SOCIALIST REPUBLIC OF VIETNAM - MINISTRY OF TRANSPORT
JAPAN INTERNATIONAL COOPERATION AGENCY - VIETNAM OFFICE

THE STUDY ON TRAFFIC ACCIDENTS IN THE SOCIALIST REPUBLIC OF VIETNAM

FINAL REPORT

March - 2002

CONSULTING CENTER
FOR TRANSPORT DEVELOPMENT AND INVESTMENT (CCTDI)

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FOREWORD

In response to the request from the Government of the Socialist Republic of Vietnam, the Government of Japan through the Japan International Cooperation Agency (JICA) decided to conduct the "Study of Traffic Accidents in the Socialist Republic of Vietnam".

JICA selected and engaged the services of the Consulting Center for Transport Development and Investment (CCTDI) to form the Study Team headed by Engineer Tran Quoc Tuyen for the period October 2001 to March 2002.

At the same time, JICA appointed three consultants from ALMEC Corporation to provide advice to the Study Team. They are Dr. Shizuo Iwata, Mr. Michimasa Takagi, and Dr. Tetsuji Masujima.

This report represents the Study Team's findings and assessment of the traffic safety issues in Vietnam based on collected data and recommends direction and measures to improve traffic safety.

We hope this Study and this report will contribute to the improvement of traffic safety all over Vietnam, acceleration of economic development and enhancement of the general well being of its people.

Morimasa Kanamaru
Resident Representative
Japan International Cooperation Agency

LETTER OF TRANSMITTAL

MR. YUICHI SUGANO
Deputy Resident Representative
Japan International Cooperation Agency Office
Hanoi, Vietnam

Dear Sir,

We are pleased to formally submit herewith the final report of the "Study of Traffic Accidents in the Socialist Republic of Vietnam".

This report compiles the results of the Study which was undertaken in five months, from October 2001 to March 2002, by the Consulting Center for Transport Development and Investment (CCTDI).

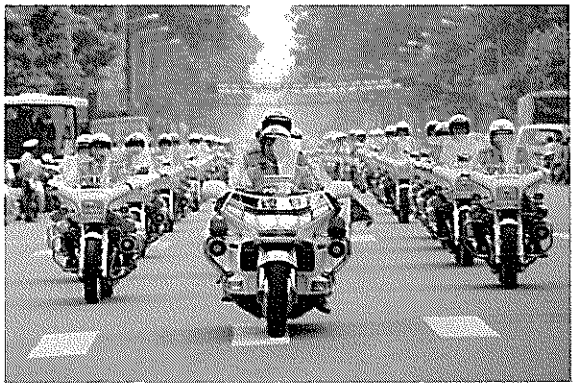
We wish to take this opportunity to express our deep gratitude to your agency, the Ministry of Transport, the National Transport Safety Committee (NTSC), and other agencies for the kind assistance and close cooperation extended to us during the Study.

We hope that the Study and this report will be a useful basis for further studies on traffic safety in Vietnam and will contribute to transport development in the Socialist Republic of Vietnam.

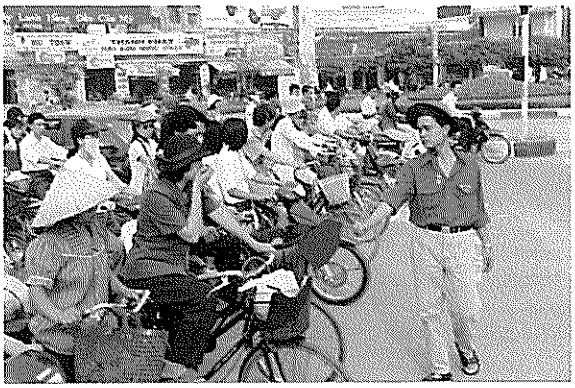
Very truly yours,

Tran Quoc Tuyen
Team Leader
Study of Traffic Accidents in the Socialist Republic of Vietnam

