

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MINISTRY OF TRANSPORT, VIETNAM

THE COMPREHENSIVE STUDY
ON THE SUSTAINABLE DEVELOPMENT OF TRANSPORT SYSTEM
IN VIETNAM
(VITRANSS 2)

Subsector Report No. 03
PORT AND SHIPPING

May 2010

ALMEC CORPORATION
ORIENTAL CONSULTANTS CO. LTD.
NIPPON KOEI CO. LTD.

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
MINISTRY OF TRANSPORT, VIETNAM

THE COMPREHENSIVE STUDY
ON THE SUSTAINABLE DEVELOPMENT OF TRANSPORT SYSTEM
IN VIETNAM
(VITRANSS 2)

Subsector Report No. 03
PORT AND SHIPPING

May 2010

ALMEC CORPORATION
ORIENTAL CONSULTANTS CO. LTD.
NIPPON KOEI CO. LTD.

Exchange Rate Used in the Report

USD 1 = JPY 110 = VND 17,000

(Average Rate in 2008)

PREFACE

In response to the request from the Government of the Socialist Republic of Vietnam, the Government of Japan decided to conduct the Comprehensive Study on the Sustainable Development of Transport System in Vietnam (VITRANSS2) and entrusted the program to the Japan International cooperation Agency (JICA)

JICA dispatched a team to Vietnam between November 2007 and May 2010, which was headed by Mr. IWATA Shizuo of ALMEC Corporation and consisted of ALMEC Corporation, Oriental Consultants Co., Ltd., and Nippon Koei Co., Ltd.

In the cooperation with the Vietnamese Counterpart Team, the JICA Study Team conducted the study. It also held a series of discussions with the relevant officials of the Government of Vietnam. Upon returning to Japan, the Team duly finalized the study and delivered this report.

I hope that this report will contribute to the sustainable development of transport system and Vietnam and to the enhancement of friendly relations between the two countries.

Finally, I wish to express my sincere appreciation to the officials of the Government of Vietnam for their close cooperation.

May 2010

HIROYO SASAKI,
Vice President
Japan International Cooperation Agency

May 2010

HIROYO SASAKI

Vice President

Japan International Cooperation Agency

Tokyo

Subject: Letter of Transmittal

Dear Sir,

We are pleased to formally submit herewith the final report of the Comprehensive Study on the Sustainable Development of Transport System in Vietnam (VITRANSS2).

This report compiles the results of the study which was undertaken both in Vietnam and Japan from November 2007 to May 2010 by the Team comprising ALMEC Corporation, Oriental Consultants Co., Ltd., and Nippon Koei Co., Ltd.

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

We also acknowledge the officials of your agency, the JICA Advisory Committee, and the Embassy of Japan in Vietnam for their support and valuable advice in the course of the Study.

We hope the report would contribute to the sustainable development of transport system and Vietnam.

Very truly yours,

IWATA Shizuo

Team Leader

The Comprehensive Study
on the Sustainable Development
of Transport System in Vietnam
(VITRANSS2)

TABLE OF CONTENTS

1 INTRODUCTION	
1.1 Purpose	1-1
1.2 Structure of the Report	1-1
2 PRESENT SITUATION	
2.1 The Port Network	2-1
2.2 Shipping	2-6
2.3 Navigation Channel	2-9
2.4 Sector Performance	2-11
2.5 Institutional Set up	2-15
2.6 Summary of Problems and Weaknesses	2-21
3 CURRENT PLANS AND POLICIES	
3.1 Master Plan for Seaports	3-1
3.2 On-going/Committed Projects	3-10
3.3 Plans for Shipping	3-14
3.4 Investment Requirements	3-15
3.5 Commentary on government plans	3-17
4 MAIN PLANNING ISSUES	
4.1 Role of Maritime Transport	4-1
4.2 Maritime Development Issues	4-3
4.3 Strategies for a Sustainable MT	4-6
5 LONG TERM DEVELOPMENT STRATEGIES	
5.1 Port Development Strategies	5-1
5.2 International Gateway Development	5-4
5.3 Shipping Development Directions	5-6
5.4 Maritime Administration and Operations	5-7
6 DRAFT MASTER PLAN	
6.1 Candidate Projects	6-1
6.2 Prioritization of Projects	6-9
6.3 Investment Strategy by Region	6-12
6.4 Summary of Recommendations	6-14

APPENDICES

Appendices 2A
Appendices 2B
Appendices 3C
Appendices 4D
Appendices 6E

LIST OF TABLES

Table 2.1.1	Profile of Major Terminals in Selected Class 1 Ports	2-1
Table 2.1.2	Annual Growth Rate by Port Group, (%)	2-3
Table 2.1.3	Container Throughput in Vietnam’s Seaports, 1995—2008	2-4
Table 2.1.4	Domestic/International Containers by Major Ports (TEU).....	2-4
Table 2.1.5	Container Traffic by Port Group (2003-2007)	2-5
Table 2.2.1	Registered Vessel by Type and Weight	2-6
Table 2.2.2	Shipping Traffic Volumes (2004-2007).....	2-6
Table 2.2.3	Transport Shipping Capacity.....	2-7
Table 2.3.1	Present Situation and Future Plan of Navigation Channels in Vietnam	2-9
Table 2.4.1	Comparative Costs to Export, Selected Countries	2-11
Table 2.4.2	Productivity at Selected Container Terminals	2-11
Table 2.4.3	Countries with High Detention Rates (1996-1998).....	2-12
Table 2.4.5	Selected Operating Indicators of Major Shipping Lines.....	2-14
Table 2.5.1	Diversity of Institutions with Port Interests	2-15
Table 2.5.2	Entities Involved in Major Port Terminals.....	2-17
Table 2.5.3	Saigon Port Table of Seaport Service Charges	2-19
Table 2.5.4	Domestic Transport Cost Comparison.....	2-20
Table 3.1.1	MOT Port Development Strategy up to 2020 by Seaport	3-7
Table 3.2.2	List of Ongoing/Committed Projects	3-11
Table 3.4.1	Estimated Cost of the Coastal Shipping Master Plan (1997-2010)]	3-15
Table 3.4.2	Fleet Development Plan for Oceangoing Ships.....	3-16
Table 3.4.3	Fleet Development Plan for Domestic Ships	3-16
Table 4.1.1	Estimated International Cargo Throughput (2020 and 2030)	4-1
Table 4.1.2	Estimated International Container Throughput (2020 and 2030)	4-1
Table 4.1.3	Estimated Domestic Cargo Throughput (2020 and 2030).....	4-2
Table 4.2.1	Current Water Depth in Major Container Ports.....	4-3
Table 4.3.1	SWOT Analysis of Seaport and Shipping	4-6
Table 4.3.2	Strategy Matrix.....	4-6
Table 4.3.3	Port Requirements by Vessel Type.....	4-9
Table 4.3.4	Indicative Ro-Ro Cargo Vessel Mix for Vietnam.....	4-11
Table 5.2.1	Projected Cargo Traffic, in 2020 and 2030 (International Carg).....	5-4
Table 6.1.1	Committed/On-going Projects.....	6-1
Table 6.1.2	Proposed Projects.....	6-4
Table 6.2.1	MCA for Project Evaluation.....	6-9
Table 6.2.2	MCA for Project Evaluation.....	6-11
Table 6.3.1	Port Investment Strategy 2011-2020	6-12

LIST OF FIGURES

Figure 2.1.1	Location of Ports by Seaport Groups.....	2-2
Figure 2.1.2	Cargo Throughput in Vietnam's Seaports 1995-2007	2-2
Figure 2.1.3	Cargo Volume by Port Group (2003-2007).....	2-3
Figure 2.4.1	Gross Income VINALINES.....	2-13
Figure 2.4.2	Revenue Sources of VINALINES	2-13
Figure 2.5.1	Organization of VINAMARINE	2-16
Figure 2.5.2	VINALINES Group	2-18
Figure 3.1.1	Project Cargo Throughput.....	3-6
Figure 3.1.2	Actual vs Planned Capacities by Seaport	3-6
Figure 3.2.1	Cai Mep International Gateway Port	3-11
Figure 3.2.2	Planned Ports of Lach Huyen and Dinh Vu.....	3-12
Figure 3.2.3	Transshipment Port at Van Phong	3-13
Figure 4.1.1	Freight Transport Demand & Mode Share along the North-South Coastal Corridor	4-2
Figure 5.1.1	National Physical Development Framework.....	5-1
Figure 6.1.1	Candidate Projects.....	6-8

LIST OF BOXES

Box 3.3.1	VINALINES Expansion Plans to 2020	3-14
-----------	---	------

ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
CY	Container Yard
DD	Detail Design
DWT	Dead Weight Tons
EPIRB	Emergency Position Indicating Radio Beacon
FDI	Foreign Direct Investment
FS	Feasibility Study
GC	Giant Container
GOV	Government of Vietnam
GT	Gross Ton
HCMC	Ho Chi Minh City
ICD	Inland Container Depot
IFC	International Finance Company
IMO	International Maritime Organization
Incl.	Including
IPs	Industry Ports
ISM	International Safety Management
JICA	Japan International Cooperation Agency
LASH	Lash Ship
LGU	Local Government Unit
LOA	Length Overall
MARPOL	Maritime Pollution
MCA	Multi Criteria Analysis
Mil.	Million
MOD	Ministry of Defense
MOF	Ministry of Finance
MOT	Ministry of Transport
MOU	Minute of Understanding
MP	Master Plan
MTI	Ministry of Trade and Industry
MTTS	Maritime Technical & Training School
NFEZ	North Focal Economic Zone
NH	National Highway
NSP	The New Saigon Port
OCDI	The Overseas Coastal Area Development Institute of Japan
ODA	Official Development Assistance
PSC	Port State Control
SAR	Search and Rescue
SEDP	Socio-economic Development Plan
SFEZ	South Focal Economic Zone
SFICO	State Finance Investment Company
SOE	State Owned Enterprise
SOLAS	Safety of Life at Sea
STCW	Standard of Training, Certification and Watchkeeping
SWOT	Strength, Weakness, Opportunity, Threat
TEU	Twenty-foot Equivalent Unit

ULCS	Ultra Large Container Ship
USD	United State Dollar
VIMARU	The Vietnam Maritime University
VINALINES	Vietnam National Shipping Lines
VINAMARINE	Vietnam National Marine Bureau
VINASHIN	Vietnam Shipbuilding Industry Corporation
VISPHEL	Vietnam Ship Communication and Electronic Company
VITRANSS 2	The Comprehensive Study on the Sustainable Development of Transport System in Vietnam
VIWA	Vietnam Inland Waterway Administration
VLCC	Very Large Crude Carriers
VLCS	Very Large Container Ship
VMR	Vietnam Maritime Register
VMS	Vietnam Maritime Safety Agency
VMSA	Vietnam Maritime Safety Agency
VIRES	Vietnam Information & Report System (Vietnam National University)
WTO	World Trade Organization

1 INTRODUCTION

1.1 Purpose

The purpose of the report is to review the past performance, establish the present conditions, and outline the future of the Ports and Shipping sub-sector in Vietnam.

Strategic issues considered was the crucial role international gateway ports play in the export oriented FDI-led economy of Vietnam, and the key role of coastal shipping plays in the north-south coastal corridor, where coastal shipping carries a significant share of the mid to long distance transport demand for cargo.

Long term development directions for the sub-sector was elaborated to include not just infrastructure investment but also organizational and institutional improvements. Proposed projects in the sub-sector was reviewed and prioritized based on the overall national development framework.

1.2 Structure of the Report

This report is divided into the following chapters:

Chapter 1: Introduction. It provides an overview of the report's contents and a guide to understanding the full report.

Chapter 2: Present Conditions. This chapter describes the current conditions of the seaport and ocean shipping in Vietnam. The historical performance of the sub-sector is reviewed, followed by discussions about the present situation of ports and maritime fleet, as well as the institutional set up.

Chapter 3: Government Plans. This chapter reviews and summarizes the plans of the different port authorities and those for the development of shipping. It ends with a commentary about these plans.

Chapter 4: Main Planning Issues. This chapter discusses the key issues in the sub-sector to be considered in the long term development of the sub-sector.

Chapter 5: Long Term Development Strategies. This chapter elaborates on the proposed approaches to addressing key issues in the sub-sector.

Chapter 6: Draft Master Plan. This chapter identifies and prioritizes port development

2 PRESENT SITUATION

2.1 The Port Network

1) Physical Setting

Based on Priminister decision No 16/2008/QD-TTg dated on January 28, 2008, due to their limit importance it is classified into three types (ports class 1, class 2 and class3). There are 49 classified ports (see Annex 2A) which are rated into:

- (i) Class 1, which number 17, are primary ports with high traffic and serving larger vessels operating on foreign and long domestic inter-regional routes;
- (ii) 23 Class 2 ports, which are functioning as secondary feeder ports with medium traffic and smaller hinterlands;
- (iii) Class 3 are crude oil ports which are oil tanks adjacent to oil derrick at sea.

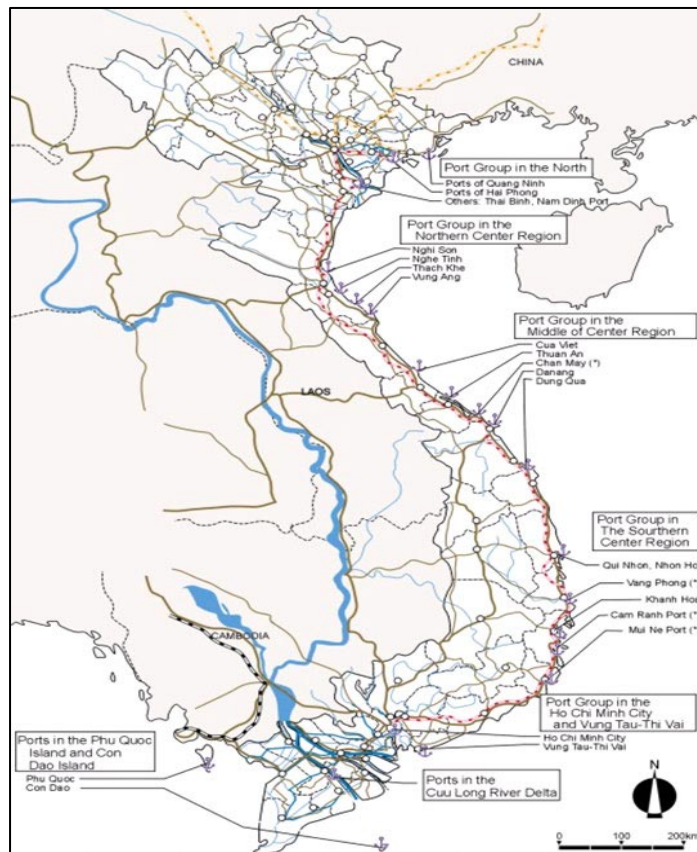
Figure 2.1.1 shows the location of the ports, as well as the existing ports administrative system groupings 8 groups to which they belong. At present, the new Master Plan of Vietnam port system had been submitted to Prime Minister and waiting for final decision. Although, none of the ports are designed to handle passengers, since ships do not offer passenger carriage. Table 2.1.1 provides more details about Class 1 ports and the size of their terminals or berths. Complete list of terminals is in Annex 2B.

Table 2.1.1 Profile of Major Terminals in Selected Class 1 Ports

Name of Seaport	Name of Terminal	Berth			Access Channel	
		Length (m)	Depth (m)	Max. Vessel size (DWT)	Length (km)	Min. Depth (m)
Cam Pha		500	9.5-10.5	50,000	40	7.4
Hon Gai	Cai Lan	926	5.0-12.0	45,000	31	7.3
	B12	506	1.6-13.0	40,000	15	8.1
Hai Phong	Vat Cach	484	4.0-4.5	3,000	20	3.7
	Hoan Dieu (main port)	1,717	8.4	10,000	37	4.1
	Chua Ve	848	8.5	10,000		
	Dinh Vu	238	8.7	20,000	26	5.3
	Doan Xa	210	8.4	10,000	30	4.5
	Transvina	182	8.5	10,000		
	Viconship	320		10,000		
	Cua Cam	348	2.5-7.0	7,000	20	4.5
Nghi Son	Nghi Son General	390	7.5-11.0	10,000	2	7.5
Cua Lo		650	7.5	10,000	4	5.5
Vung Ang		185	10.8	45,000(Plan)	2	9.2
Chan May		420	8.0-12.5	30,000	3	12.0
Da Nang	Tien Sa	595	11.0-12.0	30,000	8	12.7
	Han River	528	7.0	5,000		
Dung Quat		110	8.7	20,000	near sea	8.7
Quy Nhon		830	8.5-11.8	30,000	7	10.5
Nha Trang		552	8.5-11.8	20,000	5	11.5
Vun Tau	Phu My (Ba Ria-Serece)	614	3.0-12.0	60,000	31	12.0
Dong Nai	Dong Nai (Long Binh Tan)	172	3.0-8.3	5,000	100	4.0
Ho Chi Minh	Sai Gon	2,669	8.5-11.0	36,000	85	8.5
	Ben Nghe	816	9.5-13.0	36,000	84	
	Cat Lai	973	10.5-12.0	15,000	85	
	Tan Cang	706	9.5	36,000	90	
	VICT	486	10.0	20,000	85	
	Nha Be Oil	545	6.8-11.8	32,000	70	
Can Tho	Can Tho	302	11.0	10,000	120	3.0

Source: Assembled by VITRANSS 2 Study Team from various sources.

Figure 2.1.1 Location of Ports by Seaport Groups



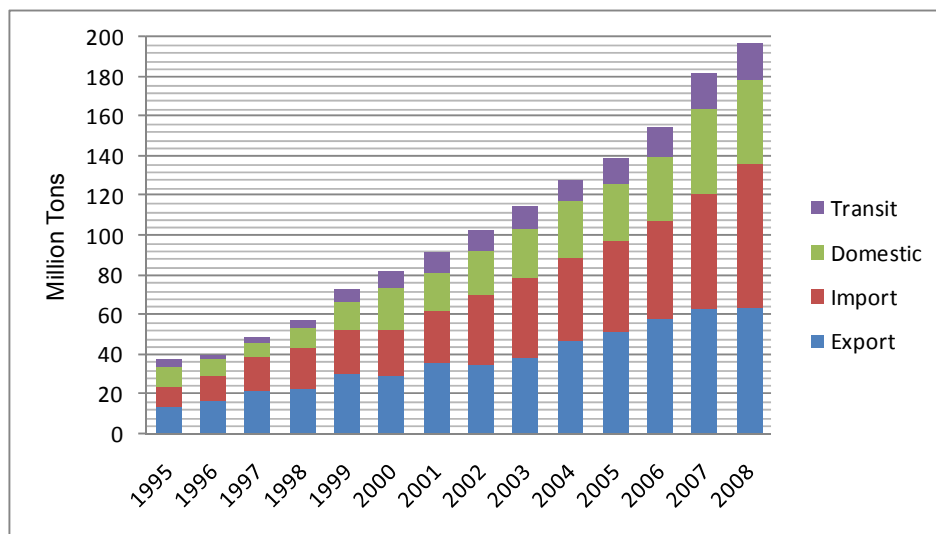
Source: VINAMARINE

2) Port Traffic

(1) Freight

The cargo throughput handled in Vietnam’s seaports grew rapidly from about 49 million tons in 1997 to 196.6 million tons in 2008. Of the 2008 volume, nearly 69.2% are foreign cargoes (export and import), 21.8% domestic, and 9% transit. This remarkable growth is a reflection of the strong economic growth that the country has achieved since the Doi Moi.

Figure 2.1.2 Cargo Throughput in Vietnam’s Seaports 1995-2008

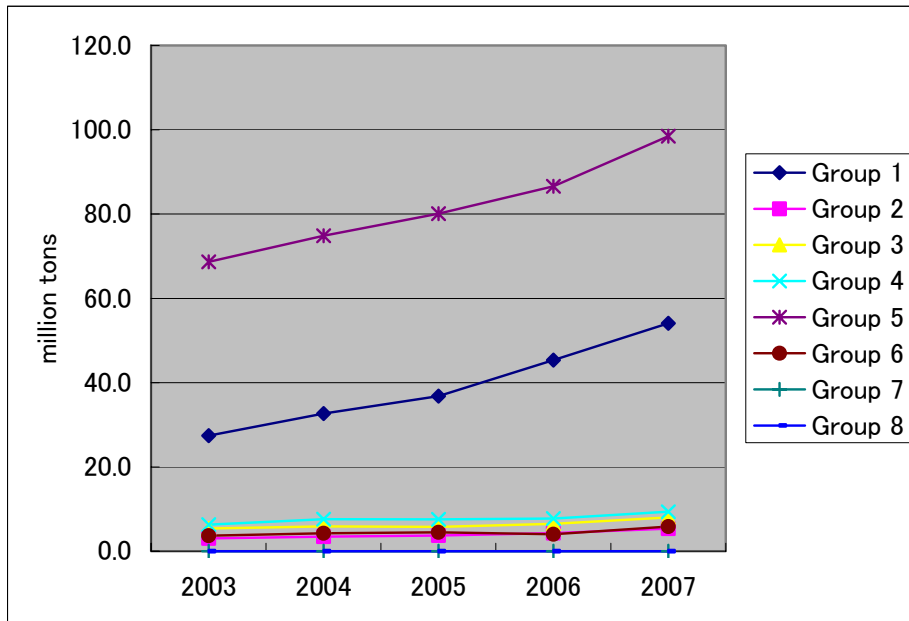


Source: VINAMARINE

The regional distribution of the cargo can be seen from Figure 2.1.3. Group 5 ports, which include seaports in Ho Chi Minh and Vung Tau - Thi Vai area, consistently ranked highest with 98 million tons (or 54% of national total); followed by Group 1, which includes seaports of Hai Phong port and Cai Lan, at 30%. Group 4 (southern center region, including Nha Trang port and Quy Nhon port), and Group 3 (central region including Da Nang port) also handled substantial volume.

In terms of annual growth rates, Groups 1 and 2 exceeded the national average of 12% per annum, as can be gleaned from Table 2.1.2.

Figure 2.1.3 Cargo Volume by Port Group (2003-2007)



Source: VINAMARINE

Table 2.1.2 Annual Growth Rate by Port Group, (%)

Group	Growth Rate (year on year)				Rate/Year (2003-2007)
	2003-2004	2004-2005	2005-2006	2006-2007	
Group 1	19	13	23	19	19
Group 2	14	8	15	25	15
Group 3	9	-2	13	23	10
Group 4	20	0	2	21	10
Group 5	9	7	8	14	9
Group 6	16	5	-10	45	12
Total	12	8	12	17	12

Source: VINAMARINE

(2) Containerization

Increasing containerization was also observed – from 761 thousand in 1997 to 5,023 thousand TEU by 2008 (see Table 2.1.3). More than 82% of the containers are foreign trade related. While containerization of domestic cargoes is still small, it nevertheless recorded impressive growth from nearly zero ten years ago.

Table 2.1.3 Container Throughput in Vietnam's Seaports, 1995–2008

Year	Container Throughput (1,000 TEUs)				% Growth Rate (Year on Year)
	Export	Import	Domestic	Total	
1995	153	163	0	315	
1996	226	239	0	465	48
1997	381	372	7	761	64
1998	376	382	42	800	5
1999	440	449	61	950	19
2000	497	513	137	1,148	21
2001	478	501	367	1,346	17
2002	748	730	240	1,718	28
2003	883	875	285	2,043	19
2004	1,059	1,046	333	2,438	19
2005	1,266	1,217	436	2,920	20
2006	1,475	1,428	507	3,411	17
2007	1,837	1,878	774	4,489	32
2008	2,046	2,105	876	5,023	12

Note: The transit container volume is not included due to lack of statistical data.

Source: VINAMARINE

A survey of container traffic at major seaports was conducted to determine distribution by ports. The result is shown on Table 2.1.4. Out of 42 ports surveyed, 11 ports were found handling containers either domestic or international or both. The volume on Cai Lan declined in 2007 because the port suffered hurricane and two quay side container gantry cranes had been damaged. Chua Ve port showed the highest container volumes in the north, and about 80% is international –its traffic is carried in/out by land, rather than by domestic feeder vessels. The same pattern can be said about Da Nang. The Port of Saigon dominated container traffic in the country, whether international or domestic.

The use of containers in sea freight was virtually concentrated in Group 5 (Ho Chi Minh) and group 1 (Hai Phong), with 97% of the country's total, since only these ports have terminals that can handle this kind of cargo.

Table 2.1.4 Domestic/International Containers by Major Ports (TEU)

Port	Type	Direction	2005	2006	2007
Cai Lan	Domestic	Inbound	25,365	38,462	2,578
		Outbound	31,761	39,747	5,176
	International	Inbound	40,605	33,096	15,635
		Outbound	20,906	21,257	10,901
Hoan Dieu	Domestic	Inbound	63,368	76,455	112,889
		Outbound	-	-	-
	International	Inbound	2,823	4,856	8,640
		Outbound	1,988	343	1,881
Chua Ve (Hai Phong)	Domestic	Inbound	576	1,159	6,472
		Outbound	-	-	-
	International	Inbound	147,610	161,010	256,217
		Outbound	147,979	163,731	247,358
Dinh Vu	Domestic	Inbound	-	23,598	82,928
		Outbound	-	-	-
	International	Inbound	168	5,241	25,659
		Outbound	289	6,476	13,406
Da Nang (Tien Sa, Song Han)	Domestic	Inbound	2,991	2,225	1,838
		Outbound	2,465	1,280	1,286
	International	Inbound	13,995	16,837	25,858
		Outbound	14,425	16,422	23,943

Port	Type	Direction	2005	2006	2007
Nha Trang	Domestic	Inbound	-	-	-
		Outbound	-	-	-
	International	Inbound	653	586	613
		Outbound	4,230	4,819	4,825
Qui Nhon	Domestic	Inbound	4,017	2,607	3,560
		Outbound	864	2,138	848
	International	Inbound	17,029	22,290	28,000
		Outbound	20,057	24,911	29,418
Sai Gon	Domestic	Inbound	83,434	67,534	116,815
		Outbound	80,630	66,327	113,289
	International	Inbound	61,478	50,471	58,318
		Outbound	1,809,493	1,510,480	1,525,399
Ben Nghe	Domestic	Inbound	39,341	63,219	83,822
		Outbound	31,341	80,712	88,845
	International	Inbound	49,552	25,668	27,142
		Outbound	23,576	21,449	18,195
Can Tho	Domestic	Inbound	847	798	1,018
		Outbound	879	830	995
	International	Inbound	-	-	-
		Outbound	-	-	-
My Tho	Domestic	Inbound	790	1,794	2,460
		Outbound	-	-	-
	International	Inbound	395	897	1,230
		Outbound	6,716	15,245	20,909

Source : OCDI, CMB(Construction Consultation Joint Stock Company of Maritime Building)

Table 2.1.5 Container Traffic by Port Group (2003-2007)

Unit: 1,000TEUs

	2003	2004	2005	2006	2007
Group 1	449.5	443.5	661.7	777.2	1,185.0
Group 2	1.2	0.8	0.0	0.0	0.0
Group 3	27.6	32.6	32.8	36.3	60.8
Group 4	28.2	40.1	45.4	55.9	71.5
Group 5	1,572.6	1,912.9	2,171.2	2,541.3	3,171.9
Group 6	0.0	3.0	8.7	0.0	0.0
Total	2,079.1	2,432.8	2,919.8	3,410.7	4,489.2

Source: VINAMARINE

2.2 Shipping

1) Maritime Fleet

A total of 1,199 ships comprise the Vietnamese maritime fleet as of 2007 – with a combined capacity of 2,937,327 GT and 4,384,880 DWT. These are classified by type and weights in Table 2.2.1. Only a handful is designed to carry cargo and passengers, and they are all below 500DWT. Most of the ships are meant for general cargo, with a sizeable number of special-purpose dedicated vessels like oil tankers and liquid bulk carriers. Container vessels are still not as many.

