Japan International Cooperation Agency (JICA)
Ministry of Transport, Socialist Republic of Vietnam (MOT)
Transport Development and Strategy Institute (TDSI)

THE STUDY ON THE
NATIONAL TRANSPORT DEVELOPMENT STRATEGY
IN THE SOCIALIST REPUBLIC OF VIETNAM
(VITRANSS)

Technical Report No. 5

ROAD AND ROAD TRANSPORT

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PREFACE

During the period of the Study on the National Transport Development Strategy in Vietnam (VITRANSS), various technical papers have been prepared by different Study Team members in various occasions to facilitate the discussions with counterpart team, concerning subsector agencies and to document major findings and outputs produced in the process of the Study. These papers have been organized into a series of technical reports (See Table A below) which intend to provide more detailed background information for descriptions and discussions made on key study components and issues. These technical reports are working documents of the Study which, however, will be useful for further reference, by the counterpart team and related subsector agencies.

Table A
List of Technical Reports

No. 1	Transport Surveys and Database
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GLOSSARY

ADB	Asian Development Bank
BOT	Build - Operate - Transfer
CIDA	Canadian International Development Assistance
DFID	Department for International Developoment
GDP	Gross Domestic Product
GPC	Government Price Committee
HCMC	Ho Chi Minh City
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
MARD	Ministry of Agriculture and Rural Development
MOF	Ministry of Finance
MOT	Ministry of Transport
MOSTE	Ministry of Science, Technology and Environment
MPI	Ministry of Planning & Investment
NTSR	National Transport Sector Review
OD	Origin Destination
ODA	Official Development Assistance
PMO	Prime Minister's Office
PMU	Project Management Unit
PPC	Provincial People's Committee
PTA	Provincial Transport Authority
RRMU	Regional Road Management Unit
SOE	State-owned Enterprise
TDSI	Transport Development & Strategy Institute
UNDP	United Nations Development Program
VITRANSS	National Transport Development Strategy Study
VND	Vietnam Dong
VR	Vietnam Railways
VRA	Vietnam Road Administration
WTO	World Trade Organization

1 INTRODUCTION

1.1 Overview

Technical Report No. 5 on Road and Road Transport presents a comprehensive analysis of the road and road transport subsector as part of The Study on the National Transport Development Strategy in the Socialist Republic of Vietnam (VITRANSS). It presents the overall findings and major results of various technical discussions, information and data gathered from the field, and meetings with various government agencies and counterpart member organizations.

The road subsector is recognized as an important subsector in the overall transport system of Vietnam towards greater economic integration of its major economic growth centers. It is noted that the current state of nationwide road infrastructure needs to be improved particularly the primary and secondary networks which are critical to sustain the gains of major economic development projects taking place in the whole of Vietnam. Further, road transport services must be made efficient and affordable to productive sectors such as agriculture, services and industry to enhance the investment climate in major growth centers in northern, central and southern regions as well as in poorer areas of the country.

It is noted that a number of major road projects have been implemented which included bridges and tunnel construction since the introduction of Doi Moi policy in Vietnam. These major road improvement, rehabilitation and construction projects were made possible with the assistance of international donor countries. However, improving the road infrastructure alone is not sufficient to make the subsector relatively more efficient. There are other issues that are equally important to enable the road subsector to become more responsive to the needs of economic sectors to sustain the economic gains in the past years. Further, the subsector must be integrated more effectively with other transport subsectors, such as shipping, rail and air transport, to further enhance the economic gains of transport investments in these other subsectors.

Thus, other equally important issues that need to be addressed to enable the road infrastructure system to be more operationally efficient include the following: making the road institutional system more adaptable and responsive to the needs of economic sectors; better and more effective road operation and management; and more effective road safety in the country.

Thus, Technical Report No. 5 shall provide an analysis of the existing situation of the road subsector, the current state of its infrastructure network in relation to the economic development needs of major growth centers and developing areas, and its institutional system and current road management practices. Thus, based on the analysis of major findings related to infrastructure, institutions,

operations, and management, strategies for the short term, medium term and long term have been formulated to enable the road subsector to function more efficiently.

1.2 Study Objectives

Technical Report No. 5 on Road and Road Transport has the following objectives:

(1) the formulation of long-term development strategies for the road transport sector up to year 2020;

(2) the formulation of a national road transport development master plan up to year 2010;

(3) the identification of prioritized projects up to year 2005 and formulation of a short-term investment program based on the above plan; and

(4) the strengthening of planning capabilities of road transport agencies and the undertaking of necessary technology transfer.