PHOTO GALLERY

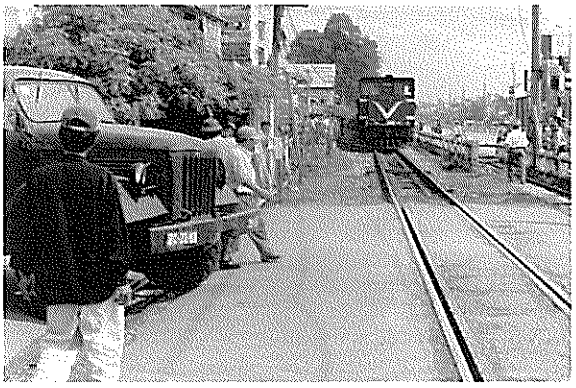


Deployment of the propaganda on Traffic Sefety Day

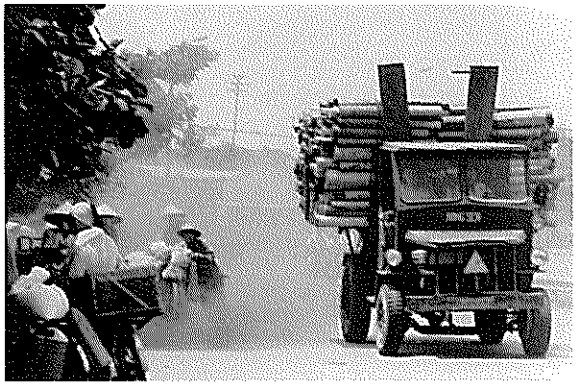


Youth force participating in ensuring traffic safety and order

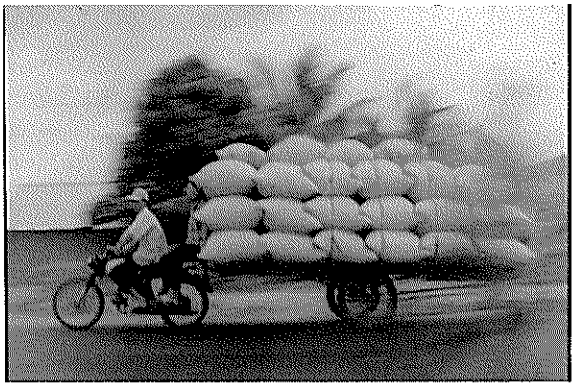
A market at a non-barrier crossing in Ban Co railway station, Quang Trung quarter, Uong Bi town, Quang Ninh province