Table 2.2.1 Registered Vessel by Type and Weight

Type of Vessel	Number of Ships by Weight in DWT							Total
	0- 200	200- 499	500- 999	1,000- 1,999	2,000- 4,999	5,000- 9,999	>10,000 DWT	
	General Cargo Boat (incl. Reefer)	30	89	233	146	113	67	
Container (incl. ro-ro)				1		9	10	20
Oil Tanker	12	7	15	22	14	2	14	86
Other Liquid Bulk Carrier	1	1	1	3	6		3	15
Passenger & Cargo	42	2						51
Barge		12	5	7	2		1	27
Tug & Supply Boat	101	7	6	16				130
Dredging Boat	1	7	7	1	2	1	1	20
Others	48	8	2	1	1	1	4	65
Total	219	134	269	197	138	80	79	1,116

Source: Register of Ships; Vietnam Register of Shipping as of September 1999

Remarks 1: Others include fishing boat, pilot boat, floating crane, patrol boat, pontoon, floating dock and research boat, etc.

In theory, the port traffic volume should be twice the throughput of ships since what is loaded in one port gets unloaded at another port. Table 2.2.2 shows the domestic traffic statistics from the viewpoint of the carriers. In 2007, about 57 million tons of cargo was carried compared to 43 million tons recorded at the ports. The latter should have been 114 million tons. Either the port volumes were understated by about 62%, or the shipping throughput was overstated. There is also a big discrepancy in container traffic - 42 thousand TEUs (ship data) against 774 thousand (port data) for domestic cargo, and 800 thousand against 3,700 thousand for international cargo. To improve maritime planning, the traffic database needs to be improved.

Table 2.2.2 Shipping Traffic Volumes (2004-2007)

Shipment	Unit	2004	2005	2006	2007
Domestic Cargo	Tons	34,000,000	36,656,337	45,760,326	56,899,006
Container	TEU	315,134	464,849	760,610	799,665
Export	TEU	152,500	225,527	381,399	375,674
	Tons	1,200,000		3,222,062	3,079,023
Import	TEU	1,62,634	239,322	372,313	381,817
	Tons	1,463,706		3,417,957	4,332,855
Domestic	TEU			6,898	42,174
	Tons			33,637	468,619
Liquid Cargo	Tons	13,180,000	15,510,642	18,126,701	21,889,442
- Export	Tons			9,778,933	11,785,583
- Import	Tons			6,329,780	7,925,973
- Domestic	Tons			2,017,988	2,177,886
Dry Cargo	Tons	14,470,000	17,522,766	20,927,308	23,123,193

Shipment	Unit	2004	2005	2006	2007
- Export	Tons			8,180,911	7,925,222
- Import	Tons			7,537,763	7,748,009
- Domestic	Tons			5,208,634	7,449,962
Transit Cargo	Tons		2,085,160	3,150,506	4,038,619
Passenger	Person		55,981	64,296	47,683

Source: VINAMARINE

2) Carriers and Service Providers

The dominant service provider is VINALINES, a state-owned enterprise, which controls more than 53% (which is actually more, if the joint-venture arrangements with other carriers are counted) of total shipping capacity in Vietnam. It is an advantage that becomes even more formidable when combined with their control over major seaports in the south, central, and north.

Table 2.2.3 Transport Shipping Capacity

Owner Type	Number of Cargo Ships							Total		
	<200	200-499	500-999	1 000-1999	2000-4999	5000-9999	>10000	ALL	DWT	%
Ocean-going Ships										
State	24	33	55	52	69	56	55	344	1,814,683	53.2
Joint Venture	-----	-----	-----	2	5	3	6	16	681,647	20.0
Subtotal	24	33	55	54	74	59	61	360	2,496,330	73.2
Mainly Coastal Shipping Vessels										
Local Government	3	13	31	25	24	15	9	120	444,192	13.08
Cooperative	6	7	12	3				28	17,013	0.5
Private	10	56	156	96	32	3	4	357	451,800	13.3
Subtotal	19	76	199	124	56	18	13	505	913,005	26.88
Total	43	109	254	178	130	77	74	865	3,409,335	100%

Source: VINAMARINE, data as of Dec 2006

A few local governments are also into shipping, such as the city-province of Hanoi, Danang and Ho Chi Minh. They have their own vessels that run in domestic and foreign waters. These are:

- (i) Hanoi Maritime Transport Company (HAMATCO in Hanoi).
- (ii) Danang Maritime Transportation and Commercial Services Co. (DAMATOCOSCO in Danang)
- (iii) Saigon Shipping Company (head office in Ho Chi Minh City).

Saigon Shipping owns four cargo vessels (1,000 to 5,080 DWT) plying the Vietnam-Southeast Asia-Vietnam route. It also provides manning services to foreign shipping companies, and has a joint venture with a foreign partner (AP Moller) for container feeder services.

The two joint-venture companies that play significant roles in container transport are GEMATRANS (Asia) Co., Ltd. and APM-Saigon Shipping. The former is a joint venture between VINALINES and Compagnie General Maritime (CGM - France) that started in 1989 and now operates 11 container vessels with a total capacity of about 4,000 TEU. It is estimated that their current share in the total container carriage is around 30%. The latter is a joint venture between Saigon Shipping and AP Moller (Danish) that started in 1997 and now operates seven to 11 middle-type container vessels under a chartered contract to the

ports of Hong Kong, Kaohsiung, Pusan, and Singapore.

There are also some independent private operators using their own vessels in foreign and domestic shipping. One of these is the Mekong Shipping Company which has two cargo vessels (1,232 DWT and 22,140 DWT) that serve foreign and domestic demand.

(1) Domestic Shipping

There are 543 ship owners in Vietnam, of which 101 are SOEs and are bigger in scale. It is a situation that has not changed since VITRANSS1 (i.e. 1999).

VINALINES has dominated the market for domestic transport of container. TRANSVINA is a relatively new entrant, having started only in 1998 with two vessels (8,384 GRT). It supplements this capacity with space charter contract with its associated companies to carry domestic cargoes.

Vinashin Ocean Shipping Co. Ltd is another player in the domestic shipping business, distinguishing itself by focusing on coastal long-distance cargo and passenger service. It operates Vietnam's only RoPax vessel (Hoa Sen).

(2) International Shipping

Initially, the government targeted 40% of its international cargoes to be borne by Vietnamese-owned vessels. This has not happened and only about 11% could be carved out. The reality of foreign trade, international shipping, and limitations of the national fleet made the target unrealistic. Most of the international shipments are now containerized and carried by specialized carrier vessels – whose average size has increased through the years.

The big carriers, VLCC and ULCC, however are prevented from calling on Vietnamese seaports mainly because of the port's physical limitations, but also partly due to current regional patterns of trade and liner's compacts.

2.3 Navigation Channel

Many, if not all seaports of Vietnam, are on banks or at the mouths of rivers. Hence, they are susceptible to siltation. Maintaining the navigation channels at their designed depths and ensuring their usability and safety at different times of day and year pose a challenge. For example, the tidal range in Ho Chi Minh is about 2.8 meters and about 3.0 meters in Hai Phong. In some ports, vessel operations are restricted due to tidal conditions.

The length of navigation channel of Hai Phong is 49 km and that of Ho Chi Minh is 85 km. Present depth of the channel is 5.3 m and 8.5 m respectively.

Table 2.3.1 lists the different navigation channels as well as summarizes their present conditions and desired depths.

Table 2.3.1 Present Situation and Future Plan of Navigation Channels in Vietnam

MA	Port/Terminal	Max Ship Size (DWT)	Length (Km)	Width (m)	Present Depth (m)	Desired Depth (m)
Quang Ninh	Cam Pha		37.5 (Buoy 0 To Cam Pha)	min. 110	min. -7.3	-7.5
Quang Ninh	Cai Lan	40,000-45,000 (High tide hours)	36	130	-10.0 (2008)	-10.0
Hai Phong	Lach Huyen New Port	30,000-50,000 (by 2015) , 50,000-80,000 (by 2020), 80,000 (by 2030)	5-15 (Entrance to Lach Huyen)	130 (by 2015) 150 (by 2020)	-6.3	-11.0 (by 2015) -15 (by 2030)
	Lach Huyen Section		17.5 (Buoy 0 to Buoy 19.24)	100	-6.6	-7.3 (Design) Tidal Range 3.0
	Ha Nam Canal		6.3 (Buoy 19.24 to Buoy 25.30)	80	-5.4	
	Dinh Vu	20,000-30,000 (High tide hours)	30 (Ent. to Dinh Vu)	80	-5.3	
	Bach Dang River		9.2 (Buoy 25.30 to Din Vue canal)	80	-5.3 -4.7	
	Chua Ve	20,000 (High tide hours)	10.0 (Main Port to Dinh Vu)	80	min. -4.7	
	Vat Cach (Above the main port)		62 (Ent. To Vat Cach)	60	-4.1	
Thanh Hoa	Nghi Son	10,000-30,000	2.0	85 -120 (Plan)	-5.6	-8.5 (Design), -11.0 (Plan), Tidal Range +2.5
Nghe Tinh	Cua Lo	10,000 (unloaded)	4.0	80	-4.4	-7.2 (Design), Tidal Range +2.5
Nghe Tinh	Vung An	30,000-45,000 (Plan)	1.5	150	-9.9	-10.5 (Design)
TT. Hue	Thuan An	2,000	4.4	60	-2.8	-4.5 (Design) Tidal Range +0.4m
	Chan May	10,000-30,000	2.7	150	-11.9	Tidal range: +0.8
Da Nang	Tien Sa	30,000-35,000	7.0 (Buoy 0 to Tien Sa)	110	-9.0	
	Han River	5,000	5.0 (TienSa to Wharf#6)	60	-5.0	
Dung Quat	Dung Quat	30,000 – 50,000	5.4	300	-12.2 to -8.4	Tidal range +0.9
Quy Nhon	Quy Nhon	30,000	7	110	-9.5	Tidal Range +2.0
Nha Trang	Nha Trang	20,000 30,000 GRT (pax)	3.5 (north channel)		-11.1	A.Tidal Range +1.4
Khanh Hoa	Ba Ngoi	30,000	16		-9.1	-10.2

MA	Port/Terminal	Max Ship Size (DWT)	Length (Km)	Width (m)	Present Depth (m)	Desired Depth (m)
		50,000 (plan)				(Design) A.Tidal Range +1.5
	Van Phong	6,000 – 9,000 TEU 12,000 TEU (2020) 15,000TEU (future)	8.75 (Cua Be channel) 8.2 (Co Co channel)	700 900	-20.0 -17/-19	
HCMC	Saigon	10,000 – 30,000	85 (Buoy 0 to Saigon Port)	150 (2-way channel)	-8.5	A.Tidal Range +2.83
	Cat Lai	20,000-30,000 DWT	75 (Buoy 0 at Ganh Rai Bay to Cat Lai)	150m (80m Dong Nai River section)		
	Hiep Phuoc	5,000 (Full load) 15,000 (Partially loaded)	59 (Plan)	200 (Plan)	-7.0 (Control Point -6.3)	Soai Rap Channel Stage I Plan
		25,000-30,000 (Plan)				
Vung Tau	Ba Ria Serece	30,000 DWT	26.5 (Buoy GR5 to terminal)	150	-8.8 (min. -6.8)	A.Tidal Range +2.83
	Cai Mep	50,000 (Full load) 80,000 (Partially loaded)	29.8 (Ent. to Cai Mep)	min. 310 (Plan)	-8.8	-14 (Plan)
	Thi Vai	50,000 (High tide hours)	7.4 (Cai Mep to Thi Vai)	min. 200 (Plan)	-8.8	-12 (Plan)
Dong Nai	Dong Nai (Long Binh Tan)	5,000	34 (End of Nha Be river to Dong Nai port)	250 (Cat Lai to Dong Nai port)	min. -4.2	
	Go Dau	10,000-15,000 20,000 (Plan)	35 (Buoy GR5 to Go Dau port)	150	min.-6.8	
Can Tho	Tra Noc Main Port Cai Cui Port	3,000-5,000 (Dinh An estuary section) 5,000-10,000 (Hau river section)	120 (Buoy 0 to Tra Noc) 112 (Buoy 0 to main port) 102 (Buoy 0 to Cai Cui, incl. 30-km of Dinh An estuary)	100	-3 to -3.5 (natural) -4 to -4.5 (dredged) Hau river: -6.5 to -7.0	-6.5 by end-2010 on Quan Chanh Bo Channel A.Tidal level +2.75
My Tho	My Tho	5,000	40km above Can Tho Port	160	-6.6 (Hau river)	A.Tidal level +2.3
	My Tho	3,000DWT	74	80 (24.6km), 150 (49.4km)	-2.0 to -2.4	A.Tidal level +3.46

Source: VITRANSS 2 Study Team

Note: Information in the table was collected by local consultants.

2.4 Sector Performance

1) Ports Productivity

A 2006 study about port costs in selected Asean countries revealed that Vietnam had the lowest cost at \$335/TEU compared to Thailand's \$358 and Indonesia's \$377 (see Table 2.4.1). An IFC study "Cross Border Trading in 2006" concluded that Vietnam's cost was lower than Thailand's, but higher than Indonesia. The implication is that the seaport and shipping sub-sector of Vietnam was performing fairly well.

Table 2.4.1 Comparative Costs to Export, Selected Countries

Cost Item	Philippines	Thailand	Indonesia	Vietnam
Inland transport	\$85.00	\$100.00	\$168.00	\$130.00
Terminal Handling Charge	95.87	74.00	95.00	60.00
Cargo handling charge	51.54	37.00	33.75	79.00
Wharfage	5.82	21.74	0.0	1.60
Documentation	42.00	16.00	45.00	12.50
Customs Clearance	45.00	72.00	23.13	50.00
Miscellaneous	40.00	37.00	12.50	1.88
Total (in US\$)	365.23	357.74	377.38	334.98
IFC Study	1,336	848	546	701

Source: Cost to Export: Is the Philippines Really Uncompetitive, CRC, 2007.

Container handling efficiency in Vietnamese ports is considered below par, for a number of reasons – such as the absence of streamlined handling equipment, such as gantry cranes at some ports, poor yard planning and traffic flow, lack of expertise, and inadequate wharf space. Table 2.4.2 compares the productivity of selected container terminals. VICT is equipped with an automated transport and handling system and modern crane facilities, and therefore can produce high productivity. However, its customers have to contend with the fact that only two shipping companies - NOL and Wang Hai - regularly call on the terminal, and that truck restriction within the HCMC adversely affect deliveries to/from the port.

Table 2.4.2 Productivity at Selected Container Terminals

	Hai Phong	Qui Nhon	New Saigon P.	Saigon	VICT
Box/crane/hour)	12	12	15	12	25

Source: Compiled by Study Team from survey reports

The New Saigon Port Company is managed and operated a system of ports and ICDs which are owned and operated by the defense force. "Saigon Newport" has actually become a prestigious and powerful brand in the terminal operation in Vietnam. The container throughput of the company has accounted for more than 65 % of the market share in Hochiminh city area and 42 % in the country.

Port system of SNP: (i) New Port Cat Lai, at present is biggest container terminal with total area 72ha; 6berths/973m with 15 Panamax gantry cranes. Two other extended berths more are equipped with 2 modern quay side gantry cranes in operation from September 2008, (ii) On June 2009 the first container terminal berth 300m long are in operation with 3 modern quay side gantry cranes 20'/cont. are equipped, that new berth is accommodated for 80,000 DWT of vessel (equivalent to 6000TEUs container ship).

ICD system of SNP: (i) TanCang ICD is located at old Sai gon Newv port with 20ha CY, 24,000m² warehouses and 702m long of berths, (ii) SongThan ICD is located at Binh

Duong and starting operation on 2001, with total area up to 51ha, warehouse 142,000m² (100,000m² are in operation), (iii) Long Binh ICD is located in Dong Nai, total area 150ha, phase 1: 80ha with 30ha of CY and 18 warehouse x 18,000m². The phase 1 will operate on end of 2009, and (vi) ICD Caimep-Baria-VungTau is in operation on end of last year.

In Hai Phong port, At HoangDieu area, there are two berths available for container operation out of the total 11 berths. However, shore cranes can only carry 5 to 16 tons. At Chua Ve area, which has 848m/5 berths, 7.0 m depth, 6 quay side gantry cranes can accommodate 36.5 tons container, making it suitable for container operation.

2) Shipping Performance

On the average, Vietnamese vessels are small-size, except for some specialized cargo vessels. Replacing them with bigger vessels, however, will be meaningless unless a corresponding transformation in the ports is made. This is because bigger ships will not be able to call in majority of the existing riverside ports. Modern container vessels are dependent on cranes at port-of-call, but these are installed only in some of the terminals.

The high rate of detention – 35.1% vs international average of 6.5% - for Vietnamese flag vessels reflects the poor quality of vessels as well as crew. From 1996-1998, 59 Vietnamese flag vessels were detained at various foreign ports as a result of strict port state control. From 2004 to 2006, the number went up to 134 ships. In 2007 alone, 8 Vietnamese ships were detained in foreign harbors under the Tokyo MOU on PSC in Asia Pacific.

Table 2.4.3 Countries with High Detention Rates (1996-1998)

No	Flag	Number of Inspection	Number of Detention	Detention %	3-year Rolling Average %	Excess Above Regional
1	Vietnam	168	59	35.12	6.49	28.63
2	Cambodia	196	44	22.45	6.49	15.96
3	North Korea	120	25	20.83	6.49	14.34
4	Belize	1,064	218	20.49	6.49	14.00
5	Indonesia	282	45	15.96	6.49	9.47
6	St Vincent &Grenadines	1,035	151	14.59	6.49	8.10
7	Ukraine	64	9	14.06	6.49	7.59
8	Turkey	237	31	13.08	6.49	6.59
9	Egypt	77	9	11.69	6.49	5.20
10	Honduras	1,125	129	11.47	6.49	4.98
11	Malta	720	78	10.83	6.49	4.34
12	Thailand	444	46	10.36	6.49	3.87
13	China, Peoples Rep.	2,142	213	9.94	6.49	3.45
14	Cyprus	1,545	119	7.70	6.49	1.21
15	France	80	6	7.50	6.49	1.01
16	Malaysia	708	53	7.49	6.49	1.00
17	Taiwan, China	530	38	7.17	6.49	0.68
18	India	362	25	6.91	6.49	0.42
19	South Korea	1,248	84	6.73	6.49	0.24

Source: VINAMARINE

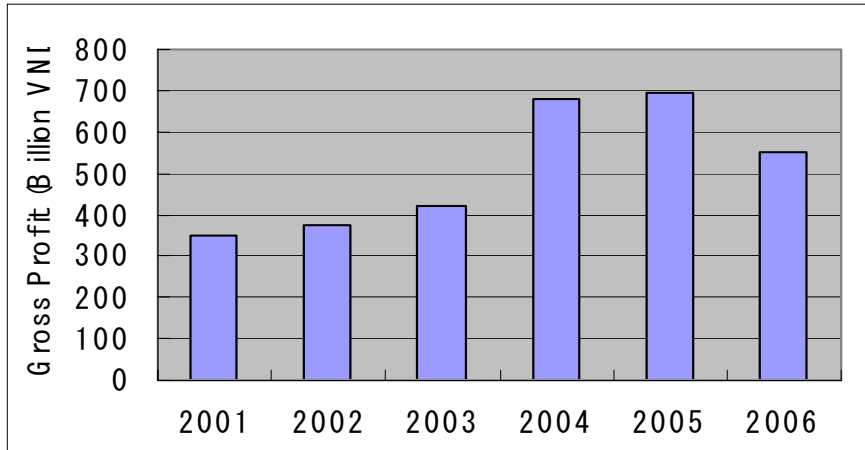
Evaluation of Vietnam Register, detention cases of Vietnamese vessels on 2006 has got lowest rate in the last 7 years, around 12%, but still very high to compare with the other of Asia-Pacific countries with average rate at 5.4%, placed at position number 7. On 2007, detention rate of Vietnam vessel is decreased both of rate and quantity of number, according to Vinamarine, on first half 2009 number of Vietnam detention vessels are 21,

lower than that same period of last year of 11 units; although, Vietnam still ranged at top ten.

Directed causes are unperformed of vessel maintenance and shorted of required equipments. Furthermore, unskill of seamen and 14.5 year in average age of fleet are other unadvantaged factors.

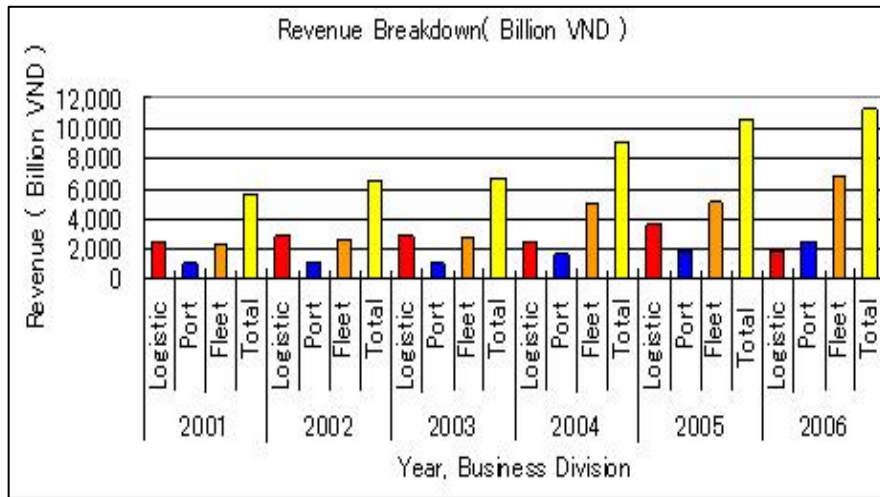
The near monopoly position enjoyed by VINALINES, has yielded enormous profits for the group as can be seen in Figure 2.4.1. About 60% of its income is contributed by its shipping business, followed by ports operations (see Figure 2.4.2).

Figure 2.4.1 Gross Income VINALINES



Source: VINALINE

Figure 2.4.2 Revenue Sources of VINALINES



Source: VINALINE

Financial data is not available for other shipping companies, but based on Table 2.4.5, can be inferred as marginal. Generally, the proportion of salary and allowance to total expenditure is comparatively low compared to the allocations of other foreign shipping lines. Meanwhile, other direct and operating costs, such as seaport fee, fuel oil, periodic repair, material/lubricant, and other spare parts, comprise the biggest bulk of the budget. Given the state and age of the vessels, high maintenance and operational expenses are expected. Thus an old fleet in operation is costlier and less competitive because expenditures on repair, maintenance and insurance become financial burdens on individual shipping companies.

Table 2.4.4 Selected Operating Indicators of Major Shipping Lines

Indicator in 2007	Unit	VINALINES	VOSCO	VITRANS- CHART	FALCON	VINASHIP
Load Factor	%			63	91	60.60
Proportion Distance	%			78	50	81
Capacity of Means	VND million	103,850				
Total Transport Revenue	VN D/T/km		443,038,347	191,894	129,730,343	71,941,159
Average Transport Charge	VND 1,000	99,744.20		37.68	29.77	132,539
Total Expenditure	VND 1,000	12,446.80	414,713,243	200,459	123,221,895	71,841,159
Out of which:		63.10				
- Salary and Allowance	Ditto	2,040.31	34,801,739	16,616	3,113,522	7,447,987
- Social Insurance	Ditto	14.05	993,290	596	1 24,522	506,835
- Seaport Fee	Ditto	3,341.05	83,624,947	25,708	18,167,658	8,623,421
- Fuel	Ditto	7,297.82	78,246,234	37,924	17,421,154	21,374,618
- Repairs	Ditto		37,555,856	16,070	32,326	2,636,304
- Material, Lube-oil, parts	Ditto	45,846.45	52,847,969	18,752		7,023,651
- Basic Depreciation	Ditto	45.94	74,767,381	28,692	564,748	7,170,103
- Management	Ditto	2,399.16	18,511,708	6,823	1,057,144	3,698,093
- Amort. of Major Repair	Ditto			9,834		6,996,179
- Charter	Ditto				75,863,395	
- Pocket Money	Ditto					1,674,001
- L/C Fee & Bank Fee	Ditto	9,135.79				
- Insurance Fee	Ditto	1 1,065.00	15,396,529			
- Other Expenses	Ditto	6,048.21		7,415	6,827.726	18,157,376

Source: VINALINES

Remarks: now in the process of updating

3) Maritime Safety

Statistics on accidents at ports are not readily available. This is because of the fragmented nature of responsibilities in port administration. Not all ports are under the MOT, and the larger ports fall under a SOE. Anecdotal evidence suggests, however, that safety is not a problem although accidents in the port can happen during cargo handling at quaysides and cargo transporting in the yard. Loose packing/slinging of cargoes may also lead to accidents. The safety and environmental policies in the port sector got a good rating from a World Bank study in 2006.

