

**REPORT AND RECOMMENDATION
OF THE
PRESIDENT
TO THE
BOARD OF DIRECTORS
ON A
PROPOSED LOAN
AND ASIAN DEVELOPMENT FUND GRANT
TO THE
SOCIALIST REPUBLIC OF VIET NAM
FOR THE
CENTRAL REGION TRANSPORT NETWORKS IMPROVEMENT SECTOR
PROJECT**

October 2005

CURRENCY EQUIVALENTS

(as of 30 September 2005)

Currency Unit – dong (D)

D1.00 = \$0.0001

\$1.00 = D15,895

ABBREVIATIONS

AASHTO	–	American Association of State Highway and Transportation Officials
ADB	–	Asian Development Bank
AP	–	affected people
BCC	–	behavior, communication, and change
CEMMA	–	Committee for Ethnic Minorities and Mountainous Areas
CPC	–	Commune People's Committee
CPRGS	–	comprehensive poverty reduction and growth strategy
CRTNP	–	Central Region Transport Networks Improvement Sector Project
CSP	–	Country Strategy and Program
DBST	–	double bituminous surface treatment
DFID	–	Department for International Development of the United Kingdom
DMS	–	detailed measurement survey
DONRE	–	Department of Natural Resources and Environment
EIRR	–	economic internal rate of return
EMDP	–	ethnic minority development plan
EMP	–	environmental management plan
EMSA	–	ethnic minority specific actions
GOV	–	Government of Viet Nam
HCMC	–	Ho Chi Minh City
HIV/AIDS	–	human immunodeficiency virus/acquired immunodeficiency syndrome
IDC	–	interest during construction
IEC	–	information, education and communication
IEE	–	initial environmental examination
JBIC	–	Japan Bank for International Cooperation
LCB	–	local competitive bidding
MOT	–	Ministry of Transport
MRM	–	Management Review Meeting
NGO	–	nongovernment organization
NH	–	national highway
NTSC	–	National Traffic Safety Committee
OECF	–	Overseas Economic Cooperation Fund
PDOT	–	provincial department of transport
PIR	–	poverty impact ratio
PMU-1	–	Project Management Unit No 1
PPC	–	Provincial People's Committees
PPMU	–	provincial project management units
PPTA	–	project preparatory technical assistance
PRC	–	Provincial Resettlement Committees

PRIP	–	Provincial Road Improvement Project
PRSDP	–	provincial road sector development plan
PTSC	–	Provincial Traffic Safety Committee
RMIS	–	Road Management Information Systems
RNIP	–	Road Network Improvement Project
RPF	–	resettlement policy framework
RRMU	–	road maintenance and management unit
RT1	–	Rural Transport 1 Project
RT2	–	Rural Transport 2 Project
RT3	–	Rural Transport 3 Project
SGIA	–	Second Generation Imprest Accounts
SOE	–	state-owned enterprise
STI	–	sexually transmitted infections
VBARD	–	Viet Nam Bank for Agriculture and Rural Development
VLSS	–	Viet Nam Living Standards Survey
VRA	–	Viet Nam Road Administration
ZOI	–	zone of influence

NOTE

In this report, “\$” refers to US dollars.

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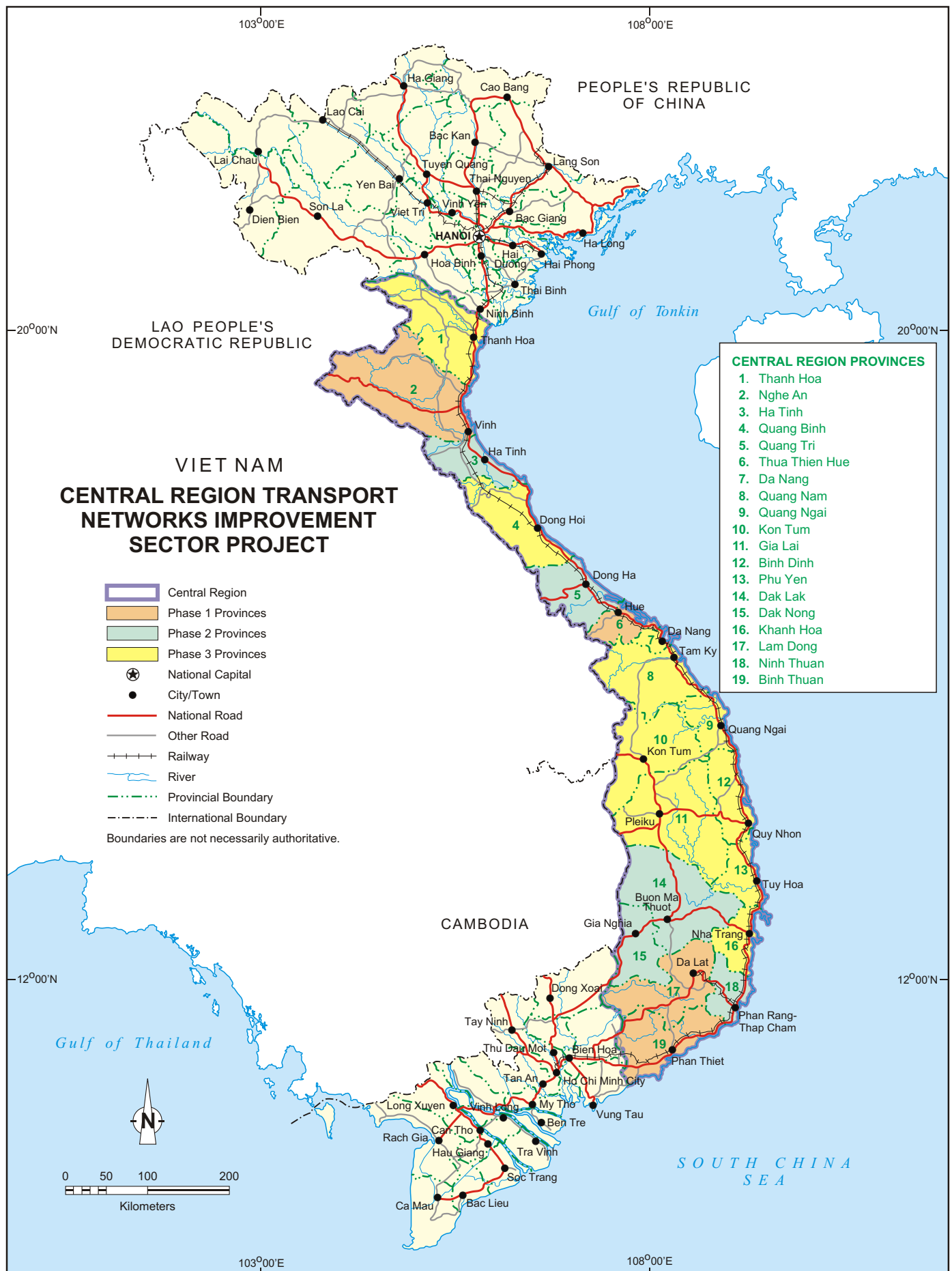
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LOAN AND PROJECT SUMMARY