Non -existence of a barrier at level-crossing



A smoke-belching vehicle carrying unsecured goods

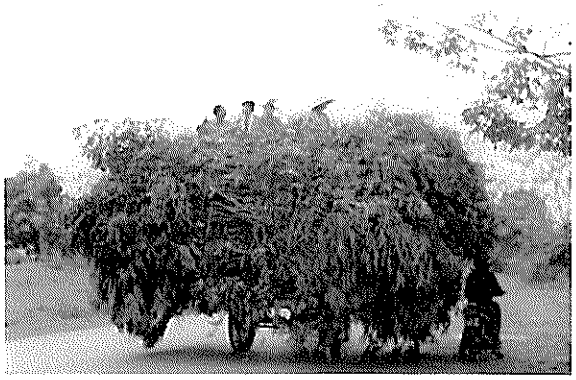


Unsafe vehicle

A bus overloaded with freight

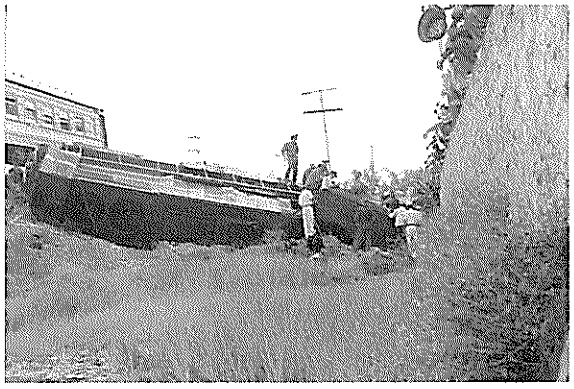
A pendicab carrying bulky goods

A bicycle carrying bulky goods

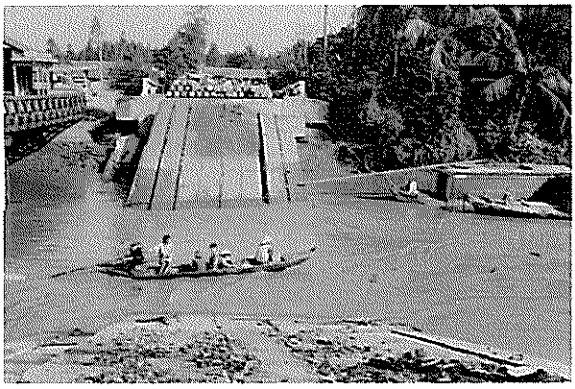


A Cong Nong carrying bulky goods

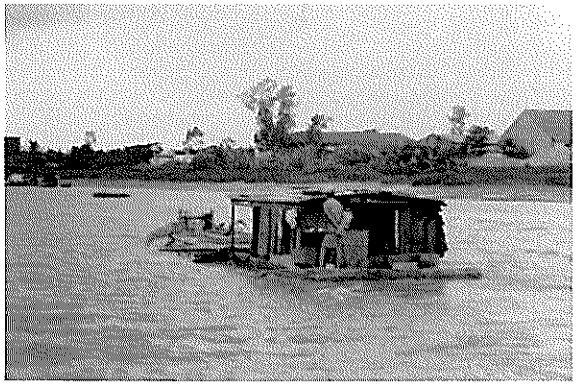
A train-container truck crash at an unprotected section



An accident between a train and a truck at a railway section



A train-container truck crash at an unprotected section



Overloading

Traffic accident at a bend of Hai Van pass

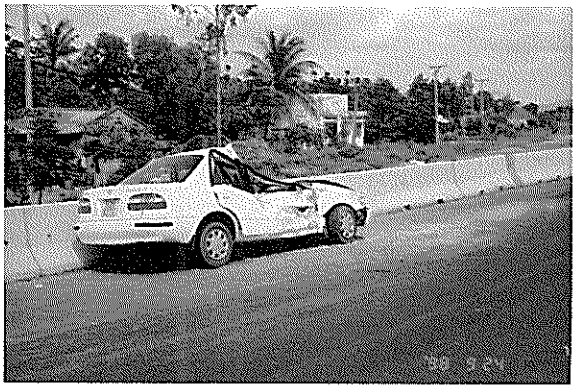
Speeding and losing control of the vehicle

A bridge collapsed due to overloaded vehicle

Speeding and losing control of the vehicle

Speeding and losing control of the vehicle

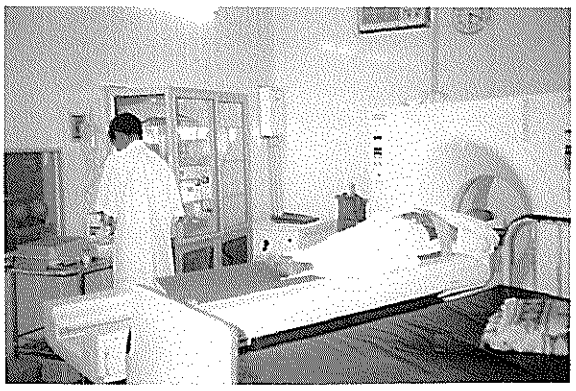
Speeding and losing control of the vehicle