1.3 Scope and Coverage of the Technical Report

Technical Report No. 5 is organized to provide a logical framework of analysis and comprises the following chapters:

Chapter 1. Introduction. This Chapter presents an overview of the study, its objectives, scope, and coverage.

Chapter 2. Review of Related Transport Studies, Plans and Projects. This Chapter summarizes results of the review of relevant findings and recommendations of related past road transport studies, plans and projects aimed at improving the road subsector infrastructure and management systems. These include donor-funded policy and technical studies on major road rehabilitation and improvement projects, either ongoing or committed as of April 2000. International donor agencies include the World Bank (WB), Asian Development Bank (ADB) and Japan Bank for International Cooperation (JBIC), among others. It also provides an update of proposed road transport plans and projects and the progress of ongoing and committed projects.

Chapter 3. Current Situation. This Chapter presents the current state of the road transport network, traffic volumes, vehicle characteristics, and the existing levels of road transport services, as well as the road subsector's existing administrative and management systems. Results of field surveys on origin-destination (OD) and surveys which are used in the assessment of the needs of road transport as viewed by road users are also discussed to the extent

that they provide the basis for major changes that need to be introduced to make the road subsector more responsive to the rapidly changing investment climate and economic development. The Vietnam Road Administration's (VRA) role in implementing road transport policies and introducing changes in road management structure and policies is also presented. Issues related to road maintenance and safety aspects, road financing (by the central government and donor agencies) and existing structure of road user charges are also discussed in detail.

Chapter 4. Long-term Development Strategies for Year 2020. This Chapter presents the formulation of long-term development strategies for year 2020 in support of the government's development strategy to achieve economic industrialization and urbanization and a more effective implementation of its rural development programs and projects (focusing on poverty reduction strategies). These road subsector strategies are aimed at further developing the road infrastructure network and improving existing management systems to effectively support economic and social development programs and to integrate major urban areas/growth centers with rural and poorer areas of the country.

Chapter 5. Draft Master Plan. This Chapter presents an assessment of the government's proposed short-term and medium-term development projects, selection criteria for project prioritization and future transport requirements that are based mainly on corridor traffic demand projections and analysis of priority, cross-border and other corridors.

2 REVIEW OF RELATED TRANSPORT STUDIES AND PLANS

2.1 Overview of Past Studies

A review of a number of technical and policy studies on road transport and regional transport master plans in Vietnam was undertaken to provide a comprehensive framework for road subsector analysis to define the subsector's role both in the overall transport sector and economic development needs of Vietnam.

The findings and recommendations of relevant studies on road transport are summarized to serve as inputs in the assessment of the subsector's needs and in the formulation of its long-term development strategy. Thus, past transport studies relevant to this Technical Study are classified as follows:

- National transport master plan studies;
- Regional transport master plans (Central and Northern Vietnam);
- Road feasibility studies (mostly donor-funded); and
- Transport sector reviews (WB).

The most recent transport sector review was undertaken by the World Bank (Vietnam Moving Forward: Achievements and Challenges in the Transport Sector, April 1999) which reviewed Vietnam's progress in developing a modern transport system aimed at creating a more balanced economic growth. It identified the major challenges, problems and potential solutions to current problems and issues in the transport sector.

For purposes of evaluating the current situation of the road transport subsector in terms of technical, physical, safety, management, and environmental aspects, the more relevant results of the following studies will be discussed in detail:

- Transport Master Plan for the Central Region of Vietnam, September 1998 (French Government);
- The Master Plan Study on Transport Development in the Northern Part of the Socialist Republic of Vietnam, June 1994 (JICA); and
- Study of Investment and Maintenance Strategy for National and Provincial Roads: Vietnam, July 1996 (ODA-UK).

In addition, a more comprehensive list of road subsector projects is presented in Table 2.1.1.

