Compared to total	F	%	I	%	P	A	% Compared to total	F	%	I	%	P
NR1		Subtotal	952	41.75	319	45.12	1089	41.93	n.a.	1847	42.96	512	50.25	2128	42.50	n.a.	1404	44.88	361	47.63	1656	42.41	n.a.
	1	Road User	790	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1623	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1236	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	Unsafe vehicles	19	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	35	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	28	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	3	Roads and bridges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	Other	143	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	189	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	140	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Accidents on the NRs which managed by RRMUVII		Total	2280	100	707	100	2597	100	n.a.	4299	100	1019	100	5007	100	n.a.	3128	100	758	100	3905	100	n.a.
	1	Road User	1932	84.74	n.a.	n.a.	n.a.	n.a.	n.a.	3595	83.43	n.a.	n.a.	n.a.	n.a.	n.a.	2713	86.98	n.a.	n.a.	n.a.	n.a.	n.a.
	2	Unsafe vehicles	37	1.62	n.a.	n.a.	n.a.	n.a.	n.a.	116	2.69	n.a.	n.a.	n.a.	n.a.	n.a.	32	1.03	n.a.	n.a.	n.a.	n.a.	n.a.
	3	Roads and bridges	0	0	0	0	0	0	0	1	0.02	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	0	0	0	0	0
	4	Other	311	13.64	n.a.	n.a.	n.a.	n.a.	n.a.	597	13.85	n.a.	n.a.	n.a.	n.a.	n.a.	374	11.99	n.a.	n.a.	n.a.	n.a.	n.a.

8-B9

Source: RRMU VII. RRMU VII manages NRs that are located in the area from Ninh Thuan to Ca Mau province)

A: Accidents

F: Fatalities

I: Injuries

P: Property

% compared to total: The comparison between the number of accidents occurred on the NR1 and total accidents on the NRs managed by RRMU VII.

Appendix 6.3 - 1 (B)

Number and Major Causes of Road Traffic Accidents on the Section of NR N^o1 Managed by RRMUVII

TT	N ^o	Main causes	1999						2000						10 months of 2001								
			A	% Compared to total	F	%	I	%	P	A	% Compared to total	F	%	I	%	P	A	% Compared to total	F	%	I	%	P
NR1		Subtotal	1816	48.54	513	51.71	2318	47.41	n.a.	1700	46.44	510	46.75	2143	44.97	n.a.	1206	45.46	408	48.98	1380	42.72	n.a.
	1	Road User	1281	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1090	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1050	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2	Unsafe vehicles	18	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	10	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	3	Roads and bridges	20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	Other	497	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	600	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	136	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Accidents on the NRs which managed by RRMUVII		Total	3741	100	992	100	4889	100	n.a.	3661	100	1091	100	4765	100	n.a.	2653	100	833	100	3230	100	n.a.
	1	Road User	2772	74.10	n.a.	n.a.	n.a.	n.a.	n.a.	2472	67.60	n.a.	n.a.	n.a.	n.a.	n.a.	2331	87.83	n.a.	n.a.	n.a.	n.a.	n.a.
	2	Unsafe vehicles	59	1.58	n.a.	n.a.	n.a.	n.a.	n.a.	41	1.12	n.a.	n.a.	n.a.	n.a.	n.a.	20	0.75	n.a.	n.a.	n.a.	n.a.	n.a.
	3	Roads and bridges	21	0.56	n.a.	n.a.	n.a.	n.a.	n.a.	1	0.03	n.a.	n.a.	n.a.	n.a.	n.a.	0	0	0	0	0	0	0
	4	Other	889	23.76	n.a.	n.a.	n.a.	n.a.	n.a.	1143	31.26	n.a.	n.a.	n.a.	n.a.	n.a.	303	11.42	n.a.	n.a.	n.a.	n.a.	n.a.