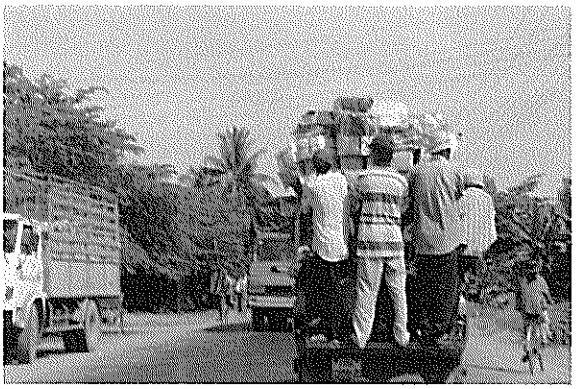
Speeding and dangerous overtaking

Speeding and losing control of the vehicle

Treating traffic accident victim at Cho Ray Hospital

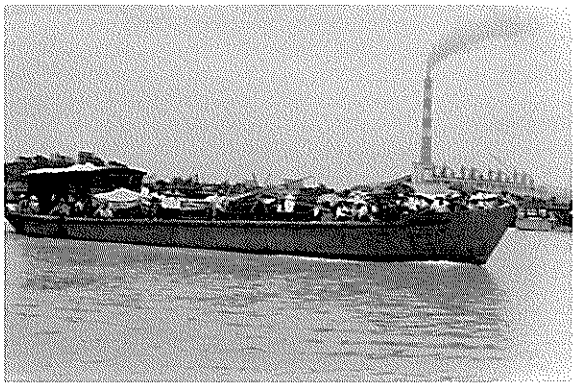


Doing a brain scan for a traffic accident victim at Cho Ray Hospital



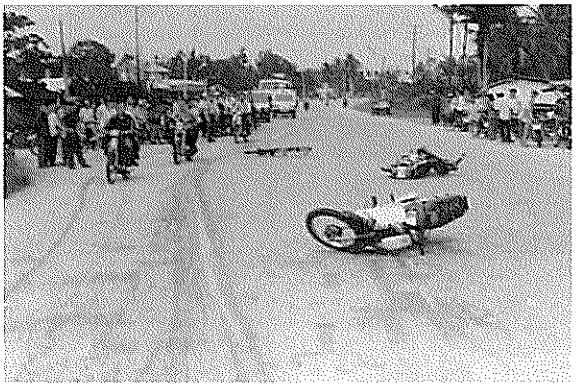
An overloading Xe Lam

An overloading motorbike



Not safety

An accident at a junction in Ha Noi city



Traffic accident on National Road No.1

An accident at Phong Chau bridge in Phu Tho province

Protective along on a road bend

Pedestrian flyover on National Road No.5

STUDY OF TRAFFIC ACCIDENTS IN THE SOCIALIST REPUBLIC OF VIETNAM

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LIST OF ABBREVIATIONS USED

AIPF	Asian Injury Prevention Fund
ASEAN	Association for South - East Asian Nations
CCTDI	Consulting Center for Transport Development and Investment.
DSP	Development Strategy Institute (under MPI)
DWT	Dead Weight Ton
GDP	Gross Domestic Product
GOF	Government of France
GOV	Government of Vietnam
GRSP	Global Road Safety Partnership
GT	Gross Ton
HCMC	Ho Chi Minh City
HP	Horse Power
IWT	Inland Waterway Transport
JICA	Japan International Cooperation Agency
LGU	Local Government Unit
MOET	Ministry of Education and Training
MOT	Ministry of Transport
MPI	Ministry of Planning and Investment
n.a.	not available
NR	National Road
NTSC	National Transport Safety Committee
ODA	Official Development Assistance
PCU	Passenger Car Unit
PTA	Provincial Transport Authority
RR	Ring Road
RRMU	Regional Road Management Unit
SOE	State-Owned Enterprise
TDSI	Transport Development and Strategy Institute
TOR	Term of Reference
TRL	Transport Research Laboratory
TUPWS	Transport and Urban Public Works Service
UK	United Kingdom
UNICEF	United Nations Children's Fund
VINALINES	Vietnam National Shipping Lines
VINAMARINE	Vietnam National Maritime Bureau
VITRANSS	National Transport Development Strategy Study (implemented by JICA with TDSI as counterpart)
VIWA	Vietnam Inland Waterway Administration
VND	Vietnam Dong (Vietnamese Currency)
VR	Vietnam Register
VRA	Vietnam Road Administration

1 INTRODUCTION

1.1 Study Background

Traffic safety is currently one of the world's great social concerns. Developed, developing and transition countries are all confronted with the problem of traffic accidents, which according to Global Road Safety Partnership's (GRSP) statistics, result in nearly 1 million persons killed and over 10 million persons injured.

In Vietnam, traffic accidents have become an alarming issue. In recent years, as Vietnam's economy has grown, traffic demand has likewise increased remarkably. The number of motorized vehicles, especially motorcycles, has jumped, resulting in more traffic accidents. In 2001 alone, there were 25,831 traffic accidents, causing 10,866 fatalities and 29,440 injuries country wide. Of these figures, road traffic accidents accounted for a high proportion.

Since the GOV decrees on ensuring traffic order and safety have been issued and implemented, the annual growth rate of traffic accidents has been restrained, however the number of accidents, fatalities and injuries still continue to rise every year. This can be attributed to the low effectiveness of such laws and regulations due to various technical and social reasons.