Borrower	Socialist Republic of Viet Nam
Classification	Targeting classification: General intervention Sector: Transport and communications Subsector: Roads and highways Theme: Sustainable economic growth Subtheme: Fostering physical infrastructure development
Environment Assessment	Category B (deemed environmentally sensitive). A summary initial environmental examination was prepared and circulated to the ADB Board of Directors on 1 June 2005.
Project Description	The proposed Central Region Transport Networks Improvement Sector Project (the Project) will address the removal of transport constraints on economic and social development in rural areas of the central region of Viet Nam. Outputs from the Project will include approximately 1,200 km of sealed all-weather roads connecting selected rural areas and district and provincial centers in the 19 provinces of the central region, road safety programs, and road and bridge asset management systems for provincial road networks. Upgrading of project roads will be undertaken in three phases. A design and monitoring framework for the Project is in Appendix 1.
Rationale	<p>The Project will address economic growth in the 19 provinces of the central region of Viet Nam by improving connections to rural areas with poor, or seasonal, access and increasing the efficiency by which people can move and goods can be traded. Nearly all of the central region provinces have strikingly high rural poverty and two provinces are among the poorest in the country. Their remoteness and poor links to the rest of the economy, including lack of transport connections through all-weather roads, are key factors in the region's poverty. Improvements to provincial and district roads will connect rural areas with provincial and national growth centers.</p> <p>In Viet Nam's comprehensive poverty reduction and growth strategy (CPRGS), approved in May 2002, the development and rehabilitation of the transport system was a priority. The Asian Development Bank's (ADB) country strategy and program update (CSPU), approved in August 2005, emphasizes (i) generating economic growth and (ii) a focus on the central region. The Project is consistent with the CPRGS and the CSP.</p> <p>When access to communities in remote areas is improved, they may become vulnerable to human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) and other infectious diseases and to exploitation through human trafficking unless adequate measures are taken. To address this risk, the Project includes a component for a gender, HIV and anti-trafficking prevention program.</p>

Impact and Outcome	The impact of the Project will be felt in improved access to markets, employment opportunities, and social services by removing constraints on economic and social development in rural areas of the central region of Viet Nam. The outcome of the Project will be more efficient and cost-effective movements of passengers and goods in these rural areas.
Cost Estimates	The cost of the Project is estimated at \$138 million.
Financing Plan	The ADB loan will finance about 89.8% of the foreign exchange costs, estimated at \$76.3 million, and about 34.3% of the local currency costs, estimated at \$18.2 million. An ADB grant of \$0.5 million will be provided to finance a gender, HIV and anti-trafficking prevention program. The Government will finance \$32.0 million equivalent of local currency costs and the Nordic Development Fund (NDF) will provide \$11 million equivalent to cofinance part of the cost of the consulting services under the Project. NDF will finance 9.9% of the foreign exchange costs and 4.9% of the local currency costs. NDF financing will be made available as parallel financing.
Loan Amount and Terms	It is proposed that ADB provide a loan of \$94.5 million equivalent, denominated in Special Drawing Rights from ADB's Special Funds resources. The loan will have a term of 32 years with a grace period of 8 years. There will be an interest charge of 1% per annum during the grace period and 1.5% per annum thereafter.
Period of Utilization	4.5 years
Estimated Project Completion Date	30 June 2010
Executing Agency	The Executing Agency will be the Ministry of Transport and responsibility for planning and coordination will be delegated to Project Management Unit No. 1 (PMU-1).
Implementation Arrangements	PMU-1 will be responsible for recruiting consultants and awarding civil works contracts. The provincial departments of transport (PDOTs) will be the implementing agencies in their respective provinces. The PDOTs have established provincial project management units (PPMUs) that will be responsible for day-to-day administration of civil works contracts. This is in line with the Government's policy to decentralize project responsibilities to the provinces.
Procurement	Civil works will be implemented through a number of contracts valued at between \$0.5 million and \$2 million. Each province will have up to four contracts, for a total of about 68 contracts. Contracts will be procured using local competitive bidding (LCB) procedures acceptable to ADB and will follow ADB's <i>Guidelines for Procurement</i> .