6B.9

Source: RRMU VII. RRMU VII manages NRs that are located in the area from Ninh Thuan to Ca Mau province)

A: Accidents

F: Fatalities

I: Injuries

P: Property

% compared to total: The comparison between the number of accidents occurred on the NR1 and total accidents on the NRs managed by RRMU VII.

Appendix 6.3 - 2
Major Causes of Road Accidents on Section of NR 1 (Km1873 to km 2062) (HCM city to Can Tho)

No	Causes	1999		2000		2001		Total 1999-2001	
		A	%	A	%	A	%	A	%
1	Road users	800	84.57	647	83.38	420	88.98	1,867	85.10
	Over speeding	443	46.83	416	53.61	298	63.14	1,157	52.73
	Dangerous overtaking	118	12.47	49	6.31	26	5.51	193	8.80
	Drunk driving	48	5.07	42	5.41	22	4.66	112	5.10
	Misuse of lanes	45	4.76	59	7.60	46	9.75	150	6.84
	Unsafe distance	40	4.23	11	1.42	1	0.21	52	2.37
	Pedestrian	106	11.21	70	9.02	27	5.72	203	9.25
2	Unsafe vehicle	4	0.42	2	0.26	2	0.42	8	0.36
3	Road and bridge	0	0.00	2	0.26	1	0.21	3	0.14
4	Others	123	13.00	110	14.18	44	9.32	277	12.63
5	Unawered causes	19	2.01	15	1.93	5	1.06	39	1.78
			0		0.00		0.00		0.00
	Total	946	100	776	100.00	472	100.00	2,194	100.00

Source: RRMUVII

A: Accidents

Appendix 6.4 - 1
Number and Major Causes of Road Traffic Accidents on the NR 5

No	Causes	1999				2000				2001				Total 1999-2001			
		A	F	I	%	A	F	I	%	A	F	I	%	A	F	I	%
	Road accidents on NH N°5	219	39	115	100.00	374	53	179	100.00	209	30	85	100.00	802	122	379	100.00
1	Road users	208	n.a.	n.a.	94.98	367	n.a.	n.a.	98.13	206	n.a.	n.a.	98.56	781	n.a.	n.a.	97.38
	Over speeding	120	n.a.	n.a.	57.69	174	n.a.	n.a.	47.41	93	n.a.	n.a.	45.15	387	n.a.	n.a.	49.55
	Dangerous overtaking	22	n.a.	n.a.	10.58	133	n.a.	n.a.	36.24	88	n.a.	n.a.	42.72	243	n.a.	n.a.	31.11
	Drunk driving	4	n.a.	n.a.	1.92	1	n.a.	n.a.	0.27	0	0	0	0.00	5	n.a.	n.a.	0.64
	Misuse of lanes	9	n.a.	n.a.	4.33	2	n.a.	n.a.	0.54	0	0	0	0.00	11	n.a.	n.a.	1.41
	Unsafe distance	39	n.a.	n.a.	18.75	45	n.a.	n.a.	12.26	19	n.a.	n.a.	9.22	103	n.a.	n.a.	13.19
	Sleeping driving	8	n.a.	n.a.	3.85	10	n.a.	n.a.	2.72	6	n.a.	n.a.	2.91	24	n.a.	n.a.	3.07
	Pedestrian	6	n.a.	n.a.	2.88	2	n.a.	n.a.	0.54	0	0	0	0.00	8	n.a.	n.a.	1.02
2	Unsafe vehicle	8	n.a.	n.a.	3.65	7	n.a.	n.a.	1.87	2	n.a.	n.a.	0.96	17	n.a.	n.a.	2.12
3	Road and bridge	0	0	0	0.00	0	0	0	0.00	1	n.a.	n.a.	0.48	1	n.a.	n.a.	0.12
4	Others	3	n.a.	n.a.	1.37	0	0	0	0.00	0	0	0	0.00	3	n.a.	n.a.	0.37
5	Unawered causes	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00	0	0	0	0.00

Source: RRMUII
A: Accidents
F: Fatalities
I: Injuries