Effective solutions require a comprehensive and collective approach and scrupulous attention, from the formulation, information dissemination and enforcement of laws and regulations, to compliance with them, as well as the construction and maintenance of transport infrastructure, by all government sectors and levels, communities, transport operators, and users. In addition to domestic resources, donors and international organizations/individuals are expected to contribute to the improvement of the traffic safety situation in Vietnam.

In view of the above, the GOV requested JICA Vietnam Office to undertake a study to analyze the traffic safety situation in Vietnam and to recommend appropriate measures to the GOV. Based on local document procedures, JICA Vietnam Office selected the Consulting Center for Transport Development and Investment (CCTDI).

1.2 Study Objectives

The main objectives of the Study as mentioned in the TOR are as follows:

(1) To analyze existing conditions and to specify causes of traffic accidents in the transport subsectors of road, rail, port and shipping, and inland waterway.
(2) To discuss with Vietnamese government agencies and international donors their policy, achievements and experience on traffic safety in Vietnam, and
(3) To prepare necessary recommendations to ensure traffic safety in different transport subsectors.

1.3 Study Area and Coverage

The study area will encompass the entire country (major transport networks), Road, Inland waterway, Railway and Maritime accidents.

However, due time and resource constraints, a sample of areas was chosen to undertake detailed case studies of accidents and accident emergency-treatments. These sample areas included:

- Road: Hanoi City and HCMC were selected because they are major cities, one in the North and one in the South of Vietnam. Moreover, an area which adjoins one of these two cities, and has high volume of traffic and high accident frequency will be chosen as another case study. And Vinh Phuc province was the choice because it totally satisfies these criteria. In addition to these areas, NR5 (from Hanoi to Haiphong) and a NR1's section (from HCMC to Cantho), with their high accident rate were proposed as case studies.
- Inland Waterway: Tiengiang province was elected as it is located in the Mekong River Delta, and adjacent to HCMC.
- Accident emergency - treatment: Cho Ray hospital in HCMC was selected since it is a big general one with an annually high rate of traffic accident emergency - treatments

The study shall cover all aspects related to traffic safety including institutions and regulations for road, rail, port and shipping and inland waterway.

2 OVERVIEW OF SOCIO-ECONOMIC DEVELOPMENT

2.1 Population

In 2000, Vietnam had a population of about 77.7 million. In the 1960s, the country's population growth rate was 2.2-3.1%, but since the '90s has decreased. In the 1990-1995 period, it was 1.65-1.92% and in the 1996-2000 period, it was 1.4-1.5%. The current population has a fairly equal gender balance with females accounting for approximately 51% of the population (males 49%).

In 2000, the average population density was 236 persons/km^2, with the highest concentration in the Red River Delta (1,100 persons/km^2) and the lowest in the northwest region (64 persons/km^2). The average population density in northern central and central coastal provinces was 200 persons/km^2. Of the cities, Hanoi and HCMC were the most populous, with 2,971 persons/km^2 and 2,493 persons/km^2, respectively.

Generally, the percentage of population living in urban areas is neither high nor variable, accounting for 19.51%, 21.08% and 23.97% of the total population in 1990, 1996 and 2001, respectively.

Table 2.1.1
Vietnam's Population and Growth Rate, 1996-2000

Year	Population (000 prs.)	Annual Growth Rate/year (%)	Urban/Rural Share (%)	
			Urban	Rural
1996	73156	1.61	21.08	78.92
1997	74306	1.57	22.66	77.34
1998	75456	1.55	23.15	76.85
1999	76596	1.51	23.61	76.39
2000	77685	1.42	23.97	76.03

Source: Statistical Year Book 2000

2.2 Economic Development

1) Gross Domestic Product (GDP)

At present, Vietnam is still one of the poorest countries in the world, with a per capita GDP (gross domestic product) of about USD380 in 2000. It is in a transition period toward an open and modern market economy. By 1997, economic growth was still high, driven mainly by the industrial sector and supported by the agricultural sector.

Vietnam's closed capital account protected it from the early impact of the Asian crisis, but with the deepening regional recession it is now quite clear to policy makers that the impact is more severe than expected. Economic growth in 1996 and 1997 were 9.34% and 8.15%, respectively. Economic recovery in

1998 and 1999 was still modest, at 5.8% and 4.8%, respectively. However, in 2000, it was higher at 6.8%.