Consulting Services	<p>About 275 person-months of international consultants and about 2,965 person-months of domestic consultants will be required to work with the Government to implement the Project. There will be four consulting services packages responsible for assistance in the selection and evaluation of subprojects, preparation of civil works implementation documents, supervision of civil works, design and implementation of a program of capacity building and road safety programs in selected central region provinces, and design and implementation of a gender, HIV and anti-trafficking prevention program.</p>
Project Benefits and Beneficiaries	<p>The Project will relieve the isolation of poor rural areas by reducing travel cost and time, and eliminating traffic disruptions during the wet season. The direct benefits of the Project include (i) savings in vehicle operating costs and (ii) savings in passenger time costs. The indirect benefits will stem from (i) induced lower input and consumer prices and (ii) generated economic activity in the project area.</p>
Risks and Assumptions	<p>One of the main risks associated with the Project is its sustainability. This risk has been mitigated by providing assistance to provincial authorities to develop road maintenance management systems and an assurance that the project provinces will increase maintenance funding by 100%.</p> <p>With regard to risks that may arise during implementation, the Project includes measures to mitigate risks arising from (i) delays (by retroactively financing consulting services and taking advanced actions for recruitment of consultants and procurement of civil works); (ii) poor contractor performance (by adopting procedures developed during ongoing projects to ensure that contractors have the capacity to implement contracts awarded); (iii) failure to implement project safeguards (through training courses and provision of assistance under consulting services); and (iv) an increase in road traffic accidents (by incorporating pilot road safety programs in three provinces, developed from the Government's national road safety program).</p> <p>There is also a concern that the Project may increase the potential for the spread of HIV/AIDS and other sexually transmitted infections because of the influx of construction workers and the increased contact that formerly remote areas will have with the rest of the country. Road connections may also lead to human trafficking of teenage children and women. These risks will be minimized and mitigated through a gender, HIV and anti-trafficking prevention program, designed to raise awareness and provide preventive measures for local communities (with a special focus on ethnic women), construction workers, and the mobile populations.</p>



I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed loan, and (ii) a proposed grant, both to the Socialist Republic of Viet Nam for the Central Region Transport Networks Improvement Sector Project.

II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

2. The Project¹ will address economic growth in the 19 provinces of the central region of Viet Nam by improving connections to rural areas with poor, or seasonal, access and thereby increasing the efficiency with which people can move and goods can be traded. The central region of Viet Nam has strikingly high rural poverty, which is sustained by the remoteness of many communities and their poor links to the rest of the economy. In the central region, the lack of all-weather provincial and district roads has isolated poor rural communities from provincial and national markets and, ultimately, the benefits of economic growth. A design and monitoring framework for the Project is in Appendix 1.

3. The central region of Viet Nam consists of 19 provinces distributed among three subregions: north central coast, south central coast, and central highlands. The population of the central region is approximately 23.1 million people consisting of 11 indigenous groups belonging to three linguistic families, the Kinh, Malayo-Polynesian, and Mon-Khmer. The topography in the project area includes a flat, flood-prone coastal plain along the eastern side, gently rolling hills near the border with the Lao People's Democratic Republic in the north, and low mountains in the southern provinces. The predominant economic activity in rural areas is agriculture; rice predominates on the coastal plain, while coffee, tea, and sugar cane are abundant in hilly and low mountain areas. About 78% of the population of this region lives in rural areas. The overall poverty incidence is 29%, but in rural areas it is 46% compared with 14% in urban areas.

A. Performance Indicators and Analysis

4. The principal mode for the movement of goods and people in the central region is by road. The network of national roads enabling movement between regions and provinces is well developed. However, the networks of provincial and district roads within each province are sparse and the quality is poor. Rural areas need better connections to the provincial and national road networks.² Provincial and district roads are important because they link commune and district roads with district and provincial centers and with the national highway network. The provincial road networks in the central region have significant needs and will require a series of investments over a period of time.

5. The poor condition of provincial and district roads has a major impact on the livelihoods of people living in rural areas. Bus and truck operators are reluctant to provide services on poor roads and even when they do these services stop when roads are closed because of flooding. Access to job opportunities, markets, schools, and health facilities is restricted. As a consequence, the provision of sealed all-weather roads will have a major impact on the quality of life of people in rural areas.

¹ Project preparatory TA was financed from the Japan Special Fund, funded by the Government of Japan (ADB. 2002. *Technical Assistance to the Socialist Republic of Viet Nam for the Preparation of the Central Region Network Project*. Manila [TA4034-VIE]).

² ADB. 2000. *TA 2959-VIE: Preparation of Action and Investment Plans for the Central Region Development Strategy*. Final Report. Manila.