Table 2.1.1
Transport Sector Studies in Vietnam

Title	Agency	Completion Year	Description
National Transport Sector Studies			
National Transportation Sector Review (NTSR)	UNDP	1992	The first comprehensive nationwide transport master plan for Vietnam covering road, rail, maritime, inland waterway, and air transport subsectors.
Transport Sector Review	WB	1994	Reviewed the status and role of the transport sector in Vietnam's developing market economy.
Vietnam Moving Forward: Achievements and Challenges in the Transport Sector	WB	April 1999	Reviewed the transport sector in a changing environment and the need for optimizing resources and improving service delivery with the assistance of donor agencies.
Vietnam Rural Access Program (Preparatory Phase)	DFID	Ongoing	A strategy study on rural road rehabilitation, maintenance and institutional strengthening and the need for training of local contractors.
Regional Transport Sector Master Plan Studies			
Master Plan Study on Transport Development in the Northern Part of Vietnam	JICA	June 1994	Formulated the transport master plan for the northern part of Vietnam toward 2010. The plan covered the subsectors of road, railway, sea, and inland waterway transport.
Transport Master Plan for the Central Region of Vietnam	French ODA	September 1998	Formulated the transport master plan for the central region of Vietnam until year 2010 and prioritized projects for five-year periods.
Master Plan for Red River Delta	UNDP	June 1995	Provided a transport master plan for Red River delta, covering both transport and urban/rural development needs.
Institutional and Management Studies			
Study of Investment and Maintenance Strategy for National & Provincial Roads	UK ODA (DFID)	December 1995	Formulated a 10-year improvement program for road, bridge and ferry including maintenance and administrative costs.
Master Plan Study on Coastal Shipping Rehabilitation and Development Project	JICA	March 1997	Provided a master plan on coastal shipping rehabilitation and development up to year 2010 which covered infrastructure and shipping services requirements and proposed the implementation of short-term priority projects. Road transport was considered an important support infrastructure to major port projects.
Vietnam Road Safety Improvement Study	WB PMU01	1997-2000	*(under the National Road No.1 Rehabilitation Project)* A comprehensive study covering road improvement, education and training and a proposed 5-year Road Safety Program.
Improvement of Highway Management Capacity of the Ministry of Transport Project	ADB PMU01	1999-2001	*(under the Second Road Improvement Project)* To improve the capacity of the VRA and MOT to effectively manage the road subsector in three major areas covering infrastructure, transport services and road safety.

Source: National and Regional Workshops on the Role of Transport and Communications in the ASEAN Region in the 21st Century (Vietnam), Ministry of Transport, October 1998.

a) National Transport Master Plan

The first national transport master plan for Vietnam was formulated with technical assistance from the former Soviet Union for the period 1984-2004. The study, written in Russian, commenced in 1984 and was completed in 1989. It only focused on very limited aspects of the transport sector[1] which cover past policies that were later modified to reflect the market-oriented policies of the government and the demands of the rapidly changing transport environment.

The second national transport master plan was undertaken in 1992 with technical assistance from the United Nations Development Program (UNDP). The National Transport Sector Review (NTSR) is considered the first comprehensive national transport master plan and served as the basis for the current transport policy and project implementation strategy by the Government of Vietnam. The study's findings and recommendations are summarized as follows:

- Transport planning and strategy formulation considered market economy principles. Comprehensive traffic surveys throughout the country for different transport modes were undertaken, OD tables were developed and traffic demand forecasts were formulated based on the four-step forecast method;
- The study analyzed various transport sector industries and identified key potential growth areas related to these industries;
- The analysis of the institutional framework for the road subsector resulted in proposed measures to improve the existing transport administrative framework;
- In infrastructure development, road improvement and rehabilitation of national roads were given priority over new road construction projects;
- Traffic demand forecasts were below the actual demand, eg. forecast for year 2000 was already reached in 1995. Further, forecasts did not consider the projected changes in the traffic distribution pattern in Vietnam.
- Except for the proposed rehabilitation of national roads, policy guidelines were unclear about the "action or implementation plan" after the study was completed. As a result, other subsector developments were undertaken only in the late 1990s and without a master plan which should provide definite policy directions and subsector strategies.

The WB's more recent transport sector review study which was completed in April 1999 emphasized the need for the current transport development strategy study to include the following:

- review of the relative expenditure priorities for each transport subsector;

[1] Need for the physical upgrading of the existing transport network without any change in the subsector's institutional/ management aspects.

- formulation of a core priority expenditure program that will ensure economic and transport efficiency;
- formulation of the future transport development plan based on realistic expenditure levels and in consideration of environmental/social concerns;
- achievement of sustainable results through appropriate institutional reforms and human resource development; and
- improvement of efficiency and effectiveness of donor efforts through an improved formulation of comprehensive investment packages indicating how and which priority investment areas foreign donors can directly participate.

b) Regional Transport Master Plans

Following the NTSR, a large number of regional transport project studies were undertaken for specific project areas or subregions of the country, particularly in northern and central Vietnam. Subsector issues and regional transport systems were covered to the extent that they were considered relevant to project areas.