Narrow navigation channels make shipping prone to accidents. A total of 615 accidents have been recorded during the nine-year period between 1987 and 1995. Of the total, 25% were due to collision, 17% to engine trouble, 9% to capsizing, etc. and 17% involved loss of lives and injuries. Operational errors and technical deficiencies were cited as the main causes of accidents. The number of recorded accidents has been increasing annually but not yet alarming - with less than 100 accidents and less than 30 fatalities recorded annually from the period 2001 to 2005. Many of the recorded accidents occur during stormy weather and within 12 mile of the coast – something that is being remedied through improved vessel traffic systems and regulations, weather forecasting services and effective communication systems.

2.5 Institutional Set up

1) Legal Framework

The fundamental laws and regulations covering maritime activities in Vietnam are provided in the Maritime Code of Vietnam (enacted by the National Assembly in June 1990) as amended by Resolution No. 51/2001-QH10 dated 25 December 2001 and again revised by Law , resolution Nr. 40/2005/QH 11. Dated June, 14, 2005 by the National Assembly. The code is comprehensive in scope.

No similar code, however, exists for ports although a number of decrees and circulars have been issued to address specific port-related issues, such as Decision no.55/2002/QD-TTg of Prime Minister dated 23 April 2002 with reference to ship entry and departure, or Decree on the management of seaports and access channels. Also relevant is MOT decision no. 2106/QD-GTVT issued 23 August 1997 which stipulated rules and regulations in the handling of cargoes in seaports. The new Decision of Prime Minister (Nr. 26/2009/QD-TTg) dated February, 20,2009 on regulating function, tasks, responsibilities, powers and organosaltion structure of VINAMARINE under MOT (replaced Decision Nr, 269/2003/QD-TTg, dated March,22, 2003) can be considered as the nearest to a legal framework for the port sector.

While international shipping is dominated by international carriers, domestic shipping is restricted to Vietnamese vessels.

2) Stakeholders in Seaports

The responsibility for the development and management of seaports (and the terminals located therein) is fragmented among several agencies of central and local governments.

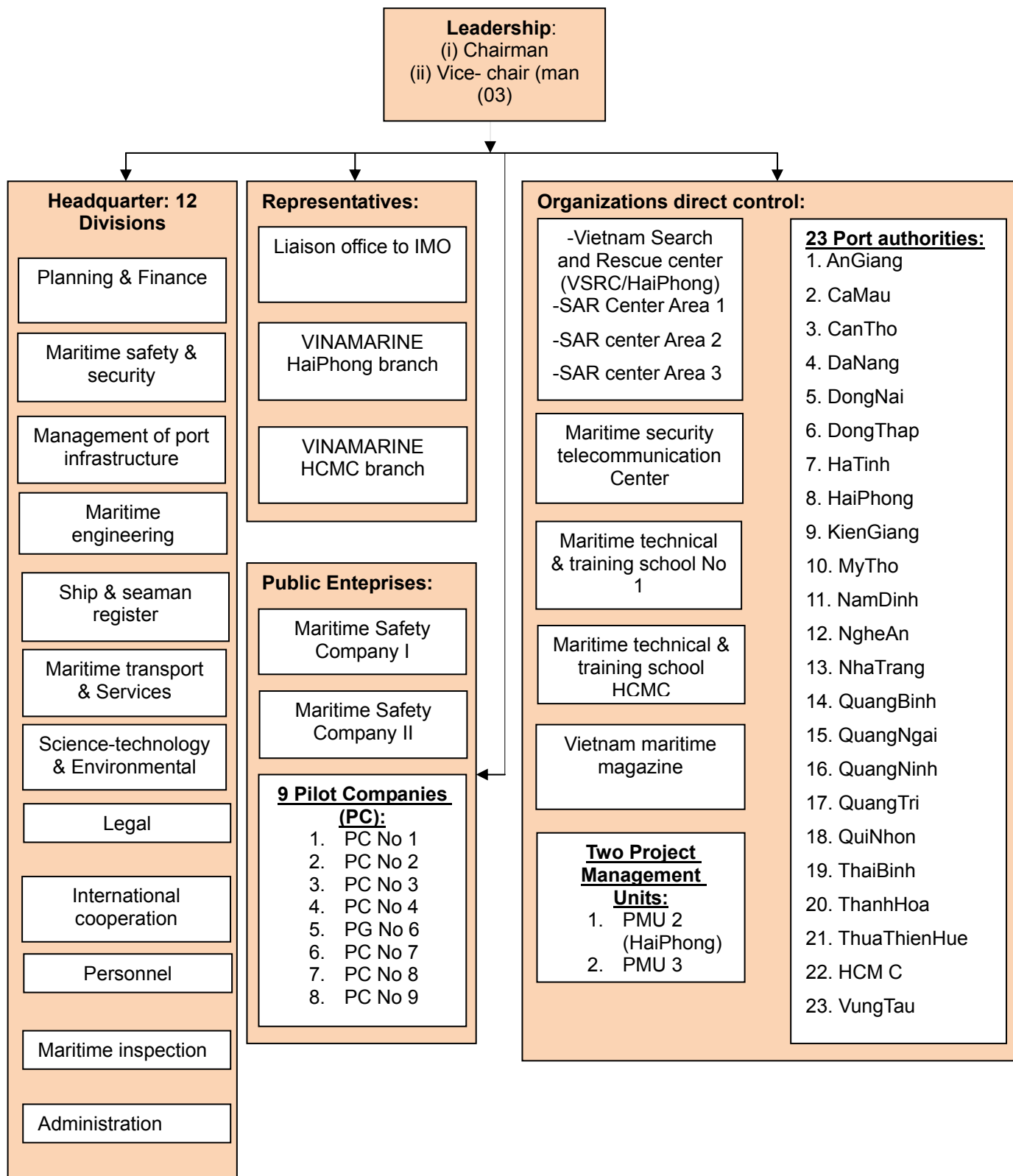
Table 2.5.1 Diversity of Institutions with Port Interests

Port Management Bodies	Government Units	Example of Ports
VINALINES	PM Direct control	Ports of Hai Phong, Quang Ninh, Da Nang, Saigon, Can Tho, NgheTinh, NhaTrang, QuiNhon
Port operator (SOEs or jointstock company)	Dependent to Ministries	Cam Pha, New Port company (SG, CatLai, CaiMep)
Provincial ports (SOEs)	Cities or Provinces	Hon Khoi, BenNghe
Joint-venture corporations	Independent	Ba Ria Serece Port, VICT

Source: VINAMARINE, VINALINES and other various sources

Vietnam National Maritime Administration (or VINAMARINE) is the principal agency of the MOT that supervises ports and shipping. It has 23 local branches (called Local Port Authorities) which act as Harbor Master in regulating vessel traffic at ports, enforcing maritime safety and environmental standards, and related concerns. Search and rescue operations, which in other countries fall under the Coast Guard, are also in its mandate. Figure 2.5.1 outlines the VINAMARINE organization.

Figure 2.5.1 Organization of VINAMARINE



Sources: Study Team, based on PM decision 26/2009/QD-TTg

Another major player in seaports is VINALINES, a SOE directly under the Prime Minister's office. Founded in 1995, the company's diverse business interests span shipping, terminals, and maritime services including shipping agency, ship brokering, freight forwarding, multi-mode transportation, ship repairing, etc. The group currently controls 8 port terminals

(e.g, Saigon Port Company/including CanTho port, Haiphong Port Company/including DinhVu new port, Danang Port Company, Quang Ning Port Company, and Cai Lan Port, NgheTinh, QuiNhon and NhaTrang port company). Reportedly, the market shares of the ports under VINALINES account for more than 30% of the national total. VINALINES was able to secure the mandate to undertake the proposed deep sea ports at Lach Huyen in Hai Phong and Van Phong in Khang Hoa province.

The Ministry of Defense has a SOE (called New Port Company) which owns and operates a container terminal at Cat Lai in Ho Chi Minh City. It is developing a new container terminal (Saigon New Port Cai Mep) in Cai Mep-Thi Vai area in Vung Tau and it also owns 4 ICDs in the SFEZ area (SaiGon New Port, SongThan, LongBinh and CaiMep)

A number of local government units (LGUs) – represented by their respective People’s Committees, also get into the action. For example, Ben Nghe is directly under the Department of Transport and Public Works of the HCMC government. Hon Khoi is part of salt company under the control of the People’s Committee of Khanh Hoa province.

Foreign investors, including the so-called global terminal operators, pursue ports projects usually in joint venture with any of the subsidiary SOEs of VINALINES, or with any SOEs under the umbrella of MOT, MTI, MOD, or LGUs. The interlocking interests of various parties can be seen from Table 2.5.2. In some ways, therefore, the fragmented institutional set up creates, unintentionally perhaps, some degree of competition or rivalry between ports and port entities. However, competition should be in the provision of port services, not in the development of port infrastructure.

Table 2.5.2 Entities Involved in Major Port Terminals

Name of Seaport	Name of Terminal	Organizational Entities/Management Bodies
Cam Pha		Port and Trading Company – Vietnam National Coal Mineral Industries Group
Hon Gai	Cai Lan	Quang Ninh Port – VINALINES
	B12	B12 Petroleum Company – PETROLIMEX
Hai Phong	Vat Cach	Vat Cach Port Joint Stock Company – VINALINES
	Hoan Dieu	Hai Phong Port – VINALINES
	Chua Ve	
	Dinh Vu	
	Doan Xa	Doan Xa Port Joint Stock Company – VINALINES
	Transvina	High- Tech Transport Co. Ltd (TRNSVINA) – VINALINES
Cua Cam	Cua Cam Port – Hai Phong’s Transportation Department	
Nghi Son	Nghi Son General	Thanh Hoa Port – Thanh Hoa transport Department
Cua Lo		Nghe Tinh Port – VINAMARINE
Vung Ang		Ha Tinh trading and shipping Company
Chan May		Chan May Port – Thua Thien Hue’s People Committee.
Da Nang	Tien Sa	Da Nang Port – VINALINES
	Han River	
Dung Quat		PETROVIETNAM
Quy Nhon		Quy Nhon Port – VINAMARINE
Nha Trang		Nha Trang port – VINAMARINE
Vung Tau	Phu My (Ba Ria-Serece)	Ba Ria – Serece Joint Venture company
Dong Nai	Dong Nai	Dong Nai Port – Dong Nai Transportation Department
Ho Chi Minh	Sai Gon	Sai Gon Port– VINALINES
	Ben Nghe	Ben Nghe Port – Ho Chi Minh City’s Transportation Department
	Cat Lai	Saigon New Port – Ministry of Defence

Name of Seaport	Name of Terminal	Organizational Entities/Management Bodies
	Tan Cang	
	VICT	Joint-Venture Logistics Company No.1
	Nha Be Oil	Petrolimex Saigon
Can Tho	Can Tho	Sai Gon Port – VINALINES

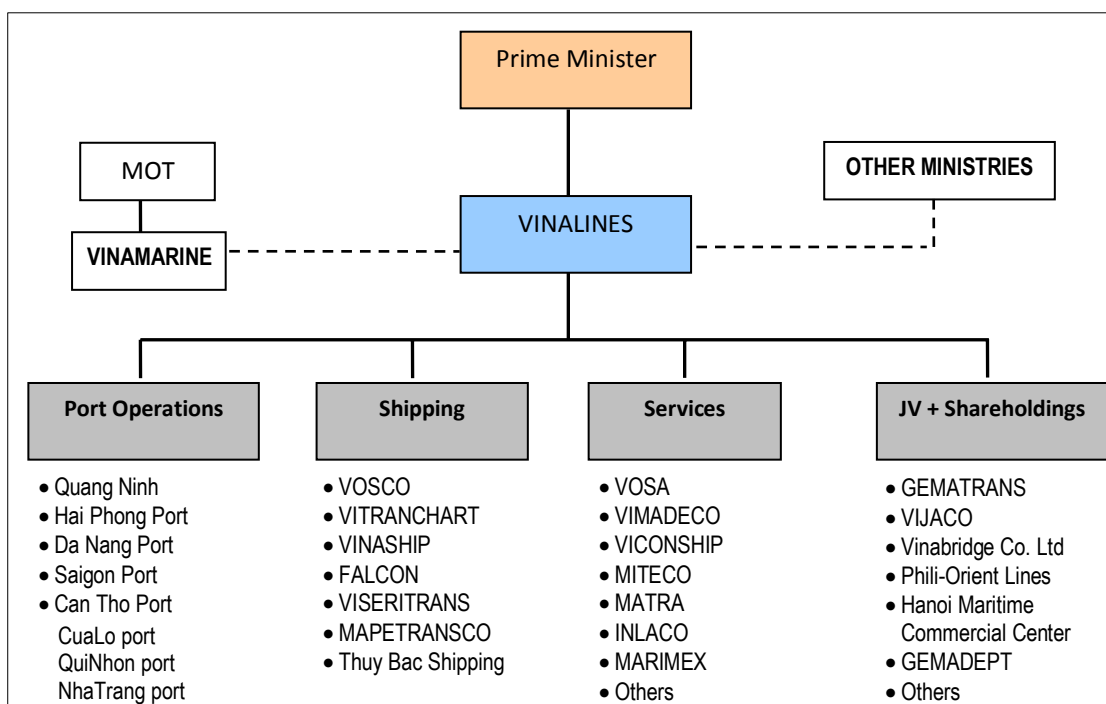
Source: VITRANSS 2 Study Team

3) Stakeholders in Shipping

The provision of shipping services follows a similar pattern as those of the ports. Ownership and control, however, can be traced to either: state-owned companies, shipping companies under the provincial government, joint-venture companies, and private companies. Private shipping companies are still a minority in Vietnam’s domestic shipping.

At the top is VINALINES, which controls such companies as VOSCO, VITRANSHART, VINASHIP, and FALCON that in turn manages about 70 shipping companies. These major companies currently operate 48 vessels (including six foreign-registered vessels) with a total of 568,030 DWT. Figure 2.5.2 illustrates its business structure and relationships with other state bodies.

Figure 2.5.2 VINALINES Group



Source: VITRANSS2 Study Team

4) Other Players

Vietnam Port Association is an industry association that counts 33 seaports as members. It was established in 1994 upon the initiative of VINAMARINE. Its main purpose is to promote mutual cooperation and support among its members in the field of port administration and operations. It represents Vietnam in the ASEAN Ports Association, and can be considered as a non-governmental forum for seaports.

Vietnam register (VR) under MOT has sea vessel Division that is in responsibility of registered ship. And two Vietnam Maritime Safety Company I &II (MSC I and MSC II) are

under VINAMARINE control.

VINAMARINE is also responsible for providing conventional aids to navigations, while the VR handles vessel registration and classification. These two bodies fulfill Vietnam's obligations under the Memorandum of Understanding on PSC in the Asia-Pacific region and Resolution A.787 (19) of the International Maritime Organization (IMO) on PSC procedures.

The Vietnam Maritime University (VIMARU) and Maritime Technical and Training School (MTTS) have campuses in Hai Phong and HCMC. These bodies are tasked with training Vietnamese seafarers towards compliance of international maritime conventions such as SOLAS, STCW, MARPOL, ISM Code.

In accordance with Prime Minister's Decision No. 780/TTG in 1997, the Vietnam National SAR Committee was established as the highest state organization in search-and-rescue operations; it directly commands specialized SAR coordination centers on aviation, maritime, fishery, and petroleum. Three regional maritime SAR coordination centers have been set up in Hai Phong, Danang and Vung Tau. VINAMARINE manages them via Vietnam Maritime Search and Rescue Center (VSRC/HaiPhong).

5) Tariffs and Cost

(1) Port Charges

The tariffs applicable for seaports and shipping enterprises are regulated by the government. The pricing framework is contained in Ordinance 38/2001/PL-UBTVQH10 (re: Charges and Fees) passed by the National Assembly in August 2001 and the Presidential Decree on Prices (No. 40/2002/PL-UBTVQH10).

Generally, the price levels are set for each of the port geographic grouping – north, central, and south. The tariff for Saigon Port, shown on Table 2.5.3, is illustrative.

Table 2.5.3 Saigon Port Table of Seaport Service Charges

Item	Rate (In \$Us)		Remarks
Berthing Fee:			
- at wharf	\$0.0029/gross-ton-hour		
- at Bouy/anchor	\$0.0012/gross-ton-hour		
Berthing Fee (vessels <200 GT	\$50, good for 5 days		\$15/day beyond 5 days
Passenger Fee	\$1.00 entry; \$1.00 exit		
Tugboat assistance fee			For vessel requiring assistance
- Tugboat of 480hp to 600hp	\$205 per entry or exit		Plus 30%, intra-Saigon Ports Plus 50%, shifting to non-Saigon Port Plus 100%, shifting other than above
- Tugboat of 1,000hp to 1,130hp	\$391 per entry or exit		
- Tugboat of 1,700hp to 2,000hp	\$488 per entry or exit		
Mooring Charge	At wharf	At Bouy	
- Ship <500 gross ton	11	32	
- 501 to 1,000 gross ton	17	51	
- 1,001 to 4,000 gross ton	35	90	
- 4,001 to 10,000 gross ton	45	125	
- 10,001 to 15,000 gross ton	55	145	
- 20,001 and higher	90	200	
Cargo Handling Charges	Ship-to-Vehicle	Ship-to-Storage	Rates on per ton basis
- Group 1 –all bulk	1.30	1.85	
- Group 2 – bagged cargoes	1.75	2.30	
- Group 3 – assorted iron & steel	2.30	3.00	
- Group 4 – machinery, equipt, etc.	2.50	3.30	
- Group 5 – assorted goods	2.80	3.70	

Item	Rate (In \$Us)		Remarks
- Group 6 - bulky/heavy, high-value	3.20	4.20	
- Group 7 – vehicles	30/small car	70/truck	Rates vary according to vehicle type & weight
Container Handling Charge	Ship-to-Truck	Ship-to-Yard	
- 20 ft Laden	27	45	
- 20 ft Empty	17	26	
- 40 ft Laden	40	69	
- 40 ft Empty	25	38	
>40 ft Laden	60	103	
>40 ft Empty	38	57	

Source: Decision No.948/2005/QĐ, 12 August 2005, Saigon Port DG

Despite the strong intervention of the government on pricing, the World Bank 2006 study on Vietnam's transport has concluded that the pricing and cost recovery policies for international and coastal shipping were good, with the exception of those on port charges.

(2) Container Ocean Freight Rate

The current nominal rates for domestic shipment of containers between Hai Phong and HCMC are as follows:

	<u>20'</u>	<u>40'</u>
COC (Carrier's Own Container)	US\$250	US\$450
SOC (Shipper's Own Container)	US\$230	US\$420

The terminal handling charge for international containers at Haiphong is around US\$50 for 20' and US\$75 for 40' boxes. The rates at HCMC is slightly lower at US\$ 45/20' and US\$ 70/40'.

(3) Cost comparison with other modes

In order to gauge the cost competitiveness of shipping, the Study Team undertook a pilot shipment consisting of a 20' container weighing = 23 MT, from HCMC to Hanoi, on a door-to-door basis. The result is shown on Table 2.5.4.

Table 2.5.4 Domestic Transport Cost Comparison

Transport Service	Route	Mode	Cost	Time
Sea and Land Combined Transport (Hanoi Door/HCMC Door)	Hanoi Door-Haiphong CY	Road	US\$ 120	
	Haiphong CY – HCMC CY	Sea	US\$ 200	
	HCMC CY – HCMC Door	Road	US\$ 120	
	Total		US\$ 440	6 days
All Road	Hanoi Door – HCMC Door	Road	US\$ 600	4 days
Rail and Road combination	Hanoi Door – Yen Vien or Giap Bat Railway Station	Road	US\$ 100	
	Railway Station – HCMC Station	Rail	US\$ 300	
	Station – HCMC Door	Road	US\$ 120	
	Total		US\$ 520	7 days

Source: OCDF

2.6 Summary of Problems and Weaknesses

1) Challenges for Ports

The fundamental weakness of Vietnamese seaports is their physical constraints. Most are located on rivers far from the sea, with limited maneuverability for ships, shallow drafts, and susceptible to siltation. The situation is worse in the north than in the south. The few ports that do not have these constraints (e.g., Danang) are far from the load centers. The limitations translate to the use of smaller ships that are uneconomical for the rapidly increasing traffic in the country. The combination means low port productivity, which in turn, means congestion at the port and longer turnaround times for vessels. In the last 5 years, there had been some improvements

The older ports also suffer from the traffic congestion of their host cities, especially around the major seaports in southern and northern regions. On the other hand, access roads to the newer ports, and those being planned, are still underdeveloped.

The fragmented institutional set up hampers the formulation and implementation of a unified national strategy in ports development. Developing a deep sea port is costly enough as to require a higher threshold of cargo volumes, but undertaking more than two in various parts of the country would not only be costlier but lead to splitting of traffic to the point of diseconomy for all. At the level of individual ports, the adjoining land areas to the port areas are controlled by local People's Committees through land use plans, while the water areas are administrated by local Maritime Administrations. Coordination of plans for an integrated port becomes difficult, if not a lengthy process.

Financing of port developments is another weakness of the present system. Instead of a coherent and sustainable capital investment program for ports, with clear priorities, each of the players formulate their own and attempt to finesse the others for approval and funding – either from State budget, ODA, domestic loans, joint-venture deals, or internally-generated cash. As a consequence, the port project championed by the entity most adept at assembling the funds gets implemented ahead of the rest – even if this project is of secondary importance.

2) Challenges for Coastal Shipping

In shipping, the business playing field is highly uneven – in favor of VINALINES. With its control of several terminals, competing liners would naturally be at a disadvantage in the use of the ports. It has access to credits, as its borrowings carry an implicit government guarantee not enjoyed by other operators.

A basic weakness of Vietnamese flag vessels is the wide gap that separates them from IMO standards. This has caused an abnormal rate of detention in foreign ports. Raising vessel quality is difficult when one starts with an aging fleet. The other aspect of vessel quality improvement is the development of the skills of officers and crew, which is considered inadequate.

Fleet replacement, upgrading and acquisition will require massive financing. Except for the dominant shipping SOE and foreign-affiliated JV companies, almost all shipping operators encountered difficulty in securing funds for their fleet expansion plans. In addition, there is a government policy of promoting the local shipbuilding industry, which, however, could not meet market demand for bigger vessels. The industry is also hampered by insufficient supply of iron steel plates. To address this weakness, the Ministry of Finance (MOF) is

contemplating to establish a State Financial Investment Company (SFICO). The SFCIO is envisioned to be an intermediary financial body between government and shipping companies and will be authorized to carry out direct investments, aside from lending to the shipping industry.

Another weakness is the emphasis being given to shipbuilding, at the expense of capacity to repair and upgrade existing vessels. This forces many ship owners to tap foreign dockyards for necessary maintenance and repairs.

3 CURRENT PLANS AND POLICIES

3.1 Master Plan for Seaports

The seaport system development of Vietnam up to 2020 and orientation toward 2030 has been approved by the Prime Minister in Decision No. 2190/QĐ-TTg on December 24, 2009, which was to replace the Decision No. 202 / 1999/QĐ-TTg dated October 12, 1999.

1) Viewpoints and Objectives

- (i) By steps, maritime economy will be driven as the leading one in five fields of economics, while contributing to reinforce security and national defense.
- (ii) Ensured integrated development of the port system, a focus on deep-water ports development in the 3 regions in order to create an attraction in the region and strengthen upgrading of other ports; efficient maintenance and operation into serious consideration.
- (iii) An integrated development with infrastructures (beyond port) and others that connect to national transport network and logistics infrastructure, and to form an efficient network to exploit multi-modal transport.
- (iv) Optimal access to international maritime traffic flow, as a motivation for the development of the coastal urban economic and industrial chain.
- (v) Mobilized local and international resources for the development of seaport and related infrastructure. Ensuring the sustainable development objectives, tasks associated with environmental protection and national defense security.

Specific objectives:

Expected cargo through seaports in the planning stages;

- (i) 500-600 million tons to 2015;
- (ii) 900 - 1.100 million tons to 2020;
- (iii) 1.600 - 2.100 million tons to 2030.

2) Details of Planning

(1) Vietnamese seaports by 6 groups and territory

- Group 1: Northern group from Quang Ninh to Ninh Binh;
- Group 2: The North Central group from Thanh Hoa to Ha Tinh;
- Group 3: The Middle Central group from Quang Binh to Quang Ngai;
- Group 4: The South Central group from Binh Dinh to Binh Thuan;
- Group 5: The Southeast group, including Con Dao and Soai Rap River port of Long An and Tien Giang;
- Group 6: The Mekong River Delta group, including Phu Quoc Island and the Southwest.

(2) Seaport by function and size

(a) General national port includes:

- Van Phong international transshipment port (Khanh Hoa);
- (ii) International gateway port of Hai Phong, Ba Ria Vung Tau; (iii) Hub regional ports: Hon Gai-Quang Ninh, Nghi Son-Thanh Hoa, Nghe An, Son

Duong, Vung Ang-Ha Tinh, Dung Quat-Quang Ngai, Binh Dinh-Quy Nhon, Nha Trang, Khanh Ba Ngoi - Hoa, Ho Chi Minh City, Dong Nai, Can Tho.

(b) Local ports: serving the local

(c) Dedicated port: direct service for industrial production, specified cargoes (crude oil, petroleum products, cement, coal, ore ...)

3) Development of Port Groups

(1) Group 1: Cargo throughput is expected to achieve 90 million tons per year in 2015; 120-160 million tons per year in 2020; and 240-315 million tons per year in 2030.

(a) Major ports:

(i) Hai Phong port: is general national port and international gateway (type IA) and functions as follows:

- Lach Huyen will be the major and in charge of handling general cargo, off-shore container export, vessels 50,000-80,000 DWT; and container vessels 4000-6000TEUs.
- Dinh Vu is mainly for general cargo, short-distance container vessels with dedicated berth for de-loading vessels of 20,000 – 30,000 DWT.

(ii) Hon Gai Port-Quang Ninh: is national general port and as regional hub (Type I), in which:

- Cai Lan Port: the main terminal for general cargo, container vessels (50,000 DWT and 3000TEUs).

(b) Dedicated and local berths

(2) Group 2: Cargo throughput is estimated in a range of 70 – 80 million tons per year in 2015, 130 – 150 million tons per year in 2020 and 210 – 250 million tons per year in 2030.