B. Analysis of Key Problems and Opportunities

6. The Ministry of Transport (MOT) is responsible for the overall management and development of the transport sector. At the provincial and district levels, responsibility for planning and programming for transport sector investments and operations is vested in the provincial departments of transport (PDOTs), which are responsible to their respective provincial people's committees (PPCs). The PDOTs are not directly responsible to MOT, but they have links to MOT to carry out certain works. An analysis of the provincial road subsector is given in Appendix 2.

7. Information from the central region PDOTs reveals that 61% of provincial and district roads under the PDOTs are sealed and 39% are gravel or earth. About half of the total road length is in bad or poor condition. Detailed field surveys that were carried out on 28 provincial and district roads (544 km) in nine representative provinces as part of project preparation revealed many deficiencies: road foundations and pavement cross-sections did not meet basic standards, poor alignments and narrow bridges or culverts created numerous road safety hazards, cross-drainage was inadequate, many bridges needed to be repaired or replaced, many sections of road were passable only by motorcycle or four-wheel-drive vehicle, many roads were closed for long periods during the wet season, and the surface condition of most roads was very rough. The net result of these deficiencies is that travel speeds are very low.

8. The central region PDOTs have produced road master plans and identified project requirements but, in many instances, accepted transport planning procedures have not been used to prepare the proposed projects or to establish priorities. This has led to a misallocation of resources. Most PDOTs lack the systems, technical equipment, and training needed for effective road asset planning and training. The Government recognizes the problems faced by the PDOTs and has begun various programs help them. The Viet Nam Road Administration (VRA) and several donor-funded projects are trying to introduce road maintenance management processes into the PDOTs and road maintenance companies. However, so far the main emphasis has been on national highways and little work has been done to apply these processes to provincial roads.

9. Additional budget allocations are urgently needed for provincial road maintenance. The PDOTs do not receive sufficient budget allocations from the PPCs to enable them to carry out enough routine and periodic maintenance to keep the provincial road network in an acceptable condition. The result is neglect and the deterioration of many roads (which then require costly rehabilitation works). The problem is compounded by a lack of road maintenance management processes to enable the PDOT to monitor road conditions, quantify work requirements and costs, and substantiate requests for increased maintenance budgets. Road failures are common, because of a combination of inadequate design standards for the traffic loads, weak quality management during construction, inadequate routine maintenance, and failure to regulate truck axle loads. A study under the World-Bank-funded Road Network Improvement Project will help MOT to develop a heavy traffic management strategy.

10. Poor road safety is a serious and growing problem throughout Viet Nam: 16 provinces in the central region reported a total of 3,065 road deaths in 2003, equivalent to 17 deaths per annum per 100,000 population, or 24 deaths per annum per 10,000 vehicles. The comparable figure in the United Kingdom is 1.5 deaths per annum per 10,000 vehicles and in Thailand 5.5. The road safety problem is most serious on the national highway network, but road deaths and injuries will rise on provincial roads as they are improved, and as operating speeds and traffic

increase. There is a need to increase awareness of road safety on provincial roads, in the context of the Government's national road safety program, with the PDOTs, road users and the public all having a role to play. Programs need to be introduced that are directed specifically at provincial roads.

1. Government's Strategy

11. Viet Nam's comprehensive poverty reduction and growth strategy (CPRGS), approved in May 2002, included the development and rehabilitation of the transport system as a key element. The CPRGS noted that improvements are needed at all levels of the transport network but specifically identified the need to connect to poor rural areas with all-weather roads. The main issues in the road subsector and the government's strategy to address them are as follows. First, further strategic road sector investments are needed. The Government has a program of high-priority investments valued at approximately \$12 billion to be implemented between 2001 and 2010. Second, maintenance needs to be improved and there needs to be a stable source of maintenance funding. The Government is working to improve maintenance planning systems and identify mechanisms to ensure secure funding. Third, road accidents and fatalities need to be reduced. The Government has developed a national road safety strategy which will be implemented soon. Fourth, fragmentation needs to be reduced and public sector capacity increased. The Government is addressing the lack of coordination, particularly at the VRA, the agency with maintenance and asset use responsibilities, but further work is required to establish a systematic and modern approach to road asset management and maintenance. Fifth, the role of the private sector needs to be increased. Current government efforts have largely focused on overcoming constraints on smaller private firms entering the market for road construction and smaller civil works. The entry of larger companies and private participation in larger public-private partnership schemes, such as build-operate-transfer toll roads, has been very limited.

2. ADB's Strategy

12. The Asian Development Bank's (ADB) country strategy and program update (CSPU), approved in August 2005, emphasizes (i) generating economic growth and (ii) a focus on the central region. The long-term objective of ADB's strategy for the road subsector in Viet Nam is an economically viable road network that meets demands for access and efficiency. The strategy requires a mix of investment and policy interventions to build both the physical infrastructure of the road network and the legal and regulatory framework within which the road network will be administered. The investment objective of the strategy is to help the Government to improve and extend the road network to meet the demands created by rapid economic growth and to extend the benefits of this growth to remote rural communities. The policy objective of the strategy is to develop the capacity of road administration authorities to administer the road sector through a comprehensive set of systems that address planning, funding, implementation, and management of the construction, operation, and maintenance of the road network.