- *Master Plan on the Study on Transport Network in Northern Vietnam (JICA, 1994).* This Study proposed the following projects for the road subsector: (1) improvement of National Road Nos. 1, 2, 18, 70 and 379; and (2) immediate bridge improvement and reconstruction of national roads and rural roads.

- *Master Plan for Red River Delta, UNDP, WB (1995).* The road subsector is one of the components of the development plan. The Study recommended a short-term plan focusing on the rehabilitation of the existing road network to prevent further deterioration and selected upgrading of trunk routes of roads to meet current and future transport demand requirements. Detailed route development studies were undertaken which cover all national roads, selected provincial roads, feeder roads and their rail and waterway links. In the case of national roads, priority was given to National Road No. 10 connecting the coastal provinces; National Road No. 1 connecting Hanoi with the southern provinces; National Road No.5 connecting Hanoi with the port of Hai Phong; National Road Nos. 183 and 18 which connect Hanoi with Quang Ninh; National Road Nos. 3, 6 and 32 which are arterial roads in Hanoi. In the case of provincial roads, priority was given to routes that provide interprovincial connection, access to heavily populated areas and industrial, processing or tourist zones; and connections to proposed rural service centers.

- *Transport Master Plan for the Central Region of Vietnam, French ODA (1998).* The Transport Master Plan for the Central Region of Vietnam with year 2010 as the target year aimed at establishing an optimum overall transport system among the major transport modes with emphasis on the road network and the port system. Further, it has identified priority investments for the 5-year period in road and port infrastructure projects with

project profiles. Moreover, it has conducted short training courses and study tours to effect transfer of technology to Vietnamese counterparts. It recommended a road development master plan which focused on the National Road Nos. 15, 14B and 14 (alternative North-South axis to National Road No. 1). It also recommended the following studies to be undertaken in the future: (1) road transport industry improvement; (2) a comprehensive study on road safety to include road user education, traffic regulation, enforcement, management and vehicle standards; (3) urban transport development in Da Nang to set up urban road standards and public transport standards; (4) road classification study according to socio-economic importance; (5) implementation of road network condition; (6) assessment of provincial road networks and organization of policy workshops to strengthen PTAs' capabilities; and (7) selection of a road project to be financed under a concession scheme and assistance to the Ministry of Transport (MOT) in strengthening its capacity to design and manage the scheme.

c) Institutional and Management Studies

There are existing studies on institutional strengthening of the road subsector institutions, and the most comprehensive is the Study of Investment and Maintenance Strategy for the National and Provincial Roads in 1996 funded by the ODA of UK, which provided useful inputs in assessing road subsector needs.

It is noted that there had been no nationwide traffic surveys undertaken for the road subsector since the NTSR was completed, and recent studies focused more on key institutional development issues rather than on the physical transport planning aspects of the subsector.

For a time, the UNDP had been the sole funding agency for technical assistance in transport planning studies. But in recent years the WB and ADB had undertaken quite a number of transport planning studies which recommended measures to further improve the road transport subsector, particularly on infrastructure management and pricing policy issues (see Table 2.1.2).

d) Transport Master Plan by the Ministry of Transport

In addition to donor-funded transport studies, the Government of Vietnam, through the MOT, has drafted its "Master Plan for Development of Transport Infrastructure up to Year 2010" published in 1995. It emphasized the need for the significant contribution of private sector investments in improving transport infrastructure and services in the future. Arrangements such as the build-operate-transfer (BOT) schemes for various road projects have been endorsed by the government for private sector proponents to finance. This financing scheme has been adopted for other transport infrastructure projects such as ports, airports, road tunnels and bridges, and railway that will serve the HCMC area which is considered the most urbanized center in the country.

Table 2.1.2
Road Transport Sector Studies With Institutional Assessment

Name of Project	Financing Agency	Implementing Agency	Completion Date
Highway Rehabilitation Project	IDA	MOT/VRA	
Rural Transport (Roads)	IDA	MOT	
Urban Transport Improvement Project	IDA	Hanoi and HCM	
3rd Road Improvement Project	ADB (JSF)	PMU1	16/12/97
Institutional Strengthening	ADB	MOT/VRA	31/8/97
2nd Road Improvement Project	ADB (JSF)	MOT	31/8/97
Transport Improvement and Strategy Planning	ADB (JSF)	VRA	yet to start

Source: National and Regional Workshops on the Role of Transport and Communications in the ASEAN Region in the 21st Century (Vietnam), Ministry of Transport, October 1998.