(a) Major ports:

(i) Nghi Son – Thanh Hoa: a national port for general cargo, a regional hub (Type 1), with following functions:

- North Nghi Son is dedicated berth for vessels 10,000 – 30,000 DWT, used to serve oil refinery complex.
- South Nghi Son is dedicated berth for vessels 30,000 – 50,000 DWT with dedicated berth.

(ii) Nghe An: national general port, regional hub (Type 1), including functional terminal and berths as follows:

- Cua Lo is the main berth, handling general cargo of vessels 10,000 – 20,000 DWT. A new berth is possible to build for vessels 30,000 – 50,000 DWT in North and South Cua Lo.

(iii) Son Duong, Vung Ang – Ha Tinh is a dedicated and national port for general cargo, and a regional port hub (Type 1), including functional berths as follows:

- Son Duong is dedicated area for vessels 20,000 – 300 DWT, with a general berth for vessels 30,000 – 50,000 DWT serving metallurgy complex and other industries.
- Vung Ang is a general berth area for vessels 30,000 – 50,000 DWT, with a dedicated berth serving imported coal and liquid cargo for petroleum warehouse.

(b) Dedicated and satellite berths of major ports

(3) Group 3: Cargo throughput is estimated in a range of 40 – 46 million tons per year in 2015; 80 – 105 million tons per year in 2020 and 155 – 205 million tons per year in 2030.

(i) Major ports :

(i) Danang: national general port, regional hub (Type 1) and it may be possible to develop as international gateway port in the Central Region, including functional berths as follows:

- Tien Sa, Son Tra is main berth for handling general cargo of vessels 30,000 – 50,000 DWT and container vessels 4,000 TEU, with a tourist berth up to 10,000 GRT.
- Lien Chieu, in short-term, is a dedicated berth for vessels 10,000 – 30,000 DWT and then it will become a main one of the Danang gateway to accommodate vessels 50,000-80,000 DWT and vessels 4,000 – 6,000 TEU.

(ii) Dung Quat, Quang Ngai: national general terminal and regional hub (Type 1), including following functional berths:

- Dung Quat 1 is main berth area, including general berth, container berth for vessels 10,000 – 50,000 DWT and dedicated berth for vessels 20,000 – 70,000 DWT.
- Dung Quat 2 is a potential berth area mainly for dedicated vessels 10,000 – 350,000 DWT, with a general berth of accommodating vessels 30,000 – 50,000 DWT.

(ii) Dedicated and satellite berths of major ports

(4) Group 4: Cargo throughput is estimated in a range of 60 – 100 million tons per year (in 2015), 140 – 200 million tons per year (in 2020) and 270 – 385 million tons per year (in 2030).

(a) Major ports:

(i) Quy Nhon port – Binh Dinh is a national general port and regional hub (Type 1), including berth areas as follows:

- Quy Nhon, Thi Nai is main berth for vessels 10,000 – 30,000 DWT, with a specialized berth for vessels 5000 – 7000 DWT.
- Nhon Hoi is a berth area which has been developed in the later period for vessels 2000 – 5000 DWT, with general berth for industrial zones.

(ii) Van Phong – Khanh Hoa is national general port (Type 1A), including berths:

- Dam Mon is container berth for vessels 9,000 – 15,000 TEU, transport hub for container exports between Vietnam and adjoining countries.
- South Van Phong is a berth for oil and oil product transshipment, also dedicated berth for oil refinery and accommodating vessels up to 400,000 DWT.
- Southwest – Van Phong is dedicated berth area for thermal-power, other industries and for vessels 50,000 – 10,000 DWT.

(iii) Nha Trang, Ba Ngoi – Khanh Hoa is national general terminal, regional hub, including followings:

- Ba Ngoi is main berth for general cargo and container vessels 30,000 - 50,000 DWT with a dedicated berth for thermal-power.
- Nha Trang is being transferred into passenger, tourist terminal to accommodate international cruise up to 10,000 GRT.

(b) Dedicated and satellite berths of major ports

(5) Group 5: Cargo throughput is estimated in a range of 185 – 200 million tons per year (in 2015), 265 – 305 million tons per year (in 2020) and 495 – 650 million tons per year (in 2030).

(a) Major ports:

(i) Vung Tau, Ba Ria – Vung Tau is national general port, international gateway (Type 1A), including berth areas:

- Cai Mep, Sao Mai – Ben Dinh is main berth for handling offshore container exports – imports and accommodating vessels 60,000 – 10,000 DWT and 6,000 – 8,000 TEU.
- Phu My, My Xuan is general container cargo berth for vessels 50,000 – 80,000 DWT and vessels 4,000 – 6,000 TEU with several dedicated berths serving industrial zones.
- Long Son is dedicated berth for oil refinery complex, with a berth for imported crude oil and accommodating vessels 30,000 DWT and vessels 30,000 – 50,000 DWT. The Southeast of terminal is used for later development.
- Passenger berth in Sao Mai – Ben Dinh is a hub to accommodate international tourist vessel up to 10,000 GRT.

(ii) Ho Chi Minh City port is national general port and regional hub (Type 1A), including berth areas:

- Hiep Phuoc (Soai Rap river) is main berth area for accommodating general container cargo vessels 50,000 DWT and 4000 TEU with some main berths for vessels 20,000 – 30,000 DWT serving industry.
- Cat Lai (Dong Nai River) is main container berth area for accommodating vessels 20,000 – 30,000 DWT in the short-term.
- Berths in Saigon river, Nha Be: transferred function according to Decision No.791/QĐ – TTg.

(iii) National general and regional hub port (Type 1), including berths:

- Phuoc An, Go Dau (Thi Vai River) is main berth for general and container cargo vessels 60,000 DWT (Phuoc An) and 30,000 DWT (Go Dau), with some dedicated berth serving industry.
- Phu Huu, Nhon Trach (Dong Nai river, Nha Be, Long Tau) are dedicated berths with some general berths for vessels 10,000 – 30,000 DWT.

(b) **Dedicated and satellite berths of major ports**

(6) **Group 6:** Cargo throughput is estimated in a range of 55 – 75 million tons per year (in 2015), 130 – 155 million tons per year (in 2020) and 200-300 million tons per year (in 2030).

(a) **Major ports:**

- (i) Can Tho is national general port and regional hub (Type 1), including berths:
- Cai Cui is main berth area for general cargo vessels 10,000 – 20,000 DWT with dedicated berth for industry.
 - Hoang Dieu, Binh Thuy: upgraded the existing berths to accommodate vessels up to 10,000 DWT.
 - Tra Noc, O Mon is dedicated berth area for serving industry, having general berth to support Hoang Dieu area and accommodate vessels 5,000 – 10,000 DWT.
 - Phu Quoc Island: including berths as An Thoi and Vinh Dam to accommodate vessels 2000 – 3000 DWT. Mui Dat Do berth is for tourist vessels up to 80,000 – 100,000 GRT.
- (b) Local general ports (Type 2) in Tien river, Hau river, Cai river and Western coastal are for serving local genera, with dedicated berths for industrial centers.
- (c) Dedicated ports for coal imports of thermal power plants.:
- Ports in the East of Mekong River Delta
 - Ports in the West of Mekong River Delta
- (d) Potential ports for large sea-vessels outside Hau river's estuary

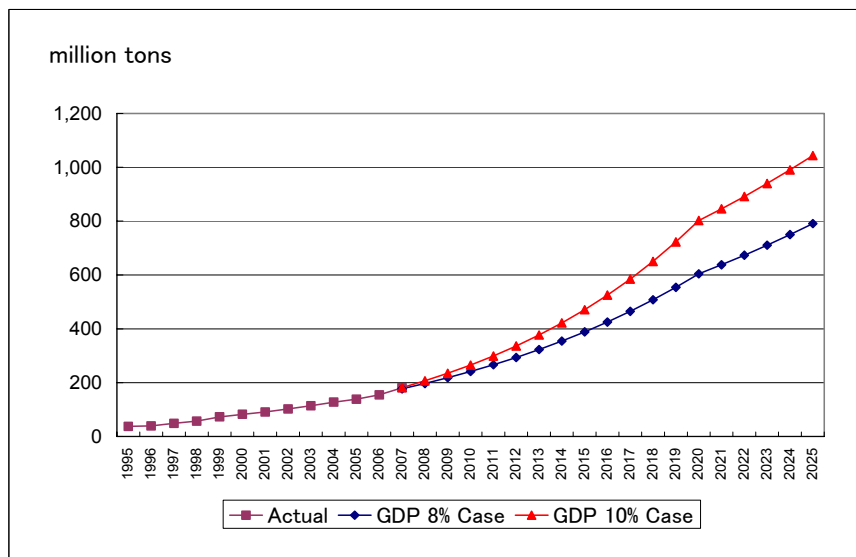
4) Improvement and Upgrading of main vessel channels

- (1) **Access channel to Hai Phong port:** accommodating vessels of 80,000 DWT and 6,000 TEUs in section to Lach Huyen, vessels of 30,000 – 50,000 DWT in Chanh river section, Yen Hung; vessels of 20,000 – 30,000 DWT in Dinh Vu area, and vessels of 10,000 DWT in Cam river area.
- (2) **Vung Tau – Thi Vai channel:** section Sao Mai – Ben Dinh able to accommodate vessels of 10,000 DWT and 8,000 TEU; vessels of 8,000 DWT and 6,000 TEU in Cai Mep area, vessels of 6,000 DWT and 4,000 TEU in My Xuan, Phuoc An, Phu My area; vessels of 30,000 DWT in Go Dau area.
- (3) **Access channel to HCMC port:** (following Soai Rap river) accommodating vessels of 5,000 DWT and vessels of 4,000 TEU.

- (4) **Access channel to Can Tho port and Hau river ports, Quan Chanh Bó channel:** accommodating vessels of 10,000 – 20,000 DWT and Dinh An estuary channel accommodating vessels of 3,000 – 5,000 DWT.

The forecasted cargo volume by VITRANSS2 that would pass through the ports was estimated based on the correlation between nationwide cargo throughput and GDP in 1995-2006 and the assumption that GDP growth rate in 2007-2020 is 8% and 10% (and 5% thereafter). This is illustrated in Figure 3.1.1, where a capacity of 255 million tons is required by 2010.

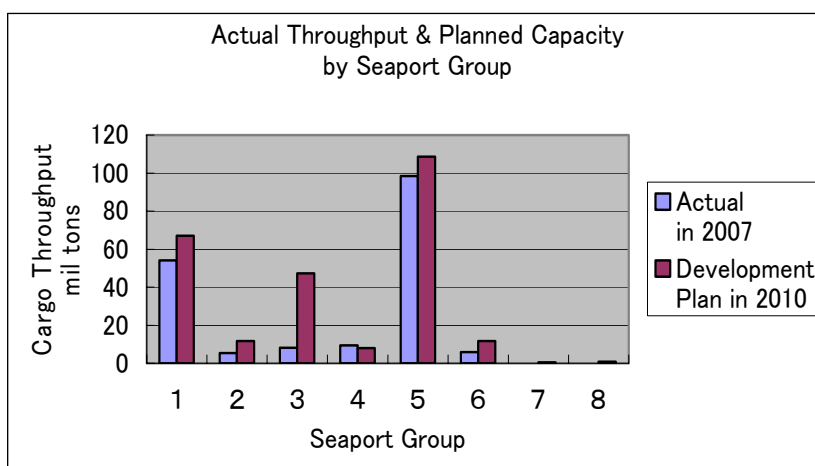
Figure 3.1.1 Project Cargo Throughput



Source: OCDI

Figure 3.1.2 compares the actual throughputs in 2007 against the plan's targets for each of the 8 seaport groups. Generally, throughputs fell short of targets except for some ports.

Figure 3.1.2 Actual vs Planned Capacities by Seaport



Source: VINAMARINE

5) General Orientation up to 2020

MOT released "Vietnam Transport Development Strategy up to 2020" in September 2007. Key issues and development plans are mentioned as follows (Table 3.1.1).

Table 3.1.1 MOT Port Development Strategy up to 2020 by Seaport

Development Strategy by Seaport
<p>North Region</p> <p>Developing seaport system with focuses being seaports in the Northern focal economic zones; bringing total capacity of seaport groups to 55 million tons per year by 2010 and 90 million tons per year by 2020;</p> <p>(1) Quang Ninh Port: Further expanding and modernizing the Port of Cai Lan to receive vessel of 50,000DWT and throughput reaching 7-8 million tons per year by 2010 and 10 million tons per year by 2020; newly developing seaports in the area of Mui Chua, Van Gia (Quang Ninh) with capacity ranging from 1 to 2 million tons per year while acting as the gate to the sea for Northeast mountainous provinces; moving coal port of Hon Gai to the area of Cua Ong, Cau Thang and upgrading into tourism port; moving B12 oil port to the south of Ha Long Bay.</p> <p>(2) Hai Phong Port: Building the group of Hai Phong Port to reach capacity of 50 million tons per year by 2010 and 120 million tons per year by 2020, including newly building the gate port of Lach Huyen-Hai Phong as the major deep-water port in the North with capacity of 4 to 5 million tons per year by 2010 and 33 million tons per year by 2020; being able to receive vessel from 30,000-80,000DWT; further upgrading Hai Phong Port (main zone) for vessel of 10,000DWT, reaching capacity of 16 million tons per year by 2010; further upgrading Dinh Vu Port to receive vessel of 20,000DWT with throughput capacity of 3.4 million tons per year by 2010 and 5 million tons per year by 2020.</p>
<p>Central Coastal Region</p> <p>It is planned to strongly develop seaport system in the central region to reach throughput capacity of 40 to 50 million tons per year by 2010, effectively undertaking transportation demand which is growing fast in the Central Coastal region and Central Highland, providing transit cargo transportation services to Laos and Northeast of Thailand.</p> <p>To uniformly build and modernize the port group of Da Nang-Lien Chieu-Chan May as the major international port in the Central Region with total capacity reaching 12 or 15 million tons per year; acting also as a gate for central coastal provinces and central highland provinces; receiving transit cargo from south of Laos and Northeast of Thailand when the second Trans-Asia road is completed.</p> <p>(1) Chan May port: To receive vessel of 30,000 to 50,000DWT and large-size tourism vessels; to reach capacity of 6 to 7 million tons by 2020.</p> <p>(2) Da Nang port: Further investing to improve infrastructure of Tien Sa port, phase II to receive vessel of 35,000DWT to reach total capacity of 5.4 to 7.1 million tons by 2010 and 9.6 to 11.9 million tons by 2020; building deep-water port of Lien Chieu integrating with the development of the Trans-Asia road along NH9 to receive vessels of 50,000DWT.</p> <p>(3) Dung Quat port: Building a big port group in the Dung Quat with capacity of 20 million tons per year by 2010, 45-50 million tons per year by 2020 so as to respond to growing transportation demand of industrial parks, petrochemical industries, metallurgy industry in other concentrated IPs in the region.</p> <p>(4) Quy Nhon port: Completing the berth with capacity of 30,000DWT; newly building some of terminals to satisfy requirements of socio-economic development of regional provinces; to reach capacity of 3.3 to 4.2 million tons by 2010 and 15 million tons by 2020.</p> <p>(5) Van Phong Transshipment Port: Step by step upgrading and developing it as the terminal port for imported and exported cargos of Vietnam, as an international container depot keeping the role of a driving force for development of Van Phong Bay into an integrated economic zone gathering industries like tourism, sector, aquaculture, etc.</p> <p>From 2010 to 2015, further building ports with total length from the berth of 1,600 to 2,300m, bringing total area of the port to 118-125ha; annum throughput shall reach 1 to 2.5 million TEU.</p> <p>From 2015 to 2020, further building ports being able to receive vessels of 12,000TEU with total terminal length from 4,400 to 5.700 meters, total area of 450ha and annual throughput ranging from 4 to 4.5 million TEU.</p> <p>(6) Continuing to develop Nghi Son Port, firstly to serve cement transportation, with capacity of 2 million tons per year; by 2010, to complete construction of an integrated port with capacity of 8 to 10 million tons per year.</p>

(7) Upgrading and improving ports in the area of Nghe Tinh, Quang Binh, expanding Cua Lo Port to boost economic development of Nghe An; building Vung Ang Port with capacity of 10 million tons per year in integration with oil refinery facility plan and steel metallurgy plan in the region.

Southeast Region

This is the most economically developed region of Vietnam. Therefore, it is needed to develop a good seaport system satisfying growing requirements of fast-paced economic growth. Total port capacity in the region in 2010 should be 90 to 100 million tons per year, in which focuses are Sai Gon Port and Vung Tau-Thi Vai Port.

(i) Ho Chi Minh Port Groups:

Port group in Ho Chi Minh include Sai Gon Port (Sai Gon River), Nha Be port (Nha Be-Long Tau River), Cat Lai Port (Dong Nai River), Hiep Phuoc Port (Soai Rap River), Can Giuoc-Long An Port.

Scales of these ports can satisfy cargo vessels of 10,000DWT to 30,000DWT.

Throughput: It is planned that combined throughput of entire port group shall reach 26 million tons per year and 163 thousand passenger trips per year; it is targeted to achieve the capacity of 35 million tons per year and 326 thousand passenger trip by 2020.

(ii) Ba Ria-Vung Tau Port Group:

Ba Ria-Vung Tau Port Group includes Go Dau C Port, Phu My Port, Cai Mep Port (Thi Vai River), Vung Tau Port (Ben Dinh-Sai Mai), Song Dinh Port (Dinh River).

To develop other ports such as Cai Mep, Thi Vai, Phu My, Cat Lo, Go Dau and the integrated port Ben Dinh-Sao Mai; among mentioned port, Cai Mep-Thi Vai is the largest one with long terminals for bulk cargo, general cargo and containers and being able to receive vessel of 50,000 to 100,000DWT and throughput capacity reaching 20-22 million tons per year by 2010.

Other ports like Cat Lo, Go Dau will be intensively invested to improve existing infrastructure and facilities, current to increase throughput to 2 million tons per year; to build Ben Dinh-Sao Mai Port to become a large transshipment port and a container depot accommodating 50,000 to 100,000DWT and capacity of 40-50 million tons by 2020.

Throughput: It is planned that the port group shall have throughput reaching 15 million tons per year by 2010 and 60-70 million tons per year.

(iii) Dong Nai port group:

Port groups in Dong Nai include mostly dedicated ports in service of industrial parks in Dong Nai province. The group include Dong Nai Port (Dong Nai River), Phu Huu Port (Dong Nai River And Long Tau-Nha Be River), Ong Keo Port (Long Tau And Dong Trang River), Go Dau A And B Port, Phuoc An Port (Thi Vai River). Sizes of these ports can accommodate operation of cargo vessels, bulk cargo vessel of 15,000-30,000DWT.

Throughput: It is planned that the entire port group shall have capacity reaching 12 million tons per year by 2010 and 24.3 million tons per year by 2020.

To relocate ports on Sai Gon River and Ba Son Factory

The progress of relocation is based on the pace of implementation of general plan of Ho Chi Minh City and business situation of each port so as to prevent congestion, wastage and restrict negative impacts on business, national defense and security, etc.

Ports to be relocated beyond 2010: It is to study and relocate remaining ports subject to relocation plan. In necessary cases, relocation progresses can be speeded up.

Southwest Region

Developing this region with focuses on ports in the Mekong River delta; completing and putting into efficient operation

new fleets in Hau River via Quan Chanh Bo channel.

Port group of Can Tho: The group includes ports of Hoang Dieu, Tra Noc and Cai Cui; serves directly the Can Tho City, industrial parks in O Mon, Tra Noc, Hung Phu and others; planned capacity of the port group shall be 8 to 9 million tons per year by 2010; the size of Cai Cui Port shall accommodate vessel of 10,000DWT and 20,000DWT while Hoang Dieu and Tra Noc ports can receive vessel of 5,000 to 10,000DWT.

Other Provinces in Southern Region

Developing mainly by upgrading, expanding existing ports and newly building some in some provinces, concentrated industrial parks; expected capacity by 2020 is 10-11 million tons per year.

On Hau river are ports of My Thoi in An Giang, Dai Ngai in Soc Trang, Tra Cu in Tra Vinh and other dedicated ports for oil, liquefied gas, and some of industrial establishment on riversides. Size of port can accommodate vessel from 5000 to 10,000 DWT. Other ports on Tien river include Cao Lanh-Sa Dec in Dong Thap, My Tho in Tieng Giang, Vinh Thai in Vinh Long, Ham Luong in Ben Tre and other dedicated ports in service of industrial establishments. Construction size is for vessel of 3,000 to 5,000DWT.

On the Cua Lon river and Ca Mau peninsular, there are integrated and dedicated ports for gasoline namely Nam Can in Ca Mau with size accommodating vessel of 3000-5000DWT.

On the western coast is ports of Hon Chong, Bai No in Kien Giang and dedicated port for clinker, cement in Binh Tri. The size of port can accommodate vessel of 2000 to 3000DWT and dedicated vessel for bulk cargo up to 7000DWT.

Source: MOT

3.2 On-going/Committed Projects

Many projects have been already going on or committed as shown in Table 3.2.1. Major projects are highlighted in succeeding sections.

Table 5.1 List of Ongoing/Committed Projects

No	Project Name	Description	FINANCING (in US\$ m)		Schedule	Status
			Cost	Sources		
1	Cam Rha Seaport Channel Development	To upgrade navigation channel of Cam Pha Seaport to accommodate vessels up to 70,000 DWT	7	GOV	2008-2009	under construction
2	Hon Gai Seaport Terminal Development	To expand deep-water terminal at Cai Lan in Hon Gai seaport to handle container/general cargo to/from NFEZ	120	"Cai Lan Port J-S Stock Co (VINALINES Group)	2008-2011	licensed to invest
3	Hai Phong Seaport Channel & Terminal Development	To upgrade navigation channel to depth of -7.5m, expand a terminal to handle container/general cargo, and develop terminals for container / general & chemical cargo at Dinh Vu in Hai Phong Seaport	411	GOV, VINALINES, VINASHIN Group, Maersk A/S, Petrolimex Group	-2010	Note 2
4	Nghi Son Seaport Channel & Terminal Development	To upgrade navigation channel to accommodate vessels up to 30,000 DWT, develop port facility to handle crude oil/petroleum and a port facility for coal thermal power station in Nghi Son Seaport	24	GOV, Petrovietnam, JICA, Cong Thanh Cement, Thanh Hoa Cement, Total	N/A	Note 1
5	Cua Lo Seaport Channel Development	To dredge navigation channel of Cua Lo Seaport up to -7.5m and construction of sand dyke	4	GOV	-2010	under construction
6	Vung Ang Seaport Terminal Development	To develop a port facility for coal thermal power station, a port facility for Steel Complex, and port facilities for Steel Plant in Vung Ang Seaport	40	Formosa Plastic Group, Sun Steel Co., TaTa Steel, Vietnam Steel Corp, Vietnam Cement	N/A	Note 1
7	Dung Quat Seaport Terminal Development	To develop a multi-purpose terminal to handle container/general cargo and a port facility to handle crude oil/petroleum product for oil refinery in Dung Quat Seaport	41	Gemadep, Petrovietnam	-2010	Note 1 under construction
8	Quy Nhon Seaport Channel & Terminal Development	To improve a navigation channel of Quy Nhon Seaport including rock removal, deepening to -10.5m, building a terminal for container/general cargo at Nhon Hoi in Quy Nhon seaport	74	GoV, Gemadep	-2010	under construction
9	Van Phong Seaport Terminal Development	To develop a container terminal to handle international transshipment cargo and a petroleum terminal for fuel depot in Van Phong seaport	190	VINALINES	N/A	licensed to invest
10	Ba Ngoi Seaport Terminal Development	To develop a multi-purpose terminal at Cam Ranh in Ba Ngoi seaport to handle container/general cargo	88	VINALINES	-2010	N/A
11	Vung Tau Seaport Channel and Terminal Development	To upgrade navigation channel to deepen to -14m (the entrance to Cai Mep) and -12m (Cai Mep to Thi Vai) and develop new deep-water container terminals at Cai Mep Thi-Vai area to handle container cargo to/from SFEZ in Vung Tau seaport	1675	GOV, JICA, Saigon Port (VINALINES Group), PSA Vietnam, Maersk, SSA, Hutchison Ports, et.al.	-2011	Note 2
12	Ho Chi Minh Seaport Channel & Terminal Development	To upgrade a navigation channel of Hiep Huoc Area (Soai Rap Channel) to -7m and develop a new deep-water container terminal at Hiep Phuoc area in Ho Chi Minh seaport	204	Tan Tuan Ind'l Co. (HCMC Peoples Committee), DP World	-2009	Note 2
13	Quan Chanh Bo Channel Development Project	To develop a new navigation channel to Hau River at Quan Chanh Bo to secure a route for 20,000DWT vessels avoiding Dinh An Estuary	198	GOV	-2010	N/A

Notes: 1 - Dedicated industrial port, funded by enterprise and SOE, and sometimes also with Government contribution
2 - Analogous to a PPP-scheme, that combines private and Government funding.

Source: VITRANSS2 Study Team

1) Major Projects in the South

The biggest port project so far is the development of several terminals at the Cai Mep -Thi Vai area (Figure 3.2.1). One of these is the Cai Mep International Container that can handle vessels of 50,000 - 80,000 DWT, with 23 berths spanning 18,136 meters. Deep-sea terminals are to be developed with Japan's ODA loan financing, followed by a number of deep-sea terminals (with drafts of 14m) in the drawing boards of SOEs in joint-ventures with global terminal operators and domestic companies. Construction works for some of these port terminals have already commenced (Table 3.2.2).

Table 0.1 Port Projects at Cai Mep-Thi Vai Area

Funding Source	Type	Status
HPH & domestic company	container	under construction
ODA: multi-purpose terminal	general cargo	construction is started, October 2008
(Fertilizer Plant Port)	Fertilizer	under construction
PSA & Saigon Port	container	under construction to be operational in 2009
Saigon New Port	container	under construction to be operational in 2010
PETEC	oil product	under construction
Maersk & Saigon Port	container	construction is not started
ODA: container terminal	container	construction is started, October 2008
SSA & Saigon Port	container	construction is not started
Gemadep	container	construction is not started

Source: VITRANSS2 Study Team

In the Ho Chi Minh area, another project is planned at Hiep Phuoc along the Nha Be river; it is being pursued by a global terminal operator (DP World) and a company under the city's People's Committee for completion in 2009.