13. The initial focus of ADB investments was the rehabilitation of Route 1, the main road connecting major urban and economic centers along Viet Nam's north-south axis. Initial improvement works on Route 1 have been completed, so ADB is now funding improvements to the provincial road networks. These networks can help to stimulate economic growth and the provision of social services by connecting rural areas to district, provincial, regional, and national centers. Initial policy work with the national administration now needs to be extended to provincial road authorities.

14. Separate action plans have been prepared to reflect the VRA's responsibility for national road networks and provincial governments' responsibility for the provincial road networks. These action plans address (i) the legal framework for administration and responsibilities under that framework, (ii) the development of the road network to promote economic growth and improve access to rural communities, (iii) the allocation of funds to maintain the road network, (iv) the allocation of funds for long-term routine and periodic maintenance, (v) institutional capacity for road maintenance management, (vi) the efficiency of road maintenance delivery, and (vii) road safety issues. Policy interventions are being coordinated with other donors, principally the Department for International Development of the United Kingdom (DFID), Japan Bank for International Cooperation (JBIC), and the World Bank. The status of actions taken and future actions proposed under both national and provincial road subsector action plans are summarized in Appendix 3. Actions required under the national road subsector action plan are being addressed under ongoing projects, including ADB's Third Road Improvement Project³ and Provincial Roads Improvement Project,⁴ and the World Bank's Road Network Improvement Project. The provincial road subsector action plan was developed under the PPTA (footnote 1) and will be implemented under this Project.

3. External Assistance

15. Since the lifting of the embargo on external financing in 1993, there have been several projects aimed at the road subsector in Viet Nam. Initially, these projects focused on rehabilitating National Highway 1, which runs along the eastern coast of Viet Nam and acts as the central spine for the road network. With the work on National Highway 1 drawing to a close, projects are increasingly focusing on other parts of the road network. ADB's Provincial Roads Improvement Project (PRIP) (footnote 4) is upgrading provincial roads in 17 provinces in the northern uplands and Red River Delta regions. The upgrading of rural roads in 18 provinces was addressed under ADB's Rural Infrastructure Sector Project⁵ and rural roads are being improved in 40 provinces across the country with funding from the World Bank and DFID under the Rural Transport 1 (RT1) and Rural Transport 2 (RT2) projects. External assistance to the road subsector is summarized in Appendix 4. Interventions supported by international donors have provided (i) funding to supplement domestic sources for priority projects with high economic returns, (ii) assistance in preparing and using contract documentation to international standards, (iii) assistance in carrying out project planning and implementation to international standards, and (iv) assistance in identifying and addressing capacity constraints in the administration and management of the road subsector.

4. Lessons Learned

16. Viet Nam country portfolio review missions have noted that there have been implementation delays in previous road projects, in particular during the project start-up phase. Project designs have required that project supervision consultants prepare detailed designs and bidding documents for civil works. Delays in recruiting such consultants, or in preparing detailed designs, have led directly to delays in award of civil works. To expedite the awarding of civil works contracts for this Project, the preparation of detailed designs and bidding documents, and

³ ADB. 1998. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to the Socialist Republic of Viet Nam for the Third Road Improvement Project*. Manila (Loan 1653-VIE).

⁴ ADB. 2001. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to the Socialist Republic of Viet Nam for the Provincial Roads Improvement Project*. Manila (Loan 1888-VIE).

⁵ ADB. 1997. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to the Socialist Republic of Viet Nam for the Rural Infrastructure Sector Project*. Manila (Loan 1564-VIE).

procurement of civil works for the roads in the first phase will be undertaken during loan processing. By loan effectiveness, the civil works contracts for the roads in the first phase should be ready to be awarded, allowing funds for civil works to be disbursed up to 2 years earlier than for previous projects.

17. Recent reviews of ADB's portfolio in Viet Nam have identified difficulties with contracts procured by provincial authorities. However, reviews of procurement under the ongoing PRIP (footnote 4) have concluded that the procurement arrangements and procedures adopted have generally been effective. This appears to be because provincial road sector agencies have had greater exposure to international agencies and now have a better understanding of their procurement procedures and requirements. Therefore, the procurement arrangements under the PRIP have been adopted for this Project with minor adjustments to reflect lessons learned. These adjustments principally concern ensuring that during prequalification the previous experience, bid capacity, and quality of work under previous contracts are correctly reflected in evaluations.

III. THE PROPOSED PROJECT

A. Impact and Outcome

18. The impact of the Project will be felt in improved access to markets, employment opportunities, and social services by removing constraints on economic and social development in rural areas of the central region of Viet Nam. The outcome of the Project will be to induce more efficient and cost-effective movement of passengers and goods in these rural areas.

B. Outputs

19. Outputs from the Project will include rehabilitation of and improvements to about 1,200 km of roads connecting selected rural areas and district and provincial centers. Road safety programs will be implemented, and sustainable road and bridge asset management systems established.