Since then, the MOT has approved about 15 BOT[2] projects, some of which have already been evaluated by prospective investors. However, in view of the financial crisis still prevailing in Asia, there is a need to further review the feasibility or financial prospects of implementing a number of these projects.

2.2 Recommendations of Major Transport Studies Relevant to the Road Subsector

This Section presents a summary of recommendations specific to the road subsector from the more relevant transport sector studies (refer to Table 2.2.1). It is noted that there is closer coordination among major donor agencies, such as the WB, ADB and OECF, now reorganized as Japan Bank for International Cooperation (JBIC), in funding road infrastructure projects. There is greater focus on providing technical expertise to improve road subsector management and physical conditions of the network of roads and bridges and on financing the procurement of transport equipment and training requirements of technical staff of government transport institutions and agencies.

The recommendations on institutional strengthening and training relate to the following key areas:

- road transport policy (including information needs for policy formulation and implementation);
- administrative policies, structure and procedures,
- financing provision of road infrastructure and appropriate road user charges;
- road safety and environmental aspects,
- legal framework (to improve enforcement of road transport regulations),
- road industry reorganization, and
- training needs on technical, management and road safety issues.

[2] Projects mainly include proposed expressway projects but due to low traffic demand, projection and toll/user fees, there have been no BOT proponents for most of these projects.

Table 2.2.1
Recommendations of Transport Sector Project Studies
for the Road Subsector

Study	Study Rationale	Major Recommendations
1. National Transport Sector Review (UNDP, 1992)	The study was under the direct supervision of the Ministry of Transport and Communications (MOTC). Executing agency was United Nations, Department of Economic and Social Development (UN/DESD). The study covered all aspects of Vietnam's transport system and formulated recommendations on institutional and resources development plan and investment program by subsector, priority projects to meet the transport requirements of the next 5-year development plan (1991-1995) and requirements from years 2000 to 2010. The project was undertaken from May 1990 in three phases: • Phase 1: global assessment of the existing transport situation. • Phase 2: detailed assessment of current situation of each subsector and formulation of a transport sector strategy; • Phase 3: inclusion of suggestions by government and funding agencies from the seminar proceedings.	A number of investment projects in road transport infrastructure have been identified and estimates of investment funds required were provided. It is unclear whether proposed projects are for immediate implementation or F/S is still required. • The Highway Rehabilitation Project should be implemented to ensure an efficient nationwide system of road and river crossings. • All restrictions on market entry and pricing for road transport should be eliminated. • Provinces should divest themselves of their commercial interests in the road subsector.
2. Transport Sector Review (WB, 1994)	Considering that Vietnam's transport sector may impede economic growth due to relatively poor road infrastructure, lack of funds and resources for improvement and maintenance of existing facilities; uncertainties about the government's future role in the ownership of transport assets and organization of transport markets; institutional issues that may affect the administration of the market-based transport sector, the study was undertaken with the following objectives: • improve efficiency of existing transport infrastructure by investing on more economically viable projects; • promote the efficient use of transport resources through user charge policies and increase in recurrent maintenance expenditure to 5x the existing levels to maintain the infrastructure;	The study reviewed the existing problems and issues of the transport sector and formulated transport strategies focusing on the following aspects: • Determination of expenditure priorities to include existing plans/proposals/resource constraints; • Resource mobilization by funding road transport; • Reorganization of road transport industry; and • Improvement of regulatory and institutional framework. Many of these recommendations are still relevant. A review of this Study was conducted in 1999.