Figure 3.2.1 Cai Mep International Gateway Port



Source: VINAMARINE

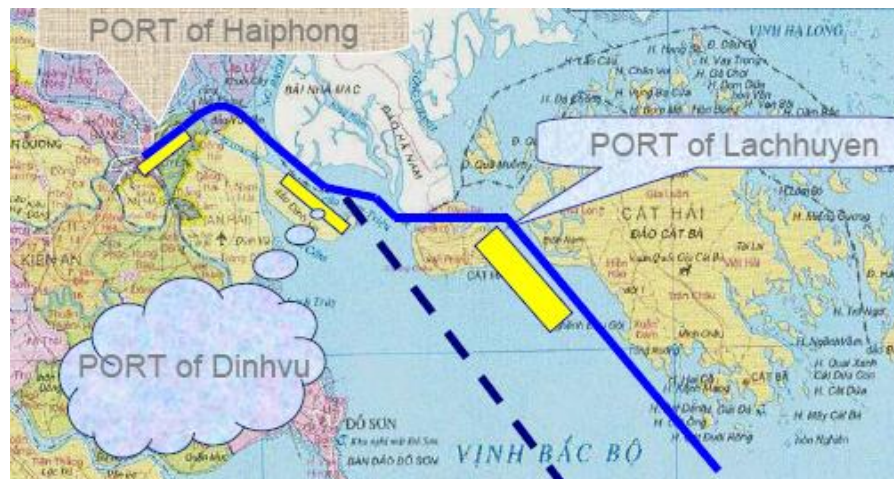
2) Major Projects in the North

The north is focusing its seaports development in Hai Phong - where an old river port is planned to be relocated farther east, plus medium-term expansion at Dinh Vu and a new deep sea port at Lach Huyen in the long term (Figure 3.2.2). Cai Lan port in Ha Long Bay was recently completed for the purpose of handling containers and relieving congestion at Hai Phong ports. Three additional berths are planned, against some concerns about its impact on the environment of Ha Long. Investors for the Dinh Vu and Cai Lan projects include the following:

- (i) Dinh Vu Area
- (ii) Vinalines Group, container and GC terminal (under construction)
- (iii) Maersk and Vinashin Group, container terminal (not started)
- (iv) VIPCO, container and chemicals (under construction)
- (v) Cai Lan: SSA & Vinalines, container and GC (not started)

The north is also pursuing its own deep-sea port in the form of Lach Huyen port at Cat Hai Island (see Figure 3.2.2). It is planned to handle large container vessels (> 50,000DWT, and 4,000-6,000 TEU capacity), with 11 berths totaling around 3,000 m. The project would entail the construction of a new bridge and an expressway. Vinalines was designated in April 2007 to be the implementing agency for the opening stage with 2 berths. On the december, 22, 2008, the Minister of Transport approved the Investment Project on the construction of Hai Phong international Gateway Port (Opening stage) by decision number 3793/QD-BGTVT.

Figure 3.2.2 Planned Ports of Lach Huyen and Dinh Vu



Source: VINALINE Presentation

3) Major Projects in Central Region

In Da Nang, a new terminal project is awaiting the approval of MOT. The project involves the construction of five new berths to handle 15,000 DWT vessels at Tho Quang. This new terminal is intended to replace the existing Song Han terminal along the Han River that is constrained by a narrow and small back up area. It will later be converted into a tourism port due to its central location in the city. The Tho Quang terminal project is being undertaken by the Da Nang People's Committee, in association with Danang Port Company (an affiliate of Vinalines) which currently operates the Song Han terminal.

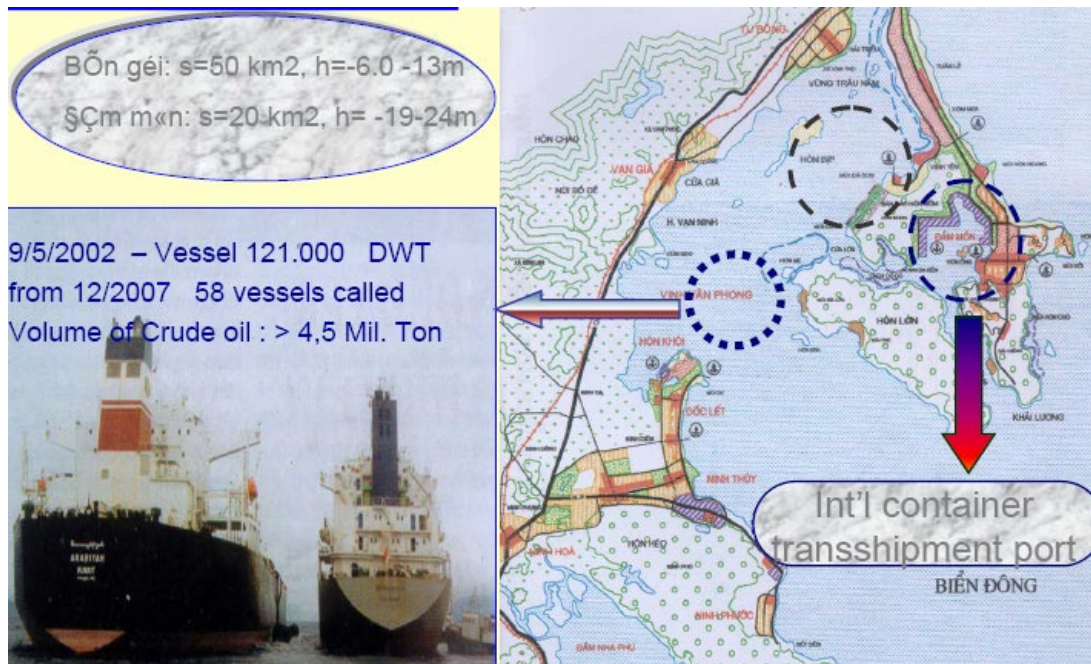
The Dung Quat Industrial estate in Quang Ngai province is being developed for heavy and chemical industries, in addition to an oil refinery. A port is to be built as part of the industrial zone. It is proposed to include a single buoy mooring for 150,000 DWT crude oil carrier vessels, piers with 6 berths for 5,000 - 12,000 DWT oil product carrier vessels, and a breakwater. The implementing entity for this special-purpose port is PetroVietnam. The port is set to be operational by end-2008.

A general cargo terminal for 30,000 DWT vessels is also under construction in the Dung Quat area. The implementing entity, Gemadept, plans to start operation in June 2008. Adjoining this terminal is another general cargo terminal, which is waiting for approval including general cargo berth No.3, accommodating 50,000 DWT ships which will be con-

structed. In addition, 2 dedicated berths for a steel factory that can handle 30,000 DWT vessels are to be developed by a foreign investor. A Vinashin-affiliated shipyard for building 105,000 DWT crude oil carriers is also under construction. This project will include dredging an access channel and turning basins to a depth of 12 m in phase 1 (later to be deepened to 14 m) by Vinamarine.

At Van Phong in Khanh Hoa province, a new container terminal for international transshipment is being pushed (Figure 3.2.3). On 21 August 2006, Minister of Transport issued the detail Plan of Van Phong Transshipment Port by Decision 1714/QĐ-BGTVT.

Figure 3.2.3 Transshipment Port at Van Phong



Source: VINALINE Presentation

3.3 Plans for Shipping

1) Vessel Fleet Development

The Seaway Transport Development Plan to 2020 and Vision to 2030 of Vinamarine (MOT) aims to renew and increase the number and the size of the country's vessel fleet – to a combined capacity of 6 - 8 million DWT by 2010, and 12 - 14 million DWT by 2020. As of January 2008, Vietnam has 1,230 vessels with a total capacity of 4.3 million DWT.

Priority is being given to fleet renewal by means of procuring and building new vessels to replace old ships, and to the acquisition of special-purpose vessels such as container carriers, bulk-cargo liners, oil tankers, liquefied gas tankers. The plan also envisaged the introduction of high-speed passenger ships linking the north and the south, and for tourism purposes.

State owned enterprise, Vinalines also has a planned expansion to acquire 73 vessels by 2020. See Box 3.1 for details.

Box 3.3.1 VINALINES Expansion Plans to 2020

- Number of ships to be acquired: 73 ships
- 18 Container ships (including 6 ships >2,000 TEU)
 - 47 Bulk carriers (from 20,000 to 35,000 DWT)
 - 8 Tankers (from 30,000 to 100,000 DWT)
 - Total: additional tonnage of 1,850,000 DWT
- By 2010, 136 ships with total tonnage of 2,600,000 DWT
- Equivalent to 40-50% of the national fleet
 - Total investment required : US\$ 1.8 Billion

2) Ship Building Industry Development

In 2003, the prime minister approved the shipbuilding plan, 'Vietnam Maritime Transportation Planning, until 2010, further up to 2020'. The plan calls for the establishment of three centers of ship building industry - in the North (Hai Phong, Ha Long), in the Central Region (Khanh Hoa), and in the South (Ho Chi Minh, Vung Tau and Hau Giang).

The first phase involves the upgrading of existing ship building enterprises, combining new building and repairing services, adoption of modern techniques in the building of conventional vessels and boats. The eventual aim is to have an industry with domestic content of 70% that is capable of building large sea vessels of 300,000 DWT by 2020, and of repairing vessel of 400,000 DWT, for the domestic and international markets.

To become a major shipbuilder, Vietnam also plans to develop the naval engineering and manufacturing capability to support ship building and other ancillary services, including the infrastructure and facilities for high-grade steel rolling and metallurgy. In effect, Vietnam plans to follow the path taken by South Korea in becoming a global player in shipbuilding.

3.4 Investment Requirements

The total cost of implementing all the projects under the master plan was estimated at US\$1.76 billion, up to year 2010, with the lion share of 56% going to vessel acquisition (see Table 3.4.1). Ports infrastructure came in second at 18.7% share, or about US\$328 million.

Table 0.1 Estimated Cost of the Coastal Shipping Master Plan (1997-2010)]

Subsector/Category	Mainly Incurred by:	Estimated Cost	
		US\$M	%
Fleet Expansion and Modernization			
• Vessel Acquisition 1/	Ship Operators	986.5	56.2
• Improvement of Ship Construction Yards	Ship Yards	14.3	0.8
• Improvement of Ship Repair Yards	Ship Yards	16.8	1.0
• Shipyard Quality Management Center	Ship Yards	0.6	0.03
Ports and Waterways Development2'			
• Coastal Shipping General Ports Infrastructure	Port Operators	240.5	13.7
• Coastal Shipping Specialized Ports infrastructure	Port Operators	61.4	3.5
• Sea-cum-River Way Infrastructure	VINAMARINE/VIWA	26.0	1.5
• Improvement			
Coastal Shipping Management Modernization			
• Training in Modern Operating Methods	Ship Operators	N/A	-
Secondary Transport Improvement Program			
• Improvement of River and Road Infrastructure	VIWA/VRA	N/A	-
Maritime Human Resources Development Program			
• Improvement of VIMARU and MTTTS	VINAMARIN/VIMARU	22.7	1.3
• Training Equipment for Tanker Operation	VIMARU	2.7	0.2
Maritime Safety Enhancement and Environment Protection Program			
• Establishment of Testing Laboratories	VR	1.3	0.1
• Aids to Navigation Equipment	MSC I and MSC II	173.0	9.9
• Maritime Safety Vessels (for ATN and SAR)	VINAMARINEVSAR etc.	169.4	9.6
• Sea Communication Equipment	VISPHEL/Ship Operators	40.4	2.3
	TOTAL	1,755.6	100.0
1- Including oil tankers (assuming the Dung Quat project is implemented)			
2- Excluding oil facilities			

Source: VINAMARINE

The cost of the revised fleet development program to year 2020 has been re-estimated by VITRANSS2; these are shown on Tables 3.4.2 and 3.4.3.

Table 0.2 Fleet Development Plan for Oceangoing Ships

Year	Type	Size	Number	Unit Price (US\$m.1)	Capital Requirement
2000-2010	Container ship	800-1,200 TEU	18	17.0	306
	Crude oil tanker	90,000 DWT	3	40.0	120
	Oil product tanker	25,000-30,000 DWT	8	25.0	200
	Bulker GC vessel	24.000-35.000 DWT	18	17.0	306
	Subtotal		47		932
2011-2020	Container ship	1,200-1,500 TEU	10	26.0	260
	Crude oil tanker	90,000 DWT	5	40.0	200
	Oil product tanker	25,000-30,000 DWT	10	27.5	275
	Bulker GC vessel	24.000-80.000 DWT	20	26.0	520
	Subtotal		45		1.255
2001-2020	TOTAL		92		2.187

Source: VINALINES

Table 0.3 Fleet Development Plan for Domestic Ships

Year	Type	Size	Number	Unit Price (US\$ mil.)	Total Amount (US\$ mil.)
2000-2010	Bulker GC vessel	500-5,000 TEU	85	4.0	340
	Cement carrier	5,000-7,000 DWT	5	11.0	55
	Semi-container ship	2,000 DWT	2	7.0	14
	Roro snip	5,000 DWT	1	17.0	17
	Oil product tanker	3,000-20,000 DWT	3	15.0	45
	Passenger snip	60-490 GVT	8	0.5	4
	Subtotal		104		475
2011-2020	Bulker GC vessel	500-7,000 TEU	70	7.0	490
	Cement carrier	5,000-7,000 DWT	10	12.0	120
	Coal/Ore carrier	2,000-3,000 DWT	10	4.0	40
	Container snip	2,000-5,000 DWT	6	11.0	66
	Roro ship	5,000 DWT	2	17.0	34
	Oil product tanker	5,000-20,000 DWT	8	16.0	128
	Passenger ship	1 00-500 GVT	15	0.6	9
	Subtotal		121		887
2001-2020	TOTAL		225		1,362

Notes: 1- The above figures are based on the assumption that the required vessels will be newly built.
2- Shipbuilding prices supplied by the Shipbuilders' Association of Japan.

Source: VINALINES

3.5 Commentary on government plans

1) Seaport plans

The basic direction of upgrading and improving existing ports – including the installation of better cargo-handling equipment - cannot be faulted. It is the only practical option for immediate relief to the lack of port capacity. The long-term goal of relocating the old ports to new sites that offer deeper drafts (>10 m) and without the physical constraints of the old ones, is also laudable and justifiable. The pre-occupation towards more infrastructures, however, has tended to overshadow discussions on improving productivity of ports and vessels by means of methods and systems improvement. The latter approach is more sustainable in the long run.

The common thread of government plans is to provide the projected capacity for each of the ports. It does not take into account the inter-modal or network effect, such that some of the ports could suffer declines, rather than increase inexorably. The establishment of a new and bigger port would also mean a bigger hinterland, which diverts traffic away from adjacent ports. Investments in those ports would therefore be wasted. For example, if all the three ports (Lach Huyen, Cai Mep, and Van Phong) are realized by 2020, their combined berths would exceed 63 kms (vs. 40 kms at present) in length and have capacity for 400 million tons/year (vs. 181 million tons total nationwide traffic in 2007).

There is a very high risk of over investment in more port capacity than the country would require. Because of the fragmented institutional responsibilities, the existing model of sea port development avoids the hard decision of choosing which group or region deserves a higher priority and investment support and in favor of the more expedient one of equal priority.

A transshipment port poses the greatest risk, since members of the international Shipping Conference could easily relocate their base port of operations. They are always in search of the port that gives them a better profit margin. This is what happened when Maersk Sealand moved from Singapore to the Port of Tanjung Pelepas in Johor. The appeal of a hubport is fueled in part by an implicit assumption that it would reduce the shipment cost to Vietnamese exports, by obviating transfer at the regional hub ports. This assumption is dubious, because the cargoes would still originate from the major cities and load centers of Vietnam, and need to be shipped before being loaded at Van Phong. There is also the trend towards VLCS and ULCS and a consolidation among Global Terminal Operators that may induce a further concentration at fewer hub ports – of which there are already four in the Asean region, not counting Hongkong, Pusan and Kaohsiung. Lastly, the success factors for a transshipment port operation extend beyond hard infrastructure and into the realm of policies that make it attractive as a regional headquarter for transnational companies.

2) Shipping industry plans

Like the basic direction in seaports development, the government strategy of replacing the fleet with newer and bigger vessels, in addition to acquiring new ones, is sound. Similarly, the plan does not address other “soft” measures that will improve productivity and thus reduce the need for more ships.

The quota system of imposing minimum shares of goods that must be carried on national vessels may create artificial shortages of capacity that can easily be resolved by permitting available carriers – of whatever flags – to fill up the demand. Constraining the

demand for containerized shipments of goods in domestic (as well as international) routes to the supply of local ships may make good policy for shipbuilders, on one hand, but a bad transport policy on the other hand.

Undoubtedly, the investments required to modernize the domestic fleet will be huge. The plan is silent on how large is the financing gap, and how the gap can be bridged. Leaving the individual carriers to fend for themselves will simply re-enforce the oligopolistic structure in the shipping business, since other (and private sector) carriers would not have access to financing their own fleet expansion. The opportunity of achieving a more competitive set up in coastal shipping may be lost, and with it, the opportunity of tapping private capital and avoiding contingent liabilities to State budget.

An important, if not strategic, inadequacy of the plan is a systematic program to comply with international maritime conventions that Vietnam has already acceded to, and for other IMO treaties that it needs to accede. There are 38 international maritime conventions and treaties; it would be important to know which ones are of higher priority to the country.

4 MAIN PLANNING ISSUES

4.1 Role of Maritime Transport

Vietnam's economic development in the last decade was hinged on export-based FDI. The government's current economic policy aims towards strengthening the past achievements in industrialization-led economic growth (SEDP 2006-2010). At this stage and in the medium-term future, Vietnam's competitiveness lies on it being a low cost manufacturing base. Moreover, Vietnam does not have a good network of support industry to supply materials to its manufacturing industry. Therefore, Vietnam is reliant on the importation of materials for its manufacturing sector and its ability to bring in raw materials at low prices has impact to its continued competitiveness. Since much of Vietnam's export/import products are transported via shipping, cost to export/import via international shipping is therefore critical as inefficiency would erode cost competitiveness of Vietnam and the government's policy towards industrialization-led economic growth would be difficult to achieve.

So far Vietnam's cost to export/import is relatively at par with other ASEAN countries, such as Thailand. However due to very high growth in international trade, international gateway ports particularly in the NFEZ and SFEZ (i.e. Port Group 1 and 5 respectively) are becoming more congested (Table 4.1.1 and Table 4.1.2). Growth in containerized traffic, in particular, will grow significantly. International gateway ports are also constrained by limited depth therefore could not take advantage of economies of scale of larger vessels. International gateway ports therefore needs to be strengthened. The land side access all needs to be improved, through coordination with development strategies other modes, especially the road and rail sub-sector, as well as urban transport system of port cities (e.g. Hai Phong).

Table 4.1.1 Estimated International Cargo Throughput (2010, 2020 and 2030)

Unit: 000 tons

Group	2010 estimated	2020 estimated	2030 estimated
1	37,296	55,769	101,466
2	131	26	82
3	3,129	5,654	9,661
4	1,348	2,896	4,837
5	72,032	119,748	219,131
6	170	1,925	2,601
Total	115,189	186,170	338,502

Source: VITRANSS2 Study Team

Table 4.1.2 Estimated International Container Throughput (2020 and 2030)

Unit: 000 tons

Group	2007 actual	2020 estimated	2030 estimated
1	8,905	31,213	61,772
2	0	0	0
3	528	2,846	5,504
4	509	970	1,888
5	27,756	90,690	175,175
6	307	1,201	1,851
Total	38,005	126,920	246,190

Source: VITRANSS2 Study Team

In domestic transport, the maritime sub-sector plays a significant role, albeit not well appreciated nor well known. On the north-south corridor, shipping handles around 50% of total freight demand. Its role in passenger transport is however nil. As the NFEZ, CFEZ, and SFEZ become more integrated, goods will flow more along the north-south corridor. Freight demand is projected by VITRANSS2 to increase by three times up to 2030 along the north-south corridor. All modes of transport, including shipping, road and rail, have to share in providing the necessary capacity for the transport system to be able to cope with future transport demand. Shipping is advantageous for high volume and low cost transportation of goods, that do not require high frequency or fast delivery time. Coastal shipping therefore has a strategic role in the future, which is projected to be double its current volume (Table 4.1.3 and Figure 4.1.1). Coastal shipping therefore needs to be modernized for it to play its role efficiently. Key areas to consider include regional ports and coastal shipping services.

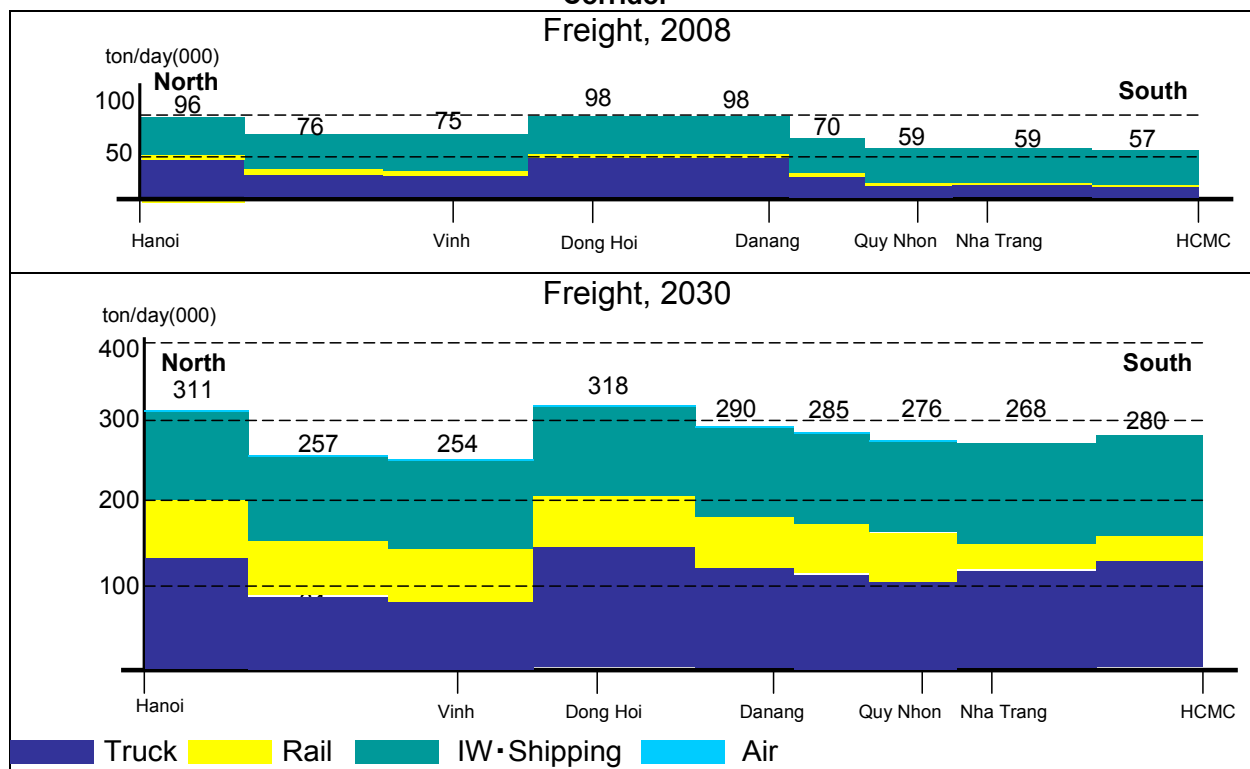
Table 4.1.3 Estimated Domestic Cargo Throughput (2020 and 2030)

Unit: 000 tons

Group	2007 actual	2020 estimated	2030 estimated
1	14,830	23,255	36,206
2	1,287	6,542	9,286
3	2,677	5,272	7,537
4	4,241	10,601	15,014
5	14,834	29,824	47,466
6	5,070	3,683	4,996
Total	42,940	79,176	120,505

Source: VITRANSS2 Study Team

Figure 4.1.1 Freight Transport Demand and Mode Share along the North-South Coastal Corridor



Source: VITRANSS2 Study Team

4.2 Maritime Development Issues

1) Ports

The capacity of major seaports in Vietnam had been expanded since VITRANSS1 (1999). But due to high growth in sea traffic, the seaport system needs to be improved further in terms of quantity of facilities and the quality of services.

(1) Development of Competitive International Gateway Ports

Ninety-eight percent (98%) of container traffic is handled in Ho Chi Minh area and Hai Phong Port, but these ports have limited capacity to handle larger vessels due to depth limitations (Table 4.2.1).

Table 4.2.1 Current Water Depth in Major Container Ports

Seaport	Current depth	Remarks
Haiphong Port	Berth: 8.5m	
Cai Lan Port	channel: 10m-	dredging has been started
Da Nang Port	Berth: 12m	
Cai Mep-Thi Vai Port		dredging has not been started

Source: VITRANSS2 Study Team

Trade volume of Vietnam to/from North America and Europe has rapidly grown to almost equal to that of Thailand, so Vietnam is becoming attractive enough for shipping lines to deploy their fleet of large vessels in trunk trade lanes of Asia-North America or Asia-Europe. Deep-sea ports should be developed immediately that can accommodate large size vessels to enhance international competitiveness of Vietnam.

There are notable projects underway to address this issue. In the south, on the October 14, 2008, the construction of the the Cai Mep–Thi Vai Port with two -14 meter-deep berths have commenced. This Project include also channel dredging, providing of aid navigation (signs) of lengths of 35.2 km, port operation facility as well as constructing 8.3 km road and bridge connected Highway No. 51 to the port. The Projects fund come from Japanese ODA. In Haiphong Port in the northern region, the development of Lach Huyen deep-sea port was highlighted by a Prime Minister’s Decision and on 22.12.2008; Minister of Transport approved the investment project on construction of international Gateway Port of HaiPhong by decision 3793/QD-BGTVT (opening stage). In the southern central region, detailed plan for Van Phong Port, an international transshipment port is approved by Minister of Transport , decision Nr. 1714/QD-TTg , dated 21.08.2006, that can accommodate large container vessels.

In Cai Mep–Thi Vai Port, 18 container berths are planned or under construction. This means that the additional capacity of around 5.4-9 million TEU will be developed in coming years. Terminals in the Cai Mep–Thi Vai area are preferred by most of ocean-going shipping lines with possible cargo from/to the SFEZ hinterland.