1. Network Improvements

20. Under this component about 1,200 km of roads will be improved to Viet Nam single-lane (Class V) or two-lane (Class IV) standard in 19 provinces in the central region. All roads will be rehabilitated with a sealed surface. The civil works will include repair or replacement of bridges and culverts either as part of improvements or as separate subprojects. A description of the proposed road improvements is given in Appendix 5. Under the PPTA (footnote 1) 4,200 km of roads were screened to create a long list covering 2,360 km of provincial and district roads. From this list subprojects were chosen for the Project. The roads in this subproject list were ranked and for each province priority roads were identified in terms of their importance to provincial and district road networks. Selection of subprojects took account of the need for each link within the network as a whole. The civil works will be implemented in three phases. Phase 1 will cover networks in four provinces⁶ for which resettlement plans have been appraised. Preparation work has been completed to a point where detailed design work can begin. Phase 2 will cover five provinces⁷ for which subprojects have been identified but implementation has not

⁶ Binh Thuan, Lam Dong, Nghe An, and Thuan Thie Hue provinces.

⁷ Dak Lak, Dak Nong, Ha Tinh, Ninh Thuan, and Quang Tri provinces.

been fully prepared. Road links within each network have been selected and technical and economic viability confirmed. Phase 3 will cover 10 provinces for which subprojects will be selected during project implementation on the basis of prioritized long lists.

21. **Subproject Selection.** Under the PPTA (footnote 1) each province in the central region was asked to provide a long list of provincial and district roads requiring upgrading or rehabilitation. These lists were screened and ranked using simple social and economic indicators. The resulting prioritized list of roads was compiled into a provincial road sector development plan (PRSDP) for each of the 19 provinces in the central region (Supplementary Appendix A). For nine provinces, subproject networks were identified, containing priority roads from the PRSDP. The principles used in drawing up these subproject networks included (i) extending networks to connect rural areas, and (ii) maintaining links across networks. Evaluations of these nine networks showed them to be technically feasible and economically justified. From these nine provincial subproject networks, four were selected and resettlement plans prepared. These four resettlement plans were regarded as representative of the range of resettlement impacts that could be expected under the Project. Sample initial environmental examinations (IEEs) were prepared for road networks in three provinces, selected as being representative of the range of environmental impacts that could be expected under the Project. The results of these sample IEEs were used to prepare the project IEE; a summary of the project IEE is in Supplementary Appendix B. A survey of the nine selected provinces indicated that, although ethnic minorities lived within the zones of influence of some road links, they were generally well assimilated and the ADB's *Policy on Indigenous Peoples* was not triggered. However, where appropriate, special actions for ethnic minorities were included in resettlement plans.

22. To be eligible for financing under the Project, subprojects have to be (i) technically justified⁸ and economically viable,⁹ (ii) environmentally and socially responsible, (iii) part of the provincial road sector development plan (PRSDP), and (iv) in compliance with all applicable ADB policies. Roads that provide a connection to an international border, or where rehabilitation work will cause significant adverse environmental impacts, cannot be included in the Project. The process by which subprojects will be selected, evaluated, and prepared is set out in Appendix 6. For each subproject, the Ministry of Transport's PMU-1 submits a request for approval to ADB that includes (i) a technical design and economic evaluation report, (iii) an IEE or environmental impact assessment, (iv) the Government's environment approval, and (v) a resettlement plan. If surveys show that ethnic minorities lie within the zone of influence of any subproject, and that ADB's *Policy on Indigenous Peoples* is triggered, then an ethnic minority development plan (EMDP) must also be submitted in a format acceptable to ADB.

23. **Resettlement.** A resettlement policy framework (RPF) and four resettlement plans for Binh Thuan, Lam Dong, Nghe An, and Thuan Thie Hue Phase 1 road networks have been prepared in accordance with ADB's *Policy on Involuntary Resettlement*. Consultations with and participation of affected communities and local government agencies were carried out during the preparation of the RPF and resettlement plans. The RPF and resettlement plans require that everyone affected by land acquisition and resettlement is adequately compensated for lost assets and that sufficient measures are taken to ensure that they are able to restore pre-project living standards. Special assistance will be provided to the poorest and vulnerable people.

⁸ The technical justification must include connections to the provincial road network.

⁹ The economic internal rate of return will exceed 12% for eligible subprojects.

24. Based on the preliminary results of the census and inventory of losses for four provinces carried out during the PPTA (footnote 1), about 400 affected households (about 2,073 people) have been identified. The road improvement will entail the acquisition of 6 hectares (ha) of agricultural land, 5 ha of residential land, 990 square meters (m²) of salt making land, and 630 m² of fishpond. It will also partially affect three house/shops and permanently affect 27 structures (fences and toilets) and 67 graves. An estimated 5,300 trees, 1,800 m of plant fences, and 53 ha of crops will also be affected by the Project in these four provinces.

25. During loan implementation, the four resettlement plans will be updated for Phase 1 and resettlement plans for Phases 2 and 3 will be prepared following detailed designs. Updating and preparation of resettlement plans will involve consultations and community participation, detailed measurement surveys (DMSs), establishment of compensation unit rates for all categories of losses and allowances, and formulation of rehabilitation measures for severely affected, very poor, and other vulnerable groups. Disclosure of resettlement plans will be through the distribution of project information brochures (in Vietnamese and, as required, minority languages) to the affected communities. Copies of resettlement plans will be placed in provincial, district, and commune offices. All resettlement plans submitted to ADB for review will be posted on the ADB website immediately upon ADB approval. A summary of the resettlement policy framework is in Appendix 7 and a summary of the resettlement plans for the Phase 1 roads is in Supplementary Appendix C.