Study	Study Rationale	Major Recommendations
Transport Sector Review (WB, 1994)	• to implement a more sustainable funding support for public transport – CAPEX sources include borrowing and private sector financing, while recurrent expenditure could be funded through user charges, and public transport services should adhere to commercial pricing principles; • to improve transport services by promoting a more efficient industrial organization and competitive transport markets; and, • to increase the efficiency of transport sector management by improving the quality of public administration through technical staff training.	• Prioritize road improvement works (75% of public expenditure), ports (8%) and inland waterways (about 6%); • Prioritize maintenance, rehabilitation and upgrading of existing transport infrastructure and facilities within transport modes; • Establish regional development authorities (RDAs) to identify, coordinate and implement transport infrastructure across administrative boundaries; • Use transport infrastructure and facilities efficiently; • Introduce and enforce stricter regulations on heavy and overloaded road vehicles; • Increase diesel tax for road vehicles and inland waterway operations to VND 1,500/ liter. Restructure traffic fees to reflect road damage of different types of heavy vehicles; • Phase out import duties on trucks and buses; • Allocate US$ 233 million p.a. (in real terms) from user charges to maintain national, provincial and district road networks; • Allocate about US$ 5 million p.a. (in real terms) from inland waterway user charges to maintain the inland waterway system. • Abolish registration fees for river craft; • Reorganize and transform transport SOEs. • Allow a separate holding company (or agency, not the line ministry) to reorganize and transform transport SOEs; • Commence transfer of small- to medium-size revenue-earning commercial operations and selected infrastructure facilities to non-State sector (incl. joint ventures) such as trucking; • Deregulate price controls and controls on market entry and abolish maximum prices in transport services and activities related to transport; and • Replace systems of quantity licensing, such as restrictions on entry through criteria of market demand, with system of quality licensing; • Reform existing subsidies and initiate a comprehensive review of existing forms of transport subsidies (direct, indirect and cross-subsidies); and • Continue government subsidies for defined activities but reduce them over time. • Discontinue mandated resource transfers.

Study	Study Rationale	Major Recommendations
3. Master Plan Study on Transport Network in Northern Vietnam (JICA, 1994)	Considering that a market-led economic development requires an efficient market-oriented transport system, which is an important strategy not only to integrate the national economy, but to link Vietnam with primary regional and global markets, the study aimed to develop northern Vietnam, which was relatively still underdeveloped compared with the south. Transport infrastructure in the north to support economic growth was not sufficient and thus in 1993, GOV requested the GOJ to assist in preparing a comprehensive transport sector master plan study for northern Vietnam. The study was carried out from June 1993 to March 1994, with the objectives of: • formulating a comprehensive transport master plan for northern Vietnam up to 2010; and • identifying short-term development projects for all transport modes and prepare project profiles for identified projects and undertake transfer of technology to Vietnamese counterpart personnel in the course of the study.	The study proposed a transport master plan in northern Vietnam, which covered road, railway, ports/shipping, and inland waterway. The total cost of transport investments was estimated at US$ 5,198 million (US$ 1,682 million for 1994-2000; US$ 1,616 million for 2001-2005; and US$ 1,900 million for 2006-2010). To fund these investment requirements, budgetary measures were proposed: tax increase, tax reform by introducing the "beneficiary pays" principle and priority allocation of budget to the transport sector. In the short term (up to year 2000), road projects proposed for immediate implementation include: • improvement of National Road No. 1, 2, 18, 70, and 379; and • improvement and reconstruction of bridges along national and rural roads.
4. Master Plan for Red River Delta (UNDP and WB, 1995)	In cooperation with the UNDP and WB, GOV formulated and conducted a study to prepare a master plan for the Red River delta. MOSTE was appointed as the national implementing agency. Sector covers water, mineral resources, agriculture, and both economic and infrastructure. It proposed an investment program to achieve equitable investment over the whole delta to reduce the disparities between rural and urban areas and taking into account the increased urbanization rate.	The short-term plan emphasized maintenance and rehabilitation of existing road network to prevent further deterioration, selected upgrading of trunk routes, especially roads, to cater to current and future transport demand. Detailed transport development studies were conducted covering national roads, selected provincial roads, feeder roads, and rail and waterway links. In the case of national roads, priority was given to roads connecting coastal provinces (NR10); connections from Hanoi to the south (NR1), to Hai Phong port (NR5), and development areas of Quang Ninh (NR183 and NR18) and arterial roads in Hanoi's immediate vicinity (NR3, NR6 and NR32). In the case of provincial roads, priority was given to routes, which provide interprovincial connection; access to heavily populated areas; access to industrial, processing or tourist zones; and connection to proposed rural service centers.