A somewhat competing proposal is the Van Phong Port, which is being envisioned to be a transshipment port. Unless major shipping lines demonstrate strong commitment, such as putting up their own investment capital, the role of Van Phong Port as a transshipment hub could not be guaranteed. Allocating state funds to Van Phong Port is risky and would divert funds away from port development projects in the north and south that have clear economic viability.

(2) Regional Port Development Based on Port Hierarchy

In order to attract investors in industrial zones which will stimulate regional economies, it is indispensable to secure efficient transportation means for incoming raw materials and outgoing products. Regional ports therefore need to be improved for regional economies to take advantage of shipping services.

The 'Vietnam Ports in the Seaport System Development Plan to 2010' identified 114 ports for improvement, distributed along the north-south coastline. There is always political pressure to build more ports or develop ports in a geographically dispersed/uniform manner. Shipping liners however are more efficiently operated with fewer ports of call, thereby even if a number of ports are available, liners will only call at a few major ports. This consolidates demand to allow higher frequency and regular shipping schedules. Especially with a corresponding improvement to the road system, the hinterland of a specific port will expand, and only a few major ports will become viable for liners.

It is therefore important to establish a system of port hierarchy, where key regional ports and secondary ports are identified. A port hierarchy system will rationalize investments in regional ports. Key regional ports can be upgraded and designed to handle most of the containerized traffic. Secondary ports can be relegated to mostly general cargo operations.

(3) Provision of Competitive Environment for Provision of Port Services

Due to shortage of port facilities at present, port users have few alternatives. The lack of competition does not create incentives for better service. This is one of the reasons why productivity in ports is poor; for example, many major ports have an efficiency of only 12 to 15 container box/crane-hour. It is needed to promote competition among ports/terminals and introduction of private companies including foreign operators to pressure port operators to improve efficiency and invest in modern cargo handling facilities.

(4) Integrated Planning, Development, and Management of Ports and Hinterland

On the national level, the current system of having a multiplicity of investors and port developers – central ministries, local governments, SOEs, and private sectors – is not conducive to a systematic port development strategy under limited funding.

On the port level, the seaside falls under local maritime authorities, the land side is administered by the port owner-operator, while the land adjoining the port is under the jurisdiction of local People's Committees. The provision of road access to the ports is the obligation of either the MOT or the local People's Committees.

The multiplicity of players makes coordination and integrated development of ports quite problematic.

(5) Strengthening of Multi-modal Interface of Logistics Function

Modern logistics have changed the way goods are moved and greater importance is placed on profit, not just in the reduction of transportation costs. Moreover, the role of transportation has extended to marketing and not merely delivering goods. The port being the point in the transportation network with the biggest concentration of cargo movement has a strong role to play in multimodal transportation. Currently, the role of the ports in Vietnam is primarily as a gateway for goods coming in and out of the country. This traditional role can be extended to provide logistics and value-added services within the premises of the port, and for it to be the strategic point where other modes can be seamlessly integrated. Firstly, the port can be made

to serve as a consolidation or distribution center incorporating all modes, including truck, rail, and domestic shipping, through the improvement and the incorporation of modal access and terminals within the port. The problem of conflict of urban traffic from port traffic in cities such as Hai Phong, Danang, and HCMC also need to be addressed. Secondly, further value-added services can be provided if it can also serve as inventory control point by incorporating advanced warehouse functions within the port.

2) Coastal Shipping

Containerization in domestic shipping is progressing, but is constrained by a policy that conditions the provision thereof to locally-built ships. Domestic shipping, as in ports, is dominated by state-owned VINALINES. It has embarked on a fleet modernization towards bigger, if not more specialized, vessels; which should also lead to a lowering of the current average fleet age. This fleet expansion would likely exacerbate the oligopolistic position of VINALINES, as the other shipping operators do not have ready access to financing. The market structure of the domestic shipping industry in Vietnam needs to be restructured to allow for more players and create a more competitive sector.

In line with fleet expansion, supporting measures should also be factored in as follows.

- (i) Improvement of crew competence
- (ii) Shipbuilding is being promoted, but dockyards for ship repairs are lacking
- (iii) Upgrading of Vietnamese flag vessels to better meet IMO standards, and reduce the high rate of detention in foreign ports.

4.3 Strategies for a Sustainable MT

1) SWOT Analysis

By looking at the existing strengths and weaknesses of the sector, in juxtaposition with the emerging opportunities and threats, it is possible to derive a modified and sustainable strategy for Vietnam’s maritime transport. It is apparent from SWOT matrix (see Table 4.3.1) that the sector has more weaknesses to overcome and remedy in order to respond adequately to future challenges. The best strategy is one that relies on existing strengths to capture emerging opportunities. It should also remedy current weaknesses in order to strengthen the sector’s capacity against future threats. The result is shown on Table 4.3.2.

Table 4.3.1 SWOT Analysis of Seaport and Shipping

	PRESENT	FUTURE	
STRENGTHS	<ul style="list-style-type: none"> Long coastal line that is parallel to the north-south transport corridor with highest demand; High interest from foreign investors, as well as private sector, to participate in seaports; Requisite legislation and implementing regulations for the sub-sector are in-place 	<ul style="list-style-type: none"> Rising cost of petroleum – globally and domestically – increases the advantage of coastal shipping over other transport modes; High economic growths create an expanding and diversified market for shipping companies, big and small Experiences of other countries with special financing for fleet expansion can provide lessons to Vietnam 	OPPORTUNITIES
WEAKNESSES	<ul style="list-style-type: none"> Unclear articulation of planning priorities, with strong bias for more berths and more ports and less emphasis on “soft” improvements; Aging maritime fleet ill-suited to growing demand for containerized shipment of goods, with abnormally-high ‘detention’ rates Most of the seaports are located on rivers as to be susceptible to siltation, with shallow drafts and limited elbow room for cargo storage and movements Fragmented institutional set up makes an integrated seaport development difficult and cumbersome, encourages over-building Local shipping still has a long way to go in meeting international maritime standards and conventions, faces financing obstacles to fleet expansion 	<ul style="list-style-type: none"> All the proposed gateway seaports will require huge investments in road and bridge access Climate changes could worsen physical constraints currently afflicting existing seaports Changing pattern of international trade and logistics, as well as operating model of Global Terminal Operators and Shipping Conferences, could alter viability of proposed transshipment and gateway ports Shortage of steel plates and soaring prices of metals in the global market is affecting shipbuilding and supply of vessels 	THREATS

Source: VITRANSS2 Study Team

Table 4.3.2 Strategy Matrix

	In Response to Threats	To Capture Opportunities
Capitalizing on Strengths	<ul style="list-style-type: none"> Establish a funding mechanism for renewal and expansion of fleet Define a hierarchy of ports on the coastline, to avoid overlapping hinterland, capture greater economies of scale, and guide resource allocation priorities 	<ul style="list-style-type: none"> Harness foreign shipping and terminal interests by leveling the playing field and liberalizing participation in the domestic container market
Remedying Weaknesses	<ul style="list-style-type: none"> Improve capability of ship crew and management, effectiveness on SAR, as well as capability for inter-modal planning to ensure port’s connectivity to its hinterlands ; 	<ul style="list-style-type: none"> Give VINAMARINE the mandate to forge a unified seaport development program that selectively target funding to select ports

Source: VITRANSS2 Study Team

2) Port Development Strategies

(1) Deep Sea Port Development for the NFEZ and SFEZ

The need for deep sea ports for the NFEZ and SFEZ has a broad consensus. The Cai Mep – Thi Vai and Lach Huyen ports need to be implemented as soon as possible. The development of highway access including expressways need to be implemented in concert with the two gateway ports.

The Van Phong port is not considered to be a priority. Limited state funds are better allocated to the two gateway ports in the NFEZ and SFEZ. Van Phong port however may be developed by private risk capital.

(2) Bridging the Capacity Shortage in the Short Term

It takes time to plan, build, and operate the proposed gateways ports. Ports are already operating at near capacity and relief is needed urgently. Hence, in the transition, the sector has to extract as much throughput as possible from existing ports. The best potential in deriving additional port capacities is to promote higher port productivity and to fast track committed projects, including the following.

- (i) Additional berths and capacity can be extracted from Dinh Vu port in Hai Phong – which has 4 of its planned 7 berths completed;
- (ii) Cai Lan still has to build 4 additional berths, although there is legitimate environmental concern about its impact on Ha Long Bay.
- (iii) Hiep Phuoc Port in HCMC opened in 2008, and has capacity of 800 thousand TEUs in the 1st phase of its development, and can be raised to 1.5 million TEUs later.
- (iv) Cai Mep – Thi Vai has a number of industrial ports in operation. The 4x1 km stretch of the river is being developed into common-use international port that would be able to handle 2.7 million TEUs by 2020, aside from 6 million tons of general cargo.
- (v) Tien Sa in Danang has recently added a 165-m berth, and is currently undergoing further expansion through ODA funding. It is designed to handle 3.5 million tons/year.
- (vi) Operational and systems improvement in other ports.

Closure of port terminals should be coordinated with opening of new capacity to replace them. Hasty relocations or closure of existing ports from inner city (e.g., Bason Shipyard and the Sai Gon, Tan Thuan Dong and Rau Qua ports) could also exacerbate ports congestion when completion of new ones gets delayed.

(3) Re-examine Ports Hierarchy

A review of the port hierarchy is recommended to re-calibrate all plans for seaports (and inland ports). This should bring out opportunities for complementation and integration of various domestic ports. All dedicated ports can be excluded from the review, since capacities for these can be left to the specific industries that need them. This approach will force a more rigorous selectivity in ports expansion, identify overlapping hinterlands and inland ports threatened by aggressive road build up. Upgrading of ports from a lower to a higher class should be driven by plans of shipping companies. With a new port hierarchy among common-use public ports, investments in upgrading and expansion can also be selective. Those that feed into the two gateway ports deserve higher priority, followed by secondary ports.

The difficult natural conditions confronting seaports in Vietnam – whether existing or new locations – suggest more careful evaluation and greater selectivity, so that the traffic volume gets aggregated to a few number of high-productivity terminals that can be

maintained with less money. The limited resources can then be concentrated in developing the select few into world-class standards.

The current institutional set up is not conducive to this kind of selectivity – because each of the players wants to outdo the other with a bigger and more prestigious infrastructure than the others. A province wants to have its own landmark port, so do the others. This natural tendency should be tempered, by an overall national port development framework with a defined port hierarchy.

VINAMARINE is in the best position to formulate and enforce the proposed national port development framework.

(4) Coordinated Capacity Expansion

While a new deep seaport is desirable, the first priority in the Northern region should be placed on reducing the heavy congestion in Chua Ve, Main Port, and nearby terminals by the immediate completion of construction works in Dinh Vu area in Hai Phong seaport.

It is more economical (and shorter) to extract as much capacity as possible from existing ports rather than build a new one. Thus, in the short term, expanding the handling capacity of container and general cargo at Cai Lan terminal in Hon Gai seaport can address existing bottlenecks. Loading capacity of the terminal in Cam Pha seaport could also be increased to meet higher demand from coal-fired thermal power stations. Likewise, Dinh Vu terminal in Hai Phong seaport should be developed to its maximum potential (ahead of Cai Lan) to meet demand of industries in the NFEZ.

The need for coordination is more acute in the South, as more than 50 percent of the country's cargo volume is handled in Ho Chi Minh and Ba Ria-Vung Tau areas. Some nearby terminals are heavily congested, while others have unutilized capacities. This may be ascribed to procedural and contractual agreements rules, but if these different terminals can work together as a collaborating system, the problem can be mitigated.

3) Coastal Shipping Development Strategies

(1) Modernizing the Shipping Fleet

In shipping, a more level playing field can bring in more private sector investments that would accelerate fleet renewal and expansion – especially, if leveraged by a special window for ship-leasing. Container ships and RoPax in domestic shipping can benefit most from early liberalization.

The shift to containerization in domestic shipping has to be factored in the decision to replace the aging maritime fleet. This would have to be synchronized with the completion of ports with container berths. Introduction of new types of maritime services – like passengers, RoRo – needs to be considered also.

It is axiomatic that the design of ports takes into account the kind of vessels that will call. Generally speaking, a port for Lo-Lo (lift-on-lift-off) ships will be the most expensive. Slightly lower is a port for LASH (i.e. lighter aboard ship), with the least-cost facility for Ro-Ro. This is due to the different features as shown on Table 4.3.3 below.

Table 4.3.3 Port Requirements by Vessel Type

Item of Comparison	Type of Vessel		
	LOLO	RORO	LASH
Berth Wall	Required	No, simple lamp sufficient	Yes
Gantry Crane	Required	Not required	No, Onboard Crane
Work Force	Required, large gangs	Small gangs	Small gangs
Stacking Yard	Required	Only parking yard is needed	Spacious seaside area, required for barges

Source: OCDI

In addition, the government may have to introduce a special financing facility for fleet modernization and expansion. Ship leasing schemes with preferential interest is an option, not unlike in Japan which effectively provides interest subsidy to ship owners; or as simple as the direct loans in Malaysia or the Philippines with their longer maturities. Annexes 4E provide discussions about these financing programs. Possible conduits for the finance schemes could an existing institution like the Investment Development Bank, or create a new one like the MOF-proposed SFCIO.

Before creating a new financing window for shipping companies, the government should study the shipping industry more intensively in order to identify policy constraints. For example, the control over cargo rates might restrict access to funds, or the special status of VINALINES may discourage lenders. The Cargo Reservation law may artificially create capacity shortages. Existing rules on national flags may discourage bareboat chartering. Another complementary study is a re-evaluation of the current business model on seaports. Severing port ownership from shipping and from port services might lead to a more efficient port system.

(2) Modernizing Management and Crewing

Human resources for shipping operations, including management and crews need to be developed in line with fleet modernization. The skills of crewmen, officers, and management are below international standards – which explain the high detention rate. The problem will become more acute with fleet expansion, and as the industry becomes bigger, and as international shipping recruits more Vietnamese seamen. The government has already launched training programs; and with foreign assistance, it is improving the capacity of VIMARU and MTTTS. To complement and accelerate these efforts, it would be important to adopt and implement international standards.

On the other hand, the maritime sub-sector of Vietnam needs to regulate itself in accordance with international requirements as stipulated in the related conventions. VINAMARINE's cooperation is highly expected, particularly since the Government of Vietnam has agreed with and signed the MOU on port state control in the Asia-Pacific region (Tokyo MOU) in 1996, and which took effect on 1 January 1999.

In legal aspect, on 20 February 2009, the Prime Minister issued Decision No. 26/2009/QD-TTg on the regulating function, tasks, responsibilities, powers and organizational structure of VINAMARINE under MOT. According to this Decision, VINAMARIE will be the principal organization to oversee maritime transport as authorized by the central government and the MOT.

(3) Leveling the Playing Field

Creating a financing mechanism for ship renewal would be ineffective, without a corresponding change in policy. At present, state-owned shipping lines enjoy advantages

over private enterprises. It would therefore be a challenge for private capital to invest in shipping. Protectionist policies may be acceptable in the past; it becomes a hindrance to fleet expansion and modernization in the post-WTO accession era.

By opening the shipping market, would lead to new types of service. For example, under a more open market some companies may offer attractive passenger services, and other shipping services, including RoRo, fast craft, cruise shipping, logistics services, etc.

While shipping lines competes against each other, the shipping sub-sector also competes with other subs-sectors including road and rail transport. Shipping is at a disadvantage because compared to road and especially rail, shipping services nearly accounts for all its costs (with the exception of breakwater, access roads and similar items). On the other hand trucking and train services are provided the use of expensive road and railway infrastructure nearly at no cost. Shipping also has lesser external costs, such as displaced land and green house gas emissions. With pricing corrections that will remove hidden costs of other modes, shipping could be a highly competitive mode along the north-south coastal corridor.

(4) Prospects of Ro-Ro Service in Vietnam

Unlike cargo, passengers may not like the long time spent on the sea (2 days from HCM to Hanoi). The absence of facilities for seamless movement may also be a deterrent. This is where Ro-Ro (roll on/roll off) service may come in, and broaden the service offerings of maritime transport in the future.

Ro-Ro is not new to Vietnam. On a very limited scale, it exists in the sea routes of Hai Phong and Lach Huyen. There are reports that such a service is not attractive, hence the lack of expansion. While it may not be able to supplant container or general cargo shipping, it at least could offer a new type of service that could be attractive to certain market segment. For example, an advantage of RoRo is fast loading and unloading at ports, thereby could reduce delivery time. Some RoRo vessels also have faster service speeds. If NH1 becomes congested and expressways are not developed, RoRo could be very competitive as an alternative to trucking along the north-south coastal corridor.

A strategy for Vietnam might be to start with shorter routes focusing on “Ro-Ro Cargo Type”, unlike in Japan where combination passenger-cargo Ro-Ro is dominant. While a Ro-Pax vessel has bigger revenue potentials, it also cost 40% higher in price, aside from entailing higher operating costs due to its required crew. A suitable mix of Ro-Ro vessels is shown on Table 4.3.4.

Table 4.3.4 Indicative Ro-Ro Cargo Vessel Mix for Vietnam

Type	DWT	Capacity		Service Speed (knots)	Estimated Cost (US\$ million)	Applicable Routes
		Containers	Trucks			
A	10,000+	2300TEU (on chassis)	200	29.0	1,100 (2 nd Hand @1/4 cost)	Long-haul, e.g., Saigon-HCMC
B	5,000~	1900TEU (on chassis)	100	25.0	550	Long-haul, e.g., Saigon-HCMC
C	3,000~	900TEU (on chassis)	100	17.0	330	Medium-haul, say Danang-Hai Phong
D	1,000~	300TEU (on chassis)	100	16.0	100	Medium-haul, say Danang-HCMC
E	700	50TEU (on chassis)	20	13.5	55	Short-haul, say HCMC-Ca Mau
F	300~	30TEU (on chassis)	10	13.0	44	Short-haul
G	200~	20TEU (on chassis)	10	11.0	33	Short-haul

Source: VITRANSS2 Study Team

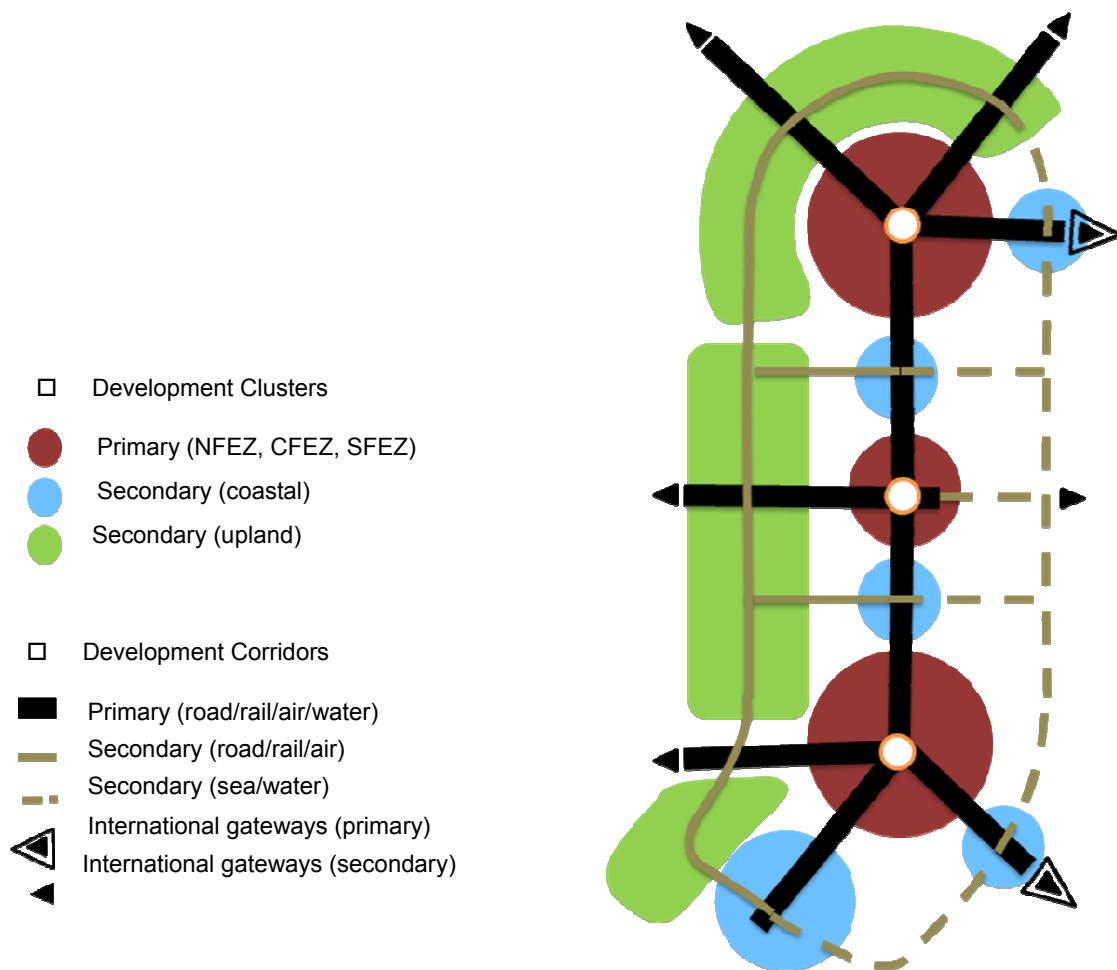
In the end, Ro-Ro service is better left to the private sector. With appropriate policies, they can be enticed to invest as part of their supply chains. But the infrastructure – such as road and ramp at both ends – will have to be provided by government.

5 LONG TERM DEVELOPMENT STRATEGIES

5.1 Port Development Strategies

To guide transport development, VITRANSS2 interpreted Vietnam’s economic policy into a physical development framework (Figure 5.1.1). Vietnam’s development is hinged three focal economic zones, namely NFEZ, CFEZ, and SFEZ. These three zones will be centres of industries and services. Key urban centres are also located in these economic zones, including Hanoi, HCMC, Danang, as well as key cities in the hinterland of the economic zones. Secondary economic zones are interspersed in between and around the focal economic zones, as well as upland.

Figure 5.1.1 National Physical Development Framework



Source: VITRANSS2 Study Team

The maritime subsector plays a critical role not just in terms of international linkage but also as a key transport service along the very important north-corridor. Development directions of ports are described as follows:

1) Northern Ports (NFEZ)

- (i) Relieving congestion at existing terminals to deal with current congestion issues through completing the final design stages of existing ports, including Dinh Vu and Cai Lan. Cargo handling capacity at Cai Lan port should also be improved.

- (ii) Development of a deep sea port, Lach Huyen, to address the requirement of an internally competitive port for the NFEZ.
 - (i) Inland waterway interface should be factored in the design of Lach Huyen port.
 - (ii) Development of a distribution center for petroleum and chemicals at Dinh Vu. The current B12 terminal in Hon Gai seaport needs to be removed and replaced by new terminals at Muom island as part of Lach Huyen port development.
 - (iii) Industrial lands and logistics functions should be incorporated in the development plan of Lach Huyen.
- (iii) Development of base terminal at Dinh Vu and Lach Huyen for coastal liner operation including possible RoRo operation.
- (iv) Ha Long Bay is one of the top tourism sites in Vietnam. Hon Gai terminal should therefore be positioned for cruise tourism, with the development of passenger terminals including facilities for parking, bus stations, tour guide stalls, restaurants, etc.
- (v) Hai Phong port is too shallow and constrained by its location in the middle of Hai Phong city. Hai Phong port should be phased out and redeveloped as prime waterfront property.
- (vi) Access roads should be developed, particularly bypass roads in Hai Phong and expressways. Proposed access railways also need to be improved, particularly the missing link to Cai Lan port, due to its strategic connection with China through Lao Cai which has good potential for cross-border trade and transit goods.

2) Northern Central Ports

- (i) Improvement of Nghi Son Port and Vung Ang port and dedicated ports serving industries (i.e. cement) at Nghi Son Economic Zone (i.e. cement) and Son Duong Economic Zone (i.e. steel).
- (ii) Development of a base terminal at Cua Lo port, for coastal liner operation, including possible RoRo operation.
- (iii) Access road, particularly to Cua Lo port needs to be improved including measures to reduce the mix of heavy vehicles and local motorcycle traffic.

3) Central Region Ports (CFEZ)

- (i) Tien Sa Terminal in Da Nang Seaport should be expanded to cope with the growth of container cargo in the future as a gateway for Central Focal Economic Zone (CFEZ).
- (ii) Base terminal should be developed at Tho Quang in Da Nang Seaport and in Chan May seaport for coastal liner operation including possible RoRo operation.
- (iii) Improvement of the general cargo terminal in Dung Quat seaport to support industries in Dung Quat Economic Zone (i.e. oil refinery, steel, etc.).
- (iv) Chan May terminal should be improved for cruise shipping with better passenger terminals, bus facilities, tour guide stalls, restaurants, etc. Chan May terminal can serve as access to major tourism sites such as Hue, Hoi An, etc.
- (v) Han river terminal is too shallow and constrained by its location near the center of Danang City. The terminal should be phased out and converted as prime waterfront property.
- (vi) Access roads to ports need to be improved.

4) Southern Central Ports

- (i) Multi-purpose terminals should be expanded in Nhon Hoi in Quy Nhon Seaport to support Nhon Hoi Economic Zone.
- (ii) Nha Trang port is constrained by its location near downtown Nha Trang, it therefore has poor potential as a cargo port. It should be converted for cruise passenger operation, to promote tourism for Nha Trang's beaches.
- (iii) Multi-purpose terminals should be expanded in Ba Ngoi Terminal, so that Nha Trang port's cargo function can be transferred to Ba Ngoi.
- (iv) Base terminal should be developed at Quy Nhon and Ba Ngoi for coastal liner operation including possible RoRo operation.
- (v) Van Phong port has been proposed as an international transshipment terminal. It is however very risky, especially in the absence of sufficient international trade in the southern central region. It may be developed with private risk capital. The site of the port could be factored in development plans in the region.
- (vi) Road access needs to be improved.