26. **Ethnic Minorities.** An initial social assessment was carried out during the PPTA for Phases 1 and 2. About 55,000 people from ethnic minorities live along roads on five of the nine networks, representing about 6.2% of the total population living along the roads in Phases 1 and 2. Although the roads where these ethnic minorities live are in a poor condition, and often allow only seasonal access, these communities have access to some degree, are living among the majority Kinh people, and are assimilated to varying degrees. Therefore, the impacts on ethnic minorities are expected to be limited.

27. An ethnic minority development framework (EMDF) has been prepared in accordance with ADB's *Policy on Indigenous Peoples* (1999), and policies and programs of the Government of Viet Nam. The EMDF will serve as guide in the preparation of ethnic minority specific actions (EMSA) if the impacts are found to be limited and ethnic minority development plans (EMDPs) if the impacts are significant. The EMDF includes other measures to address ethnic minorities, such as incorporation of road safety measures in road designs, an HIV/AIDS¹⁰ and sexually transmitted infections (STI) awareness and prevention program, and sustainable agricultural production. A summary ethnic minority development framework is presented in Appendix 8.

2. Institutional Development Component

28. This component will address the need to improve management of provincial road networks as set out in the provincial roads policy action plan in Appendix 3. Activities will comprise technical assistance (TA) to help the PDOTs to carry out core road management activities. Consultants will work with the PDOTs to (i) prepare provincial road network plans; (ii) implement provincial road maintenance management processes; (iii) increase efficiency of implementation of periodic maintenance plans by introducing competitive bidding; (iv) establish a resettlement, social, and environmental capacity; and (v) establish a pilot provincial road safety program in three provinces. This technical assistance has been designed to be consistent with the proposed DFID-funded assistance to 32 PDOTs under the Rural Transport 3 Project

¹⁰ Human immunodeficiency virus/acquired immunodeficiency syndrome

(RT3). Under this component, assistance will be given to 10 central region provinces; assistance to the remainder will be given under the DFID-funded program. Training of PDOT staff and basic equipment will be provided to support the technical assistance.

C. ADF IX Grant Component

29. When access to communities in remote areas is improved, they may become vulnerable to HIV/AIDS and other infectious diseases and to exploitation through human trafficking unless measures are taken. The Project will therefore design, implement, and monitor a gender, HIV and anti-trafficking prevention program that will target project communities, construction workers, civil servants, and the mobile population. This will include: (i) a baseline survey on HIV/AIDS and sexually transmitted infections (STIs) and village populations, which will include collecting epidemiological information and a knowledge, attitude, behavior, and practice survey; (ii) formation of village monitoring groups; (iii) preventive education and awareness through peer education and training of trainers; (iv) behavior, communication, and change (BCC) awareness, including preparation of information, education, and communication (IEC) materials; and (v) STI services and counseling and voluntary testing, condom promotion, and distribution. This program will be implemented through awareness programs under consulting services (i) in construction camps, and (ii) for the general population, including civil servants and mobile populations. Because of women's greater exposure to the risks and impact of HIV/AIDS, the Project will ensure that women, and especially women from ethnic minorities, are involved in the design and implementation of HIV and human trafficking prevention, and that they participate in any community-based structures to be established under the Project to monitor HIV/AIDS and prevent human trafficking.

D. Special Features

30. The selection of subprojects was based on an assessment of gaps in the road networks in each of the provinces within the project area. A gap may be (i) a missing link; (ii) a link that requires upgrading when capacity is insufficient to meet demand; or (iii) a link that requires rehabilitation when the existing road is in poor condition or allows only seasonal access. This network approach means that each road link selected as a subproject not only connects communities along each link but also connects these communities to the wider economy through the wider road network.

31. During project preparation, discussions were held with other development partners to maximize the impact of the Project. Selection of roads for inclusion in the Project will take into account the location of bridges to be improved, or replaced, under the JBIC-funded Weak Bridge Replacement Project, which is part of the \$90.4 million transport sector loan for national road improvement. The institutional development component has been designed to link with a DFID-funded \$12 million program, so that the combined interventions cover all provincial governments.

E. Cost Estimates

32. The cost of the Project is estimated at \$138 million equivalent, including physical and price contingencies, taxes and duties, and interest charges during construction. The foreign exchange component is \$84.99 million (61.6% of the total project cost) and the local currency component is \$53.02 million equivalent (38.4%). These costs are based on estimates for typical roads in the terrain encountered in the project provinces based on the feasibility study prepared

under the PPTA (footnote 1). Table 1 shows a breakdown of costs. Detailed cost estimates and a financing plan for the Project are given in Appendix 9.

F. Financing Plan

33. The Project's financing plan is summarized in Table 2 and details are given in Appendix 9. It is proposed that ADB provide a loan of \$94.5 million equivalent, denominated in special drawing rights from its Special Funds resources. The ADF loan will have a term of 32 years with a grace period of 8 years. There will be an interest charge of 1% per annum during the grace period and 1.5% per annum thereafter. The Borrower for the Project will be the Socialist Republic of Viet Nam. The Ministry of Finance (MOF) will be responsible for repayment of the loan. The MOF will provide counterpart funds to the Ministry of Transport (MOT) through priority budgetary allocations. ADB has provided \$1 million for the PPTA, funded from the Japan Special Fund (footnote 1).

34. It is also proposed that ADB provide a grant of \$0.5 million from its Special Funds resources. This grant will finance the gender, HIV and anti-trafficking prevention program and will fund consulting services, training, and incremental expenditures required to implement the program.

Table 1: Cost Estimates
(\$ million)

Item	Foreign Exchange	Local Currency	Total Cost
A. Civil Works ^a	69.4	32.8	102.2
B. Consulting Services	9.8	2.3	12.1
Gender, HIV, and Anti-Trafficking Prevention Program	0.3	0.2	0.5
C. Environmental Mitigation	2.4	1.4	3.8
D. Project Management	0.0	0.5	0.5
E. Taxes and Duties ^b	0.0	15.8	15.8
Total Baseline Cost	81.9	53.0	134.9
Interest Charges During Construction	3.1	0.0	3.1
Total Project Cost	85.0	53.0	138.0

HIV = human immunodeficiency virus.

^a Includes allowances for land acquisition costs, contingencies, unexploded ordnance clearance, and support to PMU-1.

^b Estimated as 16% of civil works base cost.

Source: Asian Development Bank estimates.

35. The Government will finance \$32.0 million equivalent of local currency costs, which will cover land acquisition and resettlement, including the ethnic minority development component of the resettlement plans; unexploded ordnance clearance; independent monitoring of the resettlement plan provisions; project management costs; local currency contingencies; the remaining portion of the civil works costs; and all taxes and duties.

36. The Nordic Development Fund (NDF) will provide a loan of €8.3 million (\$11 million equivalent)¹¹ to cofinance part of the cost of the consulting services for implementation and institutional development. NDF financing will be made available as parallel tied financing. Although no commercial cofinancing is envisioned at this time, cofinancing from commercial sources may be mobilized in future. Such cofinancing would benefit from ADB credit enhancement, including ADB guarantee instruments, and would be presented separately for Board consideration.

Table 2: Financing Plan¹²
(\$ million)

Source		Foreign Exchange	Local Currency	Total Cost
ADB	ADF Loan	76.3	18.2	94.5
ADB	ADF Grant	0.3	0.2	0.5
NDF	Concessional Loan	8.4	2.6	11.0
Government	Counterpart Funds	0.0	32.0	32.0
Total		85.0	53.0	138.0

ADB = Asian Development Bank, ADF = Asian Development Fund, NDF = Nordic Development Fund.

Source: Asian Development Bank estimates.

37. The amount of local currency funding reflects the fact that the Government has difficulty mobilizing sufficient funds from its own resources to meet all development commitments, including rehabilitating and upgrading critical physical and social infrastructure. Although the need to generate domestic resources to finance investments for sustaining economic growth is well recognized, the country's resources cannot finance the investments needed without external assistance. Under the current circumstances, a large saving-investment gap will continue exerting pressure on development programs; thus external support is needed to meet some of the local costs of the projects. In line with ADB's policy to help provide local currency cost financing, particularly for projects that address poverty in economically less-developed regions, about 19% of the loan will be for that purpose.

G. Implementation Arrangements

1. Project Management

38. The Executing Agency will be the Ministry of Transport and responsibility for planning and coordination will be delegated to Project Management Unit No 1 (PMU-1), which has considerable experience of implementing ADB-financed projects. PMU-1 will be responsible for procurement and awarding consultant and civil works contracts. The PDOTs will be the Implementing Agencies in their respective provinces. They will require support and assistance from PMU-1 and the project consultants to manage and implement the civil works and resettlement plans effectively, as well as to prepare subprojects. Project coordination will be the

¹¹ At appraisal, March 2005.

¹² The allocation of loan proceeds in the Loan Agreement is presented in the SDR (Special Drawing Rights) equivalent of \$94.5 million, with reference only to total expenditure, in accordance with the policy on *Cost Sharing and Eligibility of Expenditures for Asian Development Bank Financing: A New Approach*. Similarly, the allocation of grant proceeds in the Grant Agreement is presented as US\$0.5 million, with reference only to total expenditure.

responsibility of the MOT vice-minister assigned to the Project. A preparation and implementation manual written during project preparation will be used by PMU-1 during project implementation. The Project's organization and implementation arrangements are shown in Appendix 10.

2. Implementation Period

39. The Project will be implemented in three phases over 4 years. Field investigations, detailed design, cost estimates, resettlement and procurement for the Phase 1 contracts started in September 2005 and have proceeded in parallel with loan processing. Construction of Phase 1 civil works is planned to start in July 2006. Preparation of documentation and commencement of civil works for Phases 2 and 3 will follow sequentially as individual tasks are completed under Phase 1. Construction of Phase 2 civil works is planned to start in January 2007 and for Phase 3 in July 2007. The Phase 3 construction is scheduled to be completed in June 2009. The Project will be complete when the contractors' liability for the repair of defects and maintenance ends in June 2010. A summary implementation schedule is in Appendix 11.

3. Procurement

40. All procurement will be in accordance with ADB's *Guidelines for Procurement*. Civil works will be implemented through a number of contracts valued at between \$500,000 and \$2 million. Each province will have up to four contracts, for a total of about 68 contracts. Contracts valued at up to \$2 million will be procured using local competitive bidding (LCB) procedures acceptable to ADB. Details of proposed contracts