Study	Study Rationale	Major Recommendations
5. Study of Investment and Maintenance Strategy for National and Provincial Roads (UK ODA, 1996)	In the absence of investment strategies in the road sector, the UK Overseas Development Administration (ODA) and the Government of Vietnam commissioned a road strategy study in 1994. The local counterpart agency was the VRA of the Ministry of Transport and Communications (MOTC). The study covered national and provincial road network with a total length of 28,516 km. Bridges and ferry services operating in 85 sites of the network were also included. The study conducted numerous field surveys, reviewed the existing situation from economic, technical, financial, and institutional viewpoints and prepared a detailed investment program for the period 1999-2001 and an outline program for 2002-2006. Traffic projections were conducted based on an assumed economic growth rate of 9.5% p.a. over the period 1996-2010 and 8.5% p.a. beyond 2010.	Alternative scenarios for the budget from which capital investment and maintenance programs for roads and bridges _____ different scenarios. No specific recommendations for the scenarios were developed. However, the study recommended that maintenance must have priority over capital investment, if there are no sufficient funds.
6. Transport Master Plan for the Central Region of Vietnam (French ODA, 1998)	The Government of Vietnam requested the French Government to study the transport system of the central region. This study identified, prioritized and selected projects supporting the socio-economic development of the region and provided an effective transport corridor between north and south Vietnam to link the country with its neighbors. The Study assisted the executing agency, the MOT, in: • formulating out a transport master plan for the central region until 2010 with major emphasis on road and port networks; • identifying priority projects in road and port infrastructure for a 5-year period and prepare project profiles; and • transferring technology know-how to Vietnamese counterparts through short training courses and study tours. The study conducted comprehensive field surveys, forecast future transport demand on different population and economic growth scenarios and formulated master plans for the road and port subsectors.	The study recommended a road development master plan, which focused on NR15, NR14B and NR14 (alternative north-south axis to NR1) and the following studies: • Study on Logistic Planning and Forwarding Operation Improvement (must focus on the role and responsibilities of operators, development of multi-modal transport, development of international transport.) • Study on Rural Transport Priorities and Most Cost-effective Transport Means (Identified cost-effective rural transport means and criteria developed for rural project prioritization.) • Study on Road Transport Industry Improvement (focus on competition and co-operation between transport companies and fiscal and financial incentives.) • Study on Road Safety (focus on traffic regulation, enforcement and management, road design and equipment, driver training and road user education, vehicle standards, rescue and medical care, insurance, institutional issues including accident statistics

Study	Study Rationale	Major Recommendations
		and cost- benefit analysis.) • Study on Urban Transport Development in Da Nang (identified the most cost-effective transport option and means in relation to urban development options; set up urban road standards and public transport standards). • Road Classification Study (rank roads according to their socio-economic importance (functional classification); identify financial needs; prepare an administrative reclassification of the network). • Implementation of a Pavement Management System (follow-up of road network condition; assessment of maintenance/rehabilitation financial needs; prioritization of the investment under budget constraint). • Assessment of provincial road network and organization of policy workshops to strengthen PTA capabilities. • Feasibility Study and Setting Up of Road Maintenance Fund (includes the following identification of an eligible network; selection of revenue-raising mechanism; definition of the legal structure, accounting system and control of the RMF; definition of the funds-collecting process; and preparation of the draft law setting up the RMF.) • Assistance to VNR in developing market-oriented management structure • Feasibility study of selected lines of business such as specific freight and passenger transport; assessment of their financial viability; feasibility assessment of VNR structure reforms; (include definition of the legal arrangement, accounting system and management reform required) • Assistance to VINAMARINE in developing market-oriented management and operation structure • (Identification of the port functions which may be operated under public-private joint ventures in the existing (i.e. Da Nang and Quy Nhon) and planned (i.e. Vung Ang) ports; assessment of the financial viability of such joint ventures; feasibility assessment of VINAMARINE ‘s structural reforms; and definition of the legal arrangement and management reforms required.

Study	Study Rationale	Major Recommendations
		• Selection of a road project to be financed under a concession scheme and assistance in strengthening MOT capacity to design and manage this scheme • (Selection of the most suitable road project; selection of the best scheme; preparation of a dossier for potential private investors; training of personnel (i) to create the appropriate legislative structure and (ii) to represent the public interest in negotiations and (iii) to expedite legal issues.) • Selection of lines of business to develop under a public-private partnership on the Hanoi-HCMC Railway Line and assistance to VNR to develop them • Assistance to MOT and VINAMARINE to set up private participation in port construction/extension in Vung Ang and Quy Nhon (selection of the best public-private partnership scheme; preparation of a dossier for potential private partners; training of personnel (i) to create the appropriate legislative structure and (ii) to prepare and conduct negotiations and expedite legal issues). The Study recommended a most cost-effective transport supply option to meet transport demand requirements as a result of projected socio-economic development.
7. Institutional Strengthening of the Vietnam Ministry of Transport (ADB, 1998)	An ADB-financed TA project to assist the MOT in: • developing the newly established VRA and helping it to implement various road and road transport subsector reforms; • drafting a new Vietnam Road Act for legislation; • establishing a computer-based transport data bank in MOT's Center for Statistics; and, • assisting the Project Management Unit for Highway 1 (PMU 1) to effectively handle foreign-assisted loan and TA projects. Results include: 1) an option for institutional organizations, to assess its own functions within the scope of MOT's mandate; 2) • draft of a new law on road and road traffic which provides the legal and regulatory framework for the road transport system; 3) a realistic plan for transport data bank, local area network in two	• Develop policy formulation and strengthen planning capability of VRA; • Develop the process of managing and coordinating infrastructure maintenance, both routine and periodic, on a national basis; • Develop procedures, guidelines for infrastructure maintenance and technical staff base to implement procedures within the VRA; • Develop the evolutionary process toward an organizational structure to effectively implement the law; • Set up effective data and management • information flow to the VRA head office to document program status and facilitate policy formulation and planning and also for RRMUs, between PTAs and VRA head office in areas where the quantity and quality of work

Study	Study Rationale	Major Recommendations
	modal offices, staff training to manage and monitor foreign-funded projects.	implemented are needed, and set up appropriate efficiency indicators.
8. Transport Sector Report 1998 (WB, 1999)	Since the 1994 Transport Sector Review, there have been important developments in the transport sector, which renewed donor interest. Based on updated information, the Study first reviewed the implementation status of the 1994 recommendations focusing on the areas that still need improvement and suggested solutions or further studies where appropriate. It also investigated the role of donors and their possible contribution to Vietnam.	• By 2010, provide an all-weather network of roads for the rural population; • Complete and link basic interurban networks and transport nodes; • Ensure affordable transport means for the poor; • Establish a road maintenance fund; • Remove remaining economic restrictions on prices, costs and tariffs and establish oversight body to ensure efficient markets and implement appropriate technical regulations (such as on heavy vehicles, road safety); • Most transport state enterprises should be divested; eliminate rules and practices that prevent a level playing field between state and private enterprises; remaining state enterprises and state entities (such as railway and ports) should be managed as commercial enterprises and fully exposed to the market; • Strengthen donor coordination and focus assistance on comparative advantages of each donor; emphasize the need for system efficiency (such as linking policy, management and operational improvement with funding decisions); • Donors, jointly with other stakeholders, must develop consensus on strategies to be applied for transport development; • Form “donor coalitions” to solve specific problems (such as rural transport, institutional development and establishment of road fund).
9. Vietnam Rural Access Program (DFID)	Improving access to poor areas is a key element in eliminating persistent poverty and promoting pro-poor growth. Rural roads increase the poor people’s access to markets, education and health care and allow households to diversify agricultural and economic activities thus providing a route out of poverty. But, many communities in Vietnam lack even the most basic motorized access, and many roads become impassable during the monsoon. Government policies are being reoriented and public administration reorganized toward a market-based economy. Major investments were provided by the WB, ADB, OECF, and others. Some assistance is now being provided for provincial and rural roads. ADB is investing on rural roads through its second road project and a rural infrastructure project. JBIC is also financing new	The Study’s outputs are a review of the impact of rural transport improvements on facilitating agricultural growth and rural development and on improving the livelihood of poor people and an assessment of constraints and policies on, needs and institutions of and financing mechanisms for current rural transport infrastructure. • Changes required in existing polices, strategies, programs and institutions,

Study	Study Rationale	Major Recommendations
	bridges along rural roads. A Rural Transport Project is undertaken by the WB and includes three components, i.e., rural road rehabilitation and maintenance; institutional strengthening and training of local contractors; and rural transport infrastructure strategy study. The Department for International Development (DFID) will undertake the third component or the preparation of the rural transport infrastructure strategy, for which it already conducted an institutional review (Vietnam Provincial and Rural Roads, August 1997). The WB and ADB are cooperating closely with DFID and the Government of Vietnam in developing the appropriate transport strategy. DFID was asked to finance road rehabilitation in Ha Tinh, Quang Binh, Quang Tri, and Quang Nam in central Vietnam. Implementation is expected to include rehabilitation of up to 1,200 km of rural roads at a cost of £10million over five years. Strengthening maintenance arrangements in these four provinces is included and will be used as pilot project for future assistance in maintenance by DFID and other donors. The overall objective is to integrate the poorer rural areas with the market economy to improve the institutional framework within which rural transport infrastructure is managed and design an implementation phase to include rehabilitation of rural roads in four provinces in central Vietnam.	• A national strategy for the subsector consistent with Vietnam's modernization, industrialization and transition to a market economy, Objectives to improve rural access and service quality to rural poor and, thus, enhance rural and regional development, and ongoing process of decentralization.