5) HCMC - Vung Tau Ports (SFEZ)

- (i) SFEZ is the biggest international trading region in Vietnam and therefore requires an internationally competitive port. The on-going Cai Mep - Thi Vai port in Vung Tau needs should be able to address this, as well as the Hiep Phuoc Port in HCMC. The project completion should be monitored and facilitated.
- (ii) Base terminal should be developed at Cat Lai and Hiep Phuoc in Ho Chi Minh Seaport and Cai Mep–Thi Vai in Vung Tau Seaport for coastal liner shipping operation including possible RoRo operation.
- (iii) With the development of ports in Vung Tau, ports in HCMC should be phased out and redeveloped as prime waterfront properties.
- (iv) Access roads should be improved and developed for Cai Mep - Thi Vai Port, including development of the proposed Bien Hoa–Vung Tau Expressway. Access railways should be also developed.

6) Mekong Delta

- (v) The base terminals should be developed at Cai Cui in Can Tho Seaport and My Thoi in My Thoi Seaport for coastal liner operation including possible RoRo operation.
- (vi) Interconnection with inland waterway should be improved at Hoang Dieu, Cai Cui & Tra Noc in Can Tho Seaport and My Thoi in My Thoi Seaport and My Tho in My Tho Seaport and Cao Lanh & Sa Dec in Dong Thap Seaport.
- (vii) The access roads should be improved particularly to Cai Cui Terminal in Can Tho Seaport and My Thoi Terminal in My Thoi Seaport.

7) Industrial Ports

Regarding to specialized terminals for bulk cargo (ex. terminals for imported coal for thermal power plants) and other specialized terminals for industrial zones and economic zones, their development has to be coordinated with industrial development policies, plans and projects.

5.2 International Gateway Development

1) International Traffic Outlook

The main problem faced by Vietnamese ports has more to do with imports and exports, thus the need to examine closely the international volume of cargo. This is shown on Table 5.2.1 - in terms of tonnage, and containers. For the NFEZ (Group 1), the volume in 2030 is about 2.1 more than the present; while that for SFEZ (Group 5), the port capacity has to expand by 3.1 times. In totality, the extent of containerization would increase from a level of 31% to 77% by 2030. This means that gateway ports should become more mechanized to handle more containers, and to expect reduction in break bulk cargo volume. At an average 10 tons/TEU, the number of containers would jump from 3.8 million to 12.5 million by 2020 and 24 million by 2030.

Table 5.2.1 Projected Cargo Traffic, in 2020 and 2030 (International Cargo)

Unit: 000 tons

Seaport Group		2007 actual	2020 forecast	2030 forecast
Group 1: Northern (Hai Phong)	Total	37,209	42,832	79,447
	Container	8,905	31,213	61,772
Group 2: Northern Central	Total	4,074	26	82
	Container	0	0	0
Group 3: Middle Central (Danang)	Total	3,146	5,654	9,661
	Container	528	2,846	5,504
Group 4: Southern Central	Total	4,113	2,896	4,837
	Container	509	970	1,888
Group 5: Southern (HCMC - Vung Tau)	Total	71,783	119,769	219,672
	Container	27,756	90,690	175,175
Group 6: Mekong Delta	Total	738	1,837	2,485
	Container	0	0	0
Total	Total	121,062	173,014	316,184
	Container	37,698	125,719	244,339

Source: VITRANSS2 Study Team

2) International Gateway Port Development Directions

(1) NFEZ

The long term plan aims to supply the required port capacity slightly ahead of demand, but not too far ahead as to waste investments.

In the NFEZ, the projected demand is 43 million tons of international cargo by 2020, and 79 million tons by 2030. The required capacities can be provided by the following projects:

- (i) Cai Lan Port - Berths 2, 3, and 4 are currently under construction at an estimated cost of US\$120 million. This will bring port capacity up to 25 million tons per year by 2012. The addition of 2 more berths (estimated cost = US\$90 million) can be scheduled a few years after that but before 2020, especially if cargo from Yunnan/China are transhipped via Cai Lan. This assumes that the environmental impact on Ha Long Bay can be mitigated; otherwise, this expansion needs to be tempered and shifted to other ports in Hai Phong.

- (ii) Dinh Vu Terminal - additional 5 berths shall be constructed, increasing the port capacity to about 35 million tons a year by 2020. No estimate is available, but a budgetary amount of US\$200 million can be assumed.
- (iii) Lach Huyen Port - this is the biggest container port to be built in the north, in 8 phases or packages, consisting of 11 berths at an aggregate cost of US\$6,570 million. When completed, the north would have additional port-handling capacity of 55 million tons/year.

Since only 43 million tons capacity is needed by 2020, the full development of Lach Huyen Port can be deferred to after 2020. It would be less expensive to expand at existing ports than in an entirely new port. However, considering the fragile environment in Ha Long Bay, it would be more appropriate to build Lach Huyen, initially with 2 berths, and to limit operations in Cai Lan. It is very clear, however, that without Lach Huyen Port, the demand by 2030 would be difficult to meet.

(2) CFEZ

For the CFEZ, the international cargo volume could grow to 5.6 million tons, which can be served by any two of the following three projects:

- (i) Tien Sa Terminal Expansion - this project would raise its capacity to 3.5 million tons a year, at an estimated cost of US\$75 million.
- (ii) Expansion of Lien Chieu Terminal in Danang at an estimated cost of US\$158 million.
- (iii) Quy Nhon Terminal Expansion - port expansion to handle general cargo, as well as the addition of a container berth, is estimated to cost US\$260 million. This is part of the petroleum industrial complex in Quy Nhon.

(3) SFEZ

For the SFEZ, the international cargo requirements (of 120 million tons) by 2020 can be met by existing ports in Saigon and Vung Tau plus the following projects:

- (i) Hiep Phuoc Container Terminals, stage 2 - with expansion, this terminal can handle 1.5 million TEUs or a combined capacity of about 15 million tons a year in volume. Project cost for the incremental expansion is US\$100 million.
- (ii) Cai Mep - Thi Vai Container Terminals - this is being developed in stages by various parties, but the whole area could ramp up to 100 million tons a year, when fully developed. Any reduction in capacity at the old berths within HCMC can therefore be compensated or assumed by terminals in this area.

5.3 Shipping Development Directions

VITRANSS2 did not attempt to evaluate the fleet development plan prepared by Vinalines (acquisition of 72 vessels up to 2020). It can be presumed to reflect the shipping requirements as seen by a service provider. For the decade 2000 - 2010, the plan listed the acquisition of 104 vessels of various classes and weights at a cost of US\$475 million. For the decade 2010-2020, another 121 vessels will be added into the domestic fleet, requiring an investment of US\$887 million.

What is of particular interest to domestic shipping companies, including Vinalines, is the projected increase in domestic traffic and the implicit capacity requirements. As the port cargo volume is twice what is loaded on vessels, the total capacity would have to be 1.8 times by 2020 and 2.8 times by 2030. This does not mean that the number of sea-going vessels would need to be expanded in the same proportion; with the acquisition of bigger and more efficient vessels, the required number of cargo ships would have to be lower.

Other than the state-owned Vinalines, other shipping companies would have difficulty in expanding their fleet. To avoid further concentration and to promote greater competition in key maritime routes, the government may need to introduce a special fleet financing program. Without such a program, the dominance by Vinalines will simply increase. The desired change in the shipping industry can be likened to what is already happening in aviation, where other operators have entered the market.

It is understood that the government also wants to upgrade its shipbuilding industry through Vinashin. That objective, while laudable, should form part of the industrial sector strategy and not of the transport sector. The maritime transport will simply be one of the customers.

No investment in maritime vessels was included in the following evaluation of projects, nor in the proposed investment program. However, to improve the effectiveness of VINAMARINE in ports planning and maritime regulations (including upgrades in the Vessel Registry and Crew Licensing systems), a preliminary budget of US\$50 million over 10 years is proposed – principally for institutional development (to cover computers, inspection equipment, and training).

5.4 Maritime Administration and Operations

In addition to physical development, institutional improvement to the maritime sub-sector is also needed.

1) Provision of Competitive Environment for Provision of Port Services

The current procedure in the approval of investment plans for ports is initiated by a prospective developer. The government will approve the proposal if the plan conforms to the national port master plan. This system gives advantage to proponents who submitted the proposals first. This would result to a monopolistic port operator in a region if the developer submits a number of proposals ahead of others, and stifles the opportunity of other groups to present a counter proposal, which may be more advantageous.

Competitive bidding should be introduced into the approval procedure, as proposed in the JICA supported study, Port Management System Improvement Project.

2) Integrated Planning, Development, and Management of Ports and Hinterland

In order to integrate the plan, the development and the management of the port facilities and the surrounding water and land area, administrative systems need to be established. The administrative body would coordinate stakeholders and the management of infrastructure including planning, construction, maintenance, upgrading, etc. together with the establishment of mechanisms for providing financial resources for administrative systems.

3) Enhance Public Oversight

Draft plan for Port Administration & Management in Vietnam was developed by VINAMARINE in 2008 with technical assistance of JICA. The purpose of this plan is to reform and improve the administration and management of seaport system. The basic direction of institutional setting of this plan is based on the landlord port management model, where the public sector plays a role of landlord and SOEs or private sector plays a role of terminal operator. Moreover, regulatory functions should be separated from commercial activities. Administrative and regulatory functions of government include strategic planning, technical regulation, and economic regulation. Technical regulation of operation is required to ensure compliance with safety, labour, environmental protection and security standards based on international conventions, as well as to set and monitor appropriate minimum performance requirements (especially when competition is weak). Economic regulation aims at monitoring market entry and pricing, is necessary when competition is weak or non-existent. Economic regulation also includes curtailing monopolistic positions by ensuring a level playing field and removing barriers to market entry. Pricing regulation should be avoided.

The draft plan recommended a two-tier system of national and port group level administrative body. Port Management Bodies were proposed to manage port groups. Roles are as follows:

(1) Role of national level administrative body

- (i) Working out national port policy
- (ii) Establishment of main sector regulations to be enforced by Port Management Bodies
- (iii) Creation of a reasonable framework for port development

(2) Role of Port Management Body

- (i) Formulation of long term port plan for each seaport area.
- (ii) Management of port land premise and port water area of each seaport area.
- (iii) Management of concession contracts including collection of concession fees and supervision of achievement of performance target of the operators.

6 DRAFT MASTER PLAN

6.1 Candidate Projects

Investment in ports is necessary to concretize the long-term development strategy in the maritime sub-sector. Candidate projects in the maritime sub-sector were compiled for analysis. State investment in shipping is outside the scope of VITRANSS2 and is not covered. For ports a total of 38 projects were included in the long list of projects of which 13 are committed/on-going projects (consists of 34 committed/on-going sub-projects and 62 proposed sub-projects). The aggregate project cost of projects in the long list total to nearly 14 billion USD, of which 3 billion is for committed/on-going projects. The project long list includes a mixture of projects including gateway ports, regional ports and other ports, as well as channel improvement projects; and, is well-distributed across the north-south coastline (Figure 6.1.1). The projects are listed in Table 6.1.1 (committed/on-going project), Table 6.1.2 (proposed projects). Industrial ports are to be developed by private capital and are therefore not included in the long list of projects.

Table 6.1.1 Committed/On-going Projects

Project	Original Schedule	Implementing Agency	Total Project Cost (USD mil.)	Fund Source	
CP01	Cam Pha Seaport Channel Development				
CSP01	Navigation Channel Upgrading in Cam Pha Seaport	2008-2009	VINAMARINE	7.0	GOV
CP02	Hon Gai Seaport (Cai Lan) Terminal Development (Committed Stage)				
CSP02	Cai Lan Terminal (Berth No. 2, 3, 4)	2008-2011	Cai Lan International Container Terminal Company	120.0	- Cai Lan Port JSC (VINALINES Group) - SSA Holdings International Vietnam
CP03	Hai Phong Seaport (Dinh Vu) Channel & Terminal Development				
CSP03	Navigation Channel Upgrading for Dinh Vu Terminal in Hai Phong Seaport	-	VINAMARINE	-	GOV
CSP04	Dinh Vu Terminal (Berth No.3-7) -VINALINES Terminal	-2010	VINALINES	196	VINALINES
CSP05	Dinh Vu Container Terminal -VINASHIN Terminal	-2010		120	- Pha Rung Shipbuilding Company (VINASHIN Group) - AP Moller Maersk A/S
CSP06	Dinh Vu Container Terminal -VIPCO Terminal	-2010	Vietnam Petroleum Transport JSC	90	VIPCO Vietnam Petroleum Transport JSC (Petrolimex Group)
CSP07	Dinh Vu Chemical Terminal -VIPCO Terminal	-2010	Vietnam Petroleum Transport JSC	5	VIPCO Vietnam Petroleum Transport JSC (Petrolimex Group)
CP04	Nghi Son Seaport Channel & Terminal Development				
CSP08	Navigation Channel Upgrading in Nghi Son Seaport	-	VINAMARINE	4	GOV

Project		Original Schedule	Implementing Agency	Total Project Cost (USD mil.)	Fund Source
CSP09	Nghi Son Oil Refinery Terminal-Stage1	-2015	Petrovietnam	5	Petrovietnam
CSP10	Nghi Son Coal Fired Thermal Power Station Terminal -Stage1	2010-2012	Vietnam Electricity	10	JICA (ODA loan)
CSP11	Nghi Son Cement Terminal	-		5	- Cong Thanh Cement - Thanh Hoa Cement
CP05	Cua Lo Seaport Channel Development (Committed Stage)				
CSP12	Navigation Channel Upgrading in Cua Lo Seaport	-2010	VINAMARINE	4	GOV
CP06	Vung Ang Seaport Terminal Development (Committed Stage)				
CSP13	Vung Ang Coal Fired Thermal Power Station -Stage1	-2012	-	10	-
CSP14	Vung Ang Steel Terminal -Formosa Steel Complex Terminal-Stage1	-	-	10	- Formosa Plastic Group - Sun Steel Co.
CSP15	Vung Ang Steel Terminal -VSC-TaTa Steel Plant Terminal	-	-	10	- TaTaSteel Global Holding Pte Ltd. - Vietnam Steel Corporation - Vietnam Cement Industries Corporation
CSP16	Vung Ang Steel Terminal -Tha Khe Steel Plant Terminal	-	-	10	-
CP07	Dung Quat Seaport Terminal Development (Committed Stage)				
CSP18	Dung Quat Multi-purpose Terminal -Berth No.1	-2010	Gemadept	36	Gemadept
CSP17	Dung Quat Oil Refinery Terminal	-2008	Petrovietnam	5	Petrovietnam
CP08	Quy Nhon Seaport Channel & Terminal Development (Committed Stage)				
CSP19	Navigation Channel Improvement in Quy Nhon Seaport	-2010	VINAMARINE	4	GOV
CSP20	Nhon Hoi Terminal -Stage1	2007-2010	Gemadept	70	Gemadept
CP09	Van Phong Seaport Terminal Development(Stage 1)				
CSP21	Van Phong International Tranship Terminal -Initial Stage	2008-2010	VINALINES	185	VINALINES
CSP22	Van Phong Fuel Depo Terminal	-	-	5	-
CP10	Ba Ngoi Seaport (Cam Ranh) Terminal Development (Stage 1A)				

Project		Original Schedule	Implementing Agency	Total Project Cost (USD mil.)	Fund Source
CSP23	Cam Ranh Multi-purpose Terminal -Stage1	2007-2010	VINALINES	88	VINALINES
CP11	Vung Tau Seaport (Cai Mep - Thi Vai) Channel and Terminal Development (Stage 1)				
CSP24	Navigation Channel Upgrading for terminals at Cai Mep - Thi Vai area in Vung Tau Seaport	-	VINAMARINE	16	GOV
CSP25	Cai Mep-Thi Vai Container Terminal - ODA Terminal	2008-2012	GOV (MOT)	240	JICA (ODA loan)
CSP26	Cai Mep-Thi Vai Container Terminal - SP-PSA Terminal-Stage1	2007-2009	SP-PSA International Port Co., Ltd	240	- Saigon Port (VINALINES Group) - PSA Vietnam Pte Ltd.
CSP27	Cai Mep-Thi Vai Container Terminal - CMIT Terminal	2008-2010	Cai Mep International Terminal Co., Ltd.	259	- Saigon Port (VINALINES Group) - VINALINES - AP Moller - Maersk A/S
CSP28	Cai Mep-Thi Vai Container Terminal - SSIT Terminal	2008-2010	SP-SSA International Container Services Joint Venture Company	282	- Saigon Port (VINALINES Group) - SSA Holdings International Vietnam
CSP29	Cai Mep-Thi Vai Container Terminal - SITV Terminal	2007-2011	Saigon International Terminal Vietnam Ltd.	330	- Saigon Investment Construction & Commerce Co., Ltd - Hutchison Ports Mekong Investment S.A.R.L
CSP30	Cai Mep-Thi Vai Container Terminal - SNP Terminal-Stage1	2007-2008	Saigon New Port Company	68	- Saigon New Port (under MOD)
CSP31	Cai Mep-Thi Vai Multi-purpose Terminal - ODA Terminal	2008-2012	GOV (MOT)	240	- JICA
CP12	Ho Chi Minh Seaport (Hiep Phuoc) Channel & Terminal Development (Stage1)				
CSP32	Soai Rap Channel Upgrading - Stage1	-	VINAMARINE	33	- GOV
CSP33	Hiep Phuoc Container Terminal - SPCT Terminal-Stage1	2007-2009	Saigon Premier Container Terminal Ltd.	171	- Tan Tuan Industrial Promotion Company (under Ho Chi Minh People's Committee) - DP World
CP13	Quan Chanh Bo Channel Development				
CP34	Quan Chanh Bo Channel Development Project	2008-2010	VINAMARINE	198	- GOV
Total project cost = 3,076					

Source: VITRANSS2 Study Team

Table 6.1.2 Proposed Projects

Proj. No	Project Title	Project Description	Proj. Cost (USD mil).
P01	Hon Gia Seaport (Cai Lan) Terminal Development		90
SP01	Cai Lan Terminal (Berth No. 8, 9)	To expand deep-water terminal at Cai Lan in Hon Gai seaport to handle container/general cargo to/from NFEZ	90
P02	Hai Phong Seaport (Lach Huyen) Development (Stage 1, original schedule: 2010-2015)		450
SP02	Lach Huyen Channel Upgrading - Stage1	To upgrade navigation channel for Lach Huyen Area in Hai Phong Seaport (Lach Huyen Channel) to -10.3m including construction of sand dyke	35
SP03	Haiphong International Gateway Terminal - Stage 1 for Commercial Port Zone	To develop new deep-water terminal at Lach Huyen in Hai Phong seaport for container/general cargo to/from NFEZ	410
SP04	Haiphong International Gateway Terminal - Stage 1 for Qua Muom Island	To develop new deep-water terminal at Lach Huyen in Hai Phong seaport for liquid cargo to/from NFEZ	5
SP05	Conversion of function -Hoang Dieu Terminal in Hai Phong seaport	To converse the function of part of Hoang Dieu Terminal for other public interest	-
P03	Hai Phong Seaport (Lach Huyen) Development (Stage 2, original schedule: 2015-2020)		945
SP06	Lach Huyen Channel Upgrading - Stage2	To upgrade navigation channel for Lach Huyen Area in Hai Phong Seaport (Lach Huyen Channel) to -11.9m including extension of sand dyke	60
SP07	Haiphong International Gateway Terminal - Stage 2 for Commercial Port Zone	To develop new deep-water terminal at Lach Huyen in Hai Phong seaport for container/general cargo to/from NFEZ	880
SP08	Haiphong International Gateway Terminal - Stage 2 for Qua Muom Island	To develop new deep-water terminal at Lach Huyen in Hai Phong seaport for liquid cargo to/from NFEZ	5
P04	Hai Phong Seaport (Lach Huyen) Development (Stage3, original schedule: 2020-2030)		5270
SP09	Haiphong International Gateway Terminal - Stage 3 for Commercial Port Zone	To develop new deep-water terminal at Lach Huyen in Hai Phong seaport for container/general cargo to/from NFEZ	3950
SP10	Haiphong International Gateway Terminal - Stage 3 for Qua Muom Island	To develop new deep-water terminal at Lach Huyen in Hai Phong seaport for liquid cargo to/from NFEZ	1320
P05	Cua Lo Seaport Channel & Terminal Development		26
SP11	Navigation Channel Improvement in Cua Lo Seaport	To construct sand dyke for Northern Channel	1
SP12	Cua Lo Terminal Expansion	To expand the terminal in Cua Lo seaport to handle cargo to/from the northern central zone	25
P06	Vung Ang Seaport Terminal Development		50
SP13	Vung Ang Terminal (Berth No.3, 4)	To expand the terminal for general cargo in Vung Ang seaport to/from the northern central zone	50
P07	Son Duong Breakwater Development		200
SP14	Breakwater for Specialized Terminal in Son Duong	To construct breakwater for specialized terminal in Song Duong	200
P08	Chan May Seaport Terminal Development		80

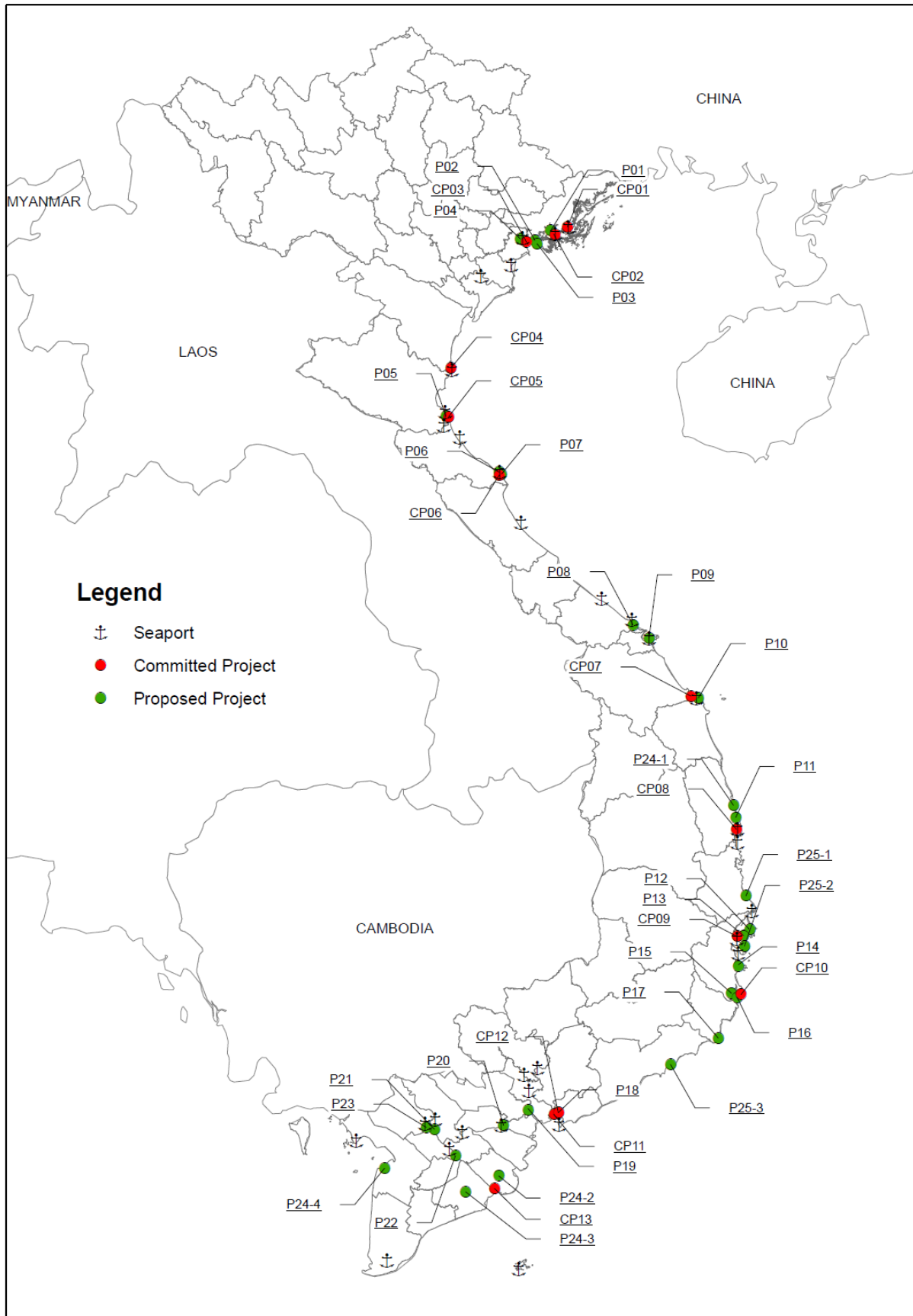
Proj. No	Project Title	Project Description	Proj. Cost (USD mil).
SP15	Chan May Terminal Expansion	To expand the terminal for general cargo/cruise ship in Chan May seaport to handle container/general cargo to/from CFEZ	80
P09	Danang Seaport Terminal Development		258
SP16	Tien Sa Terminal Expansion	To expand the terminal for container/general cargo in Danang seaport	75
SP17	Tho Quang Terminal	To develop terminal for general cargo at Tho Quang in Da Nang seaport	25
SP18	Conversion of function -Han River Terminal in Da Nang seaport	To converse the function of Han River Terminal for other public interest	-
SP19	Lien Chieu Terminal	To develop terminal at Lien Chieu in Da Nang seaport to handle container/general cargo to/from CFEZ	158
P10	Dung Quat Seaport Terminal & Breakwater/Revetment Development		340
SP20	Breakwater & Revetment in Dung Quat Seaport	To construct the breakwater and revetment in the west part of Dung Quat Seaport	115
SP21	Dung Quat Multi-purpose Terminal -Berth No.2	To develop multi-purpose terminal in Dung Quat seaport to handle container/general cargo to/from Dung Quat Economic Zone	45
SP22	Dung Quat Multi-purpose Terminal -Berth No.3, 4	To develop multi-purpose terminal in Dung Quat seaport to handle container/general cargo to/from Dung Quat Economic Zone	90
SP23	Dung Quat Steel Terminal	To develop port facility for Steel Plant at Dung Quat Economic Zone	90
P11	Quy Nhon Seaport Terminal Development		270
SP24	Quy Nhon Terminal Expansion	To expand the terminal at Quy Nhon in Quy Nhon seaport to handle cargo to/from the southern central zone	40
SP25	Nhon Hoi Terminal -Stage2	To develop terminal for container/general cargo at Nhon Hoi in Quy Nhon seaport to handle cargo to/from the southern central zone	220
SP26	Quy Nhon Petroleum Terminal -Stage1	To develop petroleum terminal at Quy Nhon in Quy Nhon seaport to handle petroleum product to the southern central zone	5
SP27	Quy Nhon Petroleum Terminal -Stage2	To develop petroleum terminal at Quy Nhon in Quy Nhon seaport to handle petroleum product to the southern central zone	5
P12	Van Phong International Tranship Terminal Development (Stage 2, original schedule: 2010-2015)		395
SP28	Van Phong International Tranship Terminal -Stage2010-2015	To develop container terminal in Van Phong seaport to handle international transshipment cargo	395
P13	Van Phong International Tranship Terminal Development (Stage 3, original schedule: 2015-2020)		925
SP29	Van Phong International Tranship Terminal -Stage2020	To develop container terminal in Van Phong seaport to handle international transshipment cargo	925
P14	Nha Trang Seaport Channel & Terminal Development		1
SP30	Navigation Channel Upgrading in Nha Trang Seaport	To improve the North Channel for passenger ships upto 50,000GRT	1
SP31	Conversion of function -Nha Trang Terminal in Nha Trang seaport	To converse the function of Nha Trang Terminal into passenger terminal	-
P15	Ba Ngoi Seaport (Cam Ranh) Terminal development (Stage 1B, original schedule: -2010)		15

Proj. No	Project Title	Project Description	Proj. Cost (USD mil).
SP32	Cam Ranh Oil Terminal -Stage1	To develop oil terminal at Cam Ranh in Ba Ngoi seaport to handle petroleum product to the southern central zone	5
SP33	Cam Ranh Terminal for Industrial Zone -Stage1	To develop terminal for industrial zone at Cam Ranh in Ba Ngoi seaport	10
P16	Ba Ngoi Seaport (Cam Ranh) Terminal development (Stage2: original schedule: 2010-2020)		265
SP34	Cam Ranh Oil Terminal -Stage2	To develop oil terminal at Cam Ranh in Ba Ngoi seaport to handle petroleum product to the southern central zone	5
SP35	Cam Ranh Terminal for Industrial Zone -Stage2	To develop terminal for industrial zone at Cam Ranh in Ba Ngoi seaport	10
SP36	Cam Ranh Multi-purpose Terminal -Stage2	To develop multi-purpose terminal at Cam Ranh in Ba Ngoi seaport to handle container/general cargo to/from the southern central zone	250
P17	Ca Na Seaport Industrial Port Facility Development		10
SP37	Doc Ham Steel Plant Terminal	To develop port facility for steel plant at Doc Ham Industrial Zone in Ca Na seaport	10
P18	Vung Tau Seaport (Cai Mep Thi Vai - stage2 + other) Terminal Development		980
SP38	Cai Mep-Thi Vai Container Terminal - SP-PSA Terminal-Stage2	To develop deep-water container terminal at Cai Mep Thi-Vai area in Vung Tau seaport to handle container cargo to/from SFEZ	240
SP39	Cai Mep-Thi Vai Container Terminal - SNP Terminal-Stage2	To develop deep-water container terminal at Cai Mep Thi-Vai area in Vung Tau seaport to handle container cargo to/from SFEZ	180
SP40	Cai Mep-Thi Vai Multi-purpose Terminal-Hoa Sen-Gemadep Terminal-Stage1	To develop multi-purpose terminal at Cai Mep-Thi Vai in Vung Tau seaport to handle container/general cargo to/from SFEZ	25
SP41	Cai Mep-Thi Vai Multi-purpose Terminal - Hoa Sen-Gemadep Terminal-Stage2	To develop multi-purpose terminal at Cai Mep-Thi Vai in Vung Tau seaport to handle container/general cargo to/from SFEZ	60
SP42	Cai Mep-Thi Vai Container Terminal - Gemadep Terminal	To develop deep-water container terminal at Cai Mep Thi-Vai area in Vung Tau seaport to handle container cargo to/from SFEZ	410
SP43	Long Son Oil Refinery Terminal -Stage1	To develop port facility for oil refinery at Long Son in Vung Tau seaport	5
SP44	Ben Dinh-Sao Mai Container Terminal	To develop deep-water container terminal at Ben Dinh-Sao Mai area in Vung Tau seaport to handle container cargo to/from SFEZ	60
P19	Ho Chi Minh Seaport (Hiep Phuoc - Stage2 + other) Channel and Terminal Development		220
SP45	Soai Rap Channel Upgrading - Stage2	To upgrade navigation channel for Hiep Huoc Area in Ho Chi Minh Seaport (Soai Rap Channel) to accommodate vessels up to 25,000-30,000 DWT	30
SP46	Hiep Phuoc Container Terminal - SPCT Terminal-Stage2	To develop new deep-water container terminal at Hiep Phuoc area in Ho Chi Minh seaport to handle container cargo to/from SFEZ	100
SP47	Conversion of function -Nha Rong-Khanh Hoi Terminal in Sai Gon seaport	To converse the function of Nha Rong-Khanh Hoi Terminal into cruise ship terminal and a complex of rail station, office building, international maritime center, trading and service center and park	0
SP48	Cat Lai Terminal (a substitute to Ben Nghe Terminal)	To develop new terminal which will substitute for Ben Nghe Terminal in order to reduce the traffic congestion around the existing terminal	90
P20	Expansion of terminal in My Tho seaport		2
SP49	My Tho Terminal Expansion	To expand terminal in My Tho seaport to handle general cargo	2

Proj. No	Project Title	Project Description	Proj. Cost (USD mil).
		to/from Mekong Delta Area	
P21	Expansion of terminal in Dong Thap seaport		2
SP50	Cao Lanh Terminal Expansion	To expand terminal at Cao Lanh in Dong Thap seaport to handle general cargo to/from Mekong Delta Area	2
P22	Expansion of terminal in Can Tho seaport		25
SP51	Cai Cui Terminal Expansion	To expand terminal at Cai Cui in Can Tho seaport to handle general cargo to/from Mekong Delta Area	20
SP52	Tra Noc Terminal Expansion	To expand terminal at Tra Noc in Can Tho seaport to handle container/general cargo to/from Mekong Delta Area	5
P23	Expansion of terminal in My Thoi seaport		5
SP53	My Thoi Terminal	To expand terminal in My Thoi seaport to handle container/general cargo to/from Mekong Delta Area	5
P24	Coal Fired Thermal Power Stations Port Facility Development		60
SP54	Cat Khanh Coal Fired Thermal Power Station Terminal -Stage1	To develop port facility for coal thermal power station at Cat Khanh Industrial Zone, Phu Cat District, Binh Dinh Province	10
SP55	Ninh Thuy Coal Fired Thermal Power Station Terminal	To develop port facilities for coal fired power station at Ninh Thuy in Van Phong Bay	10
SP56	Vinh Tan Coal Fired Thermal Power Station Terminal -Stage1	To develop port facility for coal thermal power station at Vinh Tan, Tuy Phong district, Binh Thuan province	10
SP57	Tra Vinh Coal Fired Thermal Power Station -Stage 1	To develop port facility for coal thermal power station at Tra Vinh province	10
SP58	Soc Trang Coal Fired Thermal Power Station -Stage 1	To develop port facility for coal thermal power station at Soc Trang province	10
SP59	Kien Luong Coal Fired Thermal Power Station -Stage 1	To develop port facility for coal thermal power station at Kien Giang province	10
P25	Industrial Terminal Development		20
SP60	Hoa Tan Oil Refinery Terminal	Development of port facility for oil refinery at Hoa Tan Industrial Zone, Tuy Hoa District, Phu Yen Province	5
SP61	My Giang Oil Refinery Terminal	Development of port facility for oil refinery at My Giang in Van Phong Bay	5
SP62	Ke Ga Cape Aluminum Plant Terminal -Stage1	Development of port facility for aluminum plant at Tan Thanh and Tan Quy commune, Ham Thuan Namdistrict, Binh Thuan province	10
Total project cost = 10,904			
<i>Note: A total of 62 projects were compiled (Annex D) but consolidated into 25 projects.</i>			

Source: VITRANSS2 Study Team

Figure 6.1.1 Candidate Projects



Source: VITRANSS 2 Study Team.

6.2 Prioritization of Projects

The long list of projects has an aggregate cost of nearly 14 billion USD, of which 3.1 billion USD is for committed/on-going projects. However some share of the funds for committed/on-going projects are shouldered by private investment, and only 2.1 billion USD is state funds.

Historically (i.e. 1999 to 2007) the maritime sub-sector received around 9% of total transport investment funds. For the period 2009-2020 the total investment funds for transport was estimated by VITRANSS2 to be between 37 billion USD to 96 billion USD, with a median budget envelope of 66.5 billion USD. Using the historical share of the maritime sub-sector in the total transport investment as a broad gauge, the funds available for port development would be between 3.3 billion USD to 8.6 billion USD, for the period 2009-2020. Clearly not all of the 38 projects in the long list could be realized.

It is not possible to discuss prioritization of port project on the context of only the maritime sub-sector because there are trade-offs and coordination considerations with other sub-sectors, including roads, railways, IWT, and aviation. The reader is referred to the main text of VITRANSS2 for a more comprehensive discussion on transport project prioritization, including port development. In the final analysis, around 3.8 billion USD was allocated to port development projects for the period 2009-2020. Therefore only 0.7 billion worth of proposed projects can be accommodated after accounting for the around 3.1 billion USD already reserved for committed/on-going projects. This means that only 6.6% of the proposed project amount can be implemented for the period 2009-2020.

To select from among the long list of projects to be developed during the period 2009-2020 as part of the VITRANSS2 master plan, a multi-criteria analysis (MCA) was conducted. The use of MCA allows projects to be evaluated holistically, and seven items were considered as shown in Table 6.2.1.

The methodology of evaluation scoring is as follows:

- (i) Demand: By comparing demand volume, the projects with top 10% demand are given 5 points, 4 points to next the 20%, 3 points to the next 40%, 2 points to the next 20% and 1 point to the last 10%.
- (ii) Economic Feasibility: In the same way as demand, each project is given point corresponding to the economic IRR.
- (iii) Financial Feasibility: In the same way as economic feasibility, a point is given according to the financial IRR, or demand divided by cost as a substitute of F-IRR. Point zero was given to non-income generating project.
- (iv) Network Composition: Points are based on importance to the overall network structure.
- (v) Natural Environmental Impact: Points are based on the potential impact to environmental.
- (vi) Maturity/ Progress: In the order of (9) DD completed, (8) DD in Process, (7) FS completed, (6) FS in process, (5) Pre-FS completed, (4) Pre-FS in process, (3) Listed in Master Plan, (2) Still in concept stage, (1) No progress, each point was given.
- (vii) Consistency Upper Plan or National Development Policy: (Refer to Table 6.4.1)

(viii) An overall score is then assessed by integrating all scores calculated. 20% of total score is based on Demand, 30% on Economic Feasibility and 10% on each of Network Composition, Natural Environmental Impact and Maturity/Progress. A score of 5 is attached projects with the highest rating, and 1 for projects with the lowest rating.

Table 6.2.1 MCA for Project Evaluation

Criteria		Indicator	No. of Categories
1	Demand	(ton-km + pax-km)/km	5
2	Economic feasibility	EIRR	5
3	Financial feasibility	FIRR or Demand/Cost	5
4	Network Composition	5: Gateway ports and major corridors	5
		4-2: Regional ports and secondary corridors	
		1: Local ports and tertiary corridors	
5	Natural Environmental Impact	% of Length passing Restricted Area	5
6	Maturity/Progress	9: DD (completed)	9
		8: DD (ongoing)	
		7: FS (completed)	
		6: FS(ongoing	
		5: Pre-FS (completed)	
		4: Pre-FS (ongoing)	
		3: MP	
		2: Idea	
1: No Progress			
7	Consistency with Upper Plan or National Development Policy	3: Listed in Formal Plan	3
		2: Seemingly Consistent	
		1: Unknown/ Inconsistent	

Source: VITRANSS 2 Study Team

MCA was used only on the non-committed projects, while committed projects are assumed as a part of the Master Plan already. For details of the evaluation methodology, including key assumptions on the calculation of economic benefits, the reader is referred to Chapter 5 of the Main Text of VITRANSS2. Table 6.2.2 summarises the results of the MCA. Based on the budget available for port projects only the highest rated projects (5 score) can be accommodated during the period 2009-2020 including the projects listed below, with a total cost of 0.7 billion USD.

- (i) P02: Hai Phong Seaport Development (2010–2015), 450mill. USD.
- (ii) P05: Cua Lo Seaport Channel & terminal Development, 26mil USD
- (iii) P19: Ho Chi Minh Seaport Channel and Terminal Development, 220mill. USD
- (iv) P22: Expansion of terminal in Can Tho seaport, 25 mill. USD

Together with the committed/on-going projects the total investment portfolio for the port sub-sector would total 3.8 billion USD composed of 17 projects. The rest of the projects in the long list can be accommodated after 2020.

Table 6.2.2 MCA for Project Evaluation

Project Code	Project	Cost (USD Mil.)	Demand	Economic	Financial	Network Composit'n	Natural Environm't	Maturity of Plan	Gov's Policy	Overall Evaluation
P01	Hon Gia Seaport (Cai Lan) Terminal Development	90.0	4	3	3	3	5	2	1	4
P02	Hai Phong Seaport (Lach Huyen) Development (Stage 1, original schedule: 2010-2015)	450.0	5	4	3	5	5	7	3	5
P03	Hai Phong Seaport (Lach Huyen) Development (Stage 2, original schedule: 2015-2020)	945.0	5	2	2	5	5	5	3	4
P04	Hai Phong Seaport (Lach Huyen) Development (Stage3, original schedule: 2020-2030)	5270.0	5	3	1	5	5	3	2	4
P05	Cua Lo Seaport Channel & Terminal Development	26.0	3	4	3	3	5	6	3	5
P06	Vung Ang Seaport Terminal Development	50.0	2	1	2	3	5	7	3	3
P07	Son Duong Breakwater Development	200.0	2	1	2	3	3	3	1	1
P08	Chan May Seaport Terminal Development	80.0	4	2	3	4	5	7	2	4
P09	Danang Seaport Terminal Development	258.0	4	2	2	5	3	3	3	4
P10	Dung Quat Seaport Terminal & Breakwater/Revetment Development	340.0	2	1	1	5	5	9	2	3
P11	Quy Nhon Seaport Terminal Development	270.0	3	1	2	4	5	2	2	3
P12	Van Phong International Tranship Terminal Development (Stage 2, original schedule: 2010-2015)	395.0	1	1	1	3	5	3	2	1
P13	Van Phong International Tranship Terminal Development (Stage 3, original schedule: 2015-2020)	925.0	1	1	1	3	5	3	2	1
P14	Nha Trang Seaport Channel & Terminal Development	1.0	4	1	5	5	5	3	3	4
P15	Ba Ngoi Seaport (Cam Ranh) Terminal development Development (Stage 1B, original schedule: -2010)	15.0	1	1	1	4	5	7	1	1
P16	Ba Ngoi Seaport (Cam Ranh) Terminal development Development (Stage2: original schedule: 2010-2020)	265.0	1	1	1	4	5	2	1	1
P17	Ca Na Seaport Industrial Port Facility Development	10.0	1	1	1	5	5	5	1	1
P18	Vung Tau Seaport (Cai Mep Thi Vai - stage2 + other) Terminal Development	980.0	2	4	1	5	5	3	2	4
P19	Ho Chi Minh Seaport (Hiep Phuoc - Stage2 + other) Channel and Terminal Development	220.0	5	5	3	4	5	3	2	5
P20	Expansion of terminal in My Tho seaport	2.0	2	4	4	3	5	2	1	4
P21	Expansion of terminal in Dong Thap seaport	2.0	2	4	4	5	5	2	1	4
P22	Expansion of terminal in Can Tho seaport	25.0	2	4	3	5	5	9	2	5
P23	Expansion of terminal in My Thoi seaport	5.0	2	3	3	3	5	2	1	3
P24	Coal Fired Thermal Power Stations Port Facility Development	60.0	1	1	1	3	5	6	2	1
P25	Industrial Terminal Development	20.0	1	1	1	3	5	3	2	1

Source: VITRANSS 2 Study Team

6.3 Investment Strategy by Region

The port investment strategy for the period 2009-2020 is detailed in Table 6.3.1. Due to funding constraints, not all the proposed development directions can be achieved up to the period 2020.

- (i) In the north, prioritized projects include the committed projects to enhance current ports in Cam Pha, Hon Gai (i.e. Cai Lan Port) and Hai Phong (i.e. Dinh Vu) need to be developed to address the urgent need for gateway port capacity. The Lach Huyen port development needs to be initiated to cope with high port traffic growth.
- (ii) In the northern central region, proposed and committed projects to serve industrial cargo and the regional port of Cua Lo are included in the investment strategy.
- (iii) In the central region, the committed port development project is included to support the Dung Quat Economic Zone. Existing ports for the CFEZ, particularly Tien Sa Port have enough capacity to handle demand up to 2020 and further expansion can be delayed after 2020.
- (iv) In the southern central region, prioritized projects include committed projects to develop regional ports at Quy Nhon and Bang Ngoi. The Van Phong Port development project is included as a committed project but funding would have to be provided by private risk capital.
- (v) In the HCMC-Vung Tau region, committed projects include the on-going Cai Mep – Thi Vai project and private-led projects in HCMC. HCM seaport channel and terminal development is given priority to handle rapidly increasing demand.
- (vi) In the Mekong Delta region, prioritized projects include committed channel development project and proposed regional port development projects in Can Tho.

Table 6.3.1 Port Investment Strategy 2011-2020

Region	Project		Cost	Description	Role	Implementation
North	CP01	Cam Pha Seaport Channel Development	7.0	To upgrade navigation channel of Cam Pha Seaport to accommodate vessels up to 70,000 DWT	Industrial	GOV
	CP02	Hon Gai Seaport (Cai Lan) Terminal Development (Committed Stage)	120.0	To expand deep-water terminal at Cai Lan in Hon Gai seaport to handle container/general cargo to/from NFEZ	Regional	Private/SOE
	CP03	Hai Phong Seaport (Dinh Vu) Channel & Terminal Development	411.0	To upgrade navigation channel to depth of -7.5m, expand a terminal to handle container/general cargo, and develop terminals for container / general & chemical cargo at Dinh Vu in Hai Phong Seaport	Gateway/ Regional	GOV Private/SOE
	P02	Hai Phong Seaport (Lach Huyen) Development (Stage 1, original schedule: 2010-2015)	450.0	To upgrade navigation channel for Lach Huyen Area to -10.3m including construction of sand dyke, develop new deep-water terminals at Lach Huyen for container/general and liquid cargo, and convert the function of part of Hoang Dieu Terminal for other public interest in Hai Phong Seaport	Gateway/ Regional	Private/SOE, N/A
North Central	CP04	Nghi Son Seaport Channel & Terminal Development	24.0	To upgrade navigation channel to accommodate vessels up to 30,000 DWT, develop port facility to handle crude oil/petroleum product for oil refinery and develop port facility for coal thermal power station in Nghi Son Seaport	Industrial	GOV ODA Private/SOE
	CP05	Cua Lo Seaport Channel Development (Committed Stage)	4.0	To dredge navigation channel of Cua Lo Seaport up to -7.5m and construction of sand dyke	Regional	GOV

Region	Project		Cost	Description	Role	Implementation
	CP06	Vung Ang Seaport Terminal Development (Committed Stage)	40.0	To develop a port facility for coal thermal power station, a port facility for Steel Complex, and port facilities for Steel Plant in Vung Ang Seaport	Industrial/Regional	Private/SOE
	P05	Cua Lo Seaport Channel Development (Committed Stage)	26.0	To construct sand dyke for Northern Channel and expand the terminal in Cua Lo seaport to handle cargo to/from the northern central zone	Regional	GOV, N/A
Central	CP07	Dung Quat Seaport Terminal Development (Committed Stage)	41.0	To develop a multi-purpose terminal to handle container/general cargo and a port facility to handle crude oil/petroleum product for oil refinery in Dung Quat Seaport	Industrial	Private/SOE
South Central	CP08	Quy Nhon Seaport Channel & Terminal Development (Committed Stage)	74.0	To improve a navigation channel of Quy Nhon Seaport including removing rock and deepening to -10.5m for the whole route and develop a terminal for container/general cargo at Nhon Hoi in Quy Nhon seaport	Regional	GOV Private/SOE
	CP09	Van Phong Seaport Terminal Development (Stage 1)	190.0	To develop a container terminal to handle international transshipment cargo and a petroleum terminal for fuel depo in Van Phong seaport	Gateway/Transshipment	Private/SOE
	CP10	Ba Ngoi Seaport (Cam Ranh) Terminal Development (Stage 1A)	88.0	To develop a multi-purpose terminal at Cam Ranh in Ba Ngoi seaport to handle container/general cargo	Regional	Private/SOE
HCMC – Vung Tau	CP11	Vung Tau Seaport (Cai Mep - Thi Vai) Channel and Terminal Development (Stage 1)	1675.0	To upgrade navigation channel to deepen to -14m (the entrans to Cai Mep) and -12m (Cai Mep to Thi Vai) and develop new deep-water container terminals at Cai Mep Thi-Vai areato handle container cargo to/from SFEZ in Vung Tau seaport	Gateway/Regional	GOV ODA Private/SOE
	CP12	Ho Chi Minh Seaport (Hiep Phuoc) Channel & Terminal Development (Stage1)	204.0	To upgrad a navigation channel of Hiep Huoc Area (Soai Rap Channel) to -7m and develop a new deep-water container terminal at Hiep Phuoc area in Ho Chi Minh seaport	Regional	Private/SOE
	P19	Ho Chi Minh Seaport (Hiep Phuoc - Stage2 + other) Channel and Terminal Development	220.0	To upgrade navigation channel for Hiep Huoc Area to accommodate vessels up to 25,000-30,000 DWT, develop new deep-water container terminal at Hiep Phuoc area to handle container cargo, convert of the function of Nha Rong-Khanh Hoi Terminal into cruise ship terminal and others, and develop new terminal which will substitute for Ben Nghe Terminal	Regional	Private/SOE
Mekong Delta	CP13	Quan Chanh Bo Channel Development Project	198.0	To develop a new navigation channel to Hau River at Quan Chanh Bo to secure a route for 20,000DWT vessels avoiding Dinh An Estuary	Channel access	GOV
	P22	Expansion of terminal in Can Tho seaport	25.0	To expand a terminal at Cai Cui and at Tra Noc in Can Tho seaport to handle container/general cargo to/from Mekong Delta Area	Regional	N/A
Total			3,797.0			

Source: VITRANSS 2 Study Team

The implementation of the port investment strategy includes a mixture of state and private/SOE funding.

- (i) Committed/on-going projects require a funding of 3.1 billion USD, of which it is estimated that state funding will cover 2.2 billion USD.
- (ii) Proposed projects require a funding of 0.7 billion USD, of which it is assumed that 30% will be covered by private/SOE capital. State funds will therefore cover 0.5 billion USD.
- (iii) Total invest requirement for the period 2009-2020 is 3.80 billion USD, of which 2.66 billion USD will be state funds.

6.4 Summary of Recommendations

To a large extent, the rapid development of Vietnam can be ascribed to the FDI-led export-oriented economic model. This was made possible, in turn, by its seaports that brought out Vietnam's products into the world market. Hence, the future competitiveness of the country hinges on an efficient maritime transport system.

The seaports, in particular, have also expanded in response to the growing foreign and domestic trade – but not as fast as one would desire. Congestions at the ports are becoming palpable; it is particularly severe in the southern (HCMC-area) regions and to a lesser extent in the northern (Hanoi-Haiphong area) regions.

Maritime development directions in the long-term were elaborated which include strategic policy recommendations as follows:

- (i) Competitive gateway port development for the NFEZ, SFEZ and CFEZ
- (ii) Regional port development for coastal liner operation
- (iii) Industrial port development for strategic industries along the north-south coastline
- (iv) Cruise terminal development for the promotion of tourism at key coastal tourism sites
- (v) Relocation of port services from urban centres and redevelopment of ports was prime waterfront property
- (vi) Port access development, including road, rail and IWT
- (vii) Promotion of logistics function at ports
- (viii) Improvements in maritime administration
 - Provision of competitive environment for provision of port services
 - Integrated planning, development and management of ports hinterland
 - Enhancement of public oversight functions, through a national level administrative body and a port management body
- (ix) Improvement in the shipping sector
 - Planning for a fleet financing program
 - Enhancement of training programs for crew and ship managers
 - Promotion of ship building and repair industry
 - Upgrade of vessel registry and crew licensing administration
 - Promotion of new coastal shipping service providers to create a more competitive sector.

In the medium term period of 2009-2020, a port investment strategy was formulated through the prioritization of projects. An investment portfolio of 3.77 billion USD is proposed, which includes 17 projects covering development in gateway ports, regional ports, and industrial ports. The proposed port investment strategy would be able to serve the demand for competitive international shipping service and strengthen the role of coast shipping along the north-south coastal corridor.

Funds allotted to the development of the maritime sector are limited. Therefore, the delivery of maritime infrastructure needs to be better organized to maximize returns of investment and to avoid wasteful investment in ports that overlap each other's hinterland or where there is no demand. The proposed investment strategy is a guide towards a rational investment and structured port development based on a port hierarchy framework, of gateway ports, regional ports, industrial ports, and local ports.

The current system of having a multiplicity of investors and port developers – central ministries, local governments, SOEs, and private sectors – is not conducive to a systematic port development strategy under limited funding. The current system also does not foster competitive port service provision if port infrastructure development is not in the public domain. A special financing facility for domestic fleet expansion should be established and be made available to other shipping companies. Without financing, only Vinalines could afford to upgrade and expand its domestic vessels. With more private shipping companies accounting for the total domestic fleet, there would be greater competition and efficiency in domestic shipping services. A strong institution is the key to the sustainable development of the seaports. The role of MOT and its maritime arm, VINAMARINE, need to be strengthened in the provision and control of port infrastructure. The operation of the port infrastructure could then be concessioned to private/SOE operators under competitive terms.

A special financing facility for domestic fleet expansion should be established and be made available to other shipping companies. Without financing, only Vinalines could afford to upgrade and expand its domestic vessels. With more private shipping companies accounting for the total domestic fleet, there would be greater competition and efficiency in domestic shipping services.