Table 2.2.1
GDP Growth Rate, 1996-2001

Year	GDP (VND billion)		Sector Composition (VND billion)			Growth Rate (%/yr)
	Current Price	1994 Price	Agro- forestry, Fishery	Industry, Construction	Services	
1996	272,036	213,833	53,577	67,016	93,240	9.34
1997	313,623	231,264	55,895	75,474	99,895	8.15
1998	361,016	244,596	57,866	81,764	104,968	5.76
1999	399,942	256,272	60,895	88,047	107,330	4.77
2000	444,139	273,582	63,353	96,916	113,313	6.75
2001	484,493	292,376	65,497	106,914	119,965	6.84

Source: Statistical Year Book.

Based on 1998 statistics, the southeast region and Mekong River Delta had a GDP of 34.6% and 19.9%, respectively, for a combined share of more than 50% of the total GDP. Red River Delta's GDP was 19%, while that of the northwest was lowest at 1.3%. It can be seen that the South plays a key role in Vietnam's economy. It must be noted, however, that the GDP of the Mekong River Delta is mainly from the agricultural sector, while that of the southeast is mainly from the industrial and service sectors.

The highest per capita GDP was that of the southeast, with similarly high rates for Hanoi, HCMC and Ba Ria-Vung Tau.

2) Open - door Policy and Economic Integration of Vietnam

Following the Government's open-door policy which is consistent with the global economic trend, Vietnam's economy grew. Vietnam trade has been expanding and reaching to new markets. Previously, Vietnam only exported to 34 then 50 countries in 1986 and 1990 respectively. It is now exporting to 106 countries. It has also signed trade agreements with 57 countries and territorial regions and agreed on the Most Favored Nation (MFN) status with 72 other countries and territorial regions. The characteristics of its imports and exports are as follows:

- The export growth rate is relatively high, at over 30% per year in the period 1990-1997. It was only 2% in 1998, a temporary setback due to the financial crisis in the region. In the following years, exports jumped to 23% in 1999 and reached 24% in 2000.
- Of the total exports, Asian markets received 70-80%, but this currently shows a decreasing trend. European markets, on the other hand, show signs

of increase. A new trend in developing Vietnam's export market is to export to the Americas, especially the United States.

- There has been no clear change in the composition of exported products, which in 2000 were grouped into heavy industry and minerals (35.6%), small industry and handicraft (34.3%), agriculture/aquaculture (19.8%), and others (10.3%).
- Important imported goods were fuel, steel and iron, fertilizer, electronic components, textile, automobile and motorcycle accessories, and etc.

3) Socio-economic Development towards 2020

From now to year 2020, Vietnam aims to become an industrialized country, with a productive workforce comparable to others in the region; a government that can ensure a better life for its people, and a fair, civilized and modern society. To achieve these goals it must overcome economic difficulties, maintain a steady economic growth, move the economy toward industrialization and modernization, fully open its market, provide for the material and spiritual needs of its people, and ensure advancements and social justice in the period from 2001 to 2010.

Table 2.2.2
Selected Socio-economic Development Indices

No	Index	Unit	1999	2005	2010	2020	Average Growth (%)		
							1999/ 2005	2006/ 2010	2011/ 2020
1	Population	000	76,653	82,988	88,244	97,480	1.35	1.25	1
2	GDP (1994 price) feasible scenario	VND billion	256,629	397,775	551,700	987,540	7.6	6.7	6
3	GDP (1994 price) high option	VND billion	256,629	418,305	590,246	1,156,883	8.4	7.1	7
4	GDP/capita	VND billion	3.347	4.793	6.252	10.130	6.2	5.5	4.9
5	GDP structure	%	100	100	100	100	-	-	-
	Agro-forestry, fishery	%	25.4	20	17	17	4	3.8	n.a.
	Industry, construction	%	35	37	40	40	9	8	n.a.
	Services	%	41.6	43	43	43	7	6	n.a.
6	Expected turnover value	USD million	11,636	28,422	54,644	137,610	16	14	10
7	Expected turnover/person	USD	152	342	619	1,411	14.5	12.6	8.61
8	Average food production/person	Kg	447	450	450	450	n.a.	n.a.	n.a.

Source: Development Strategy Institute (DSI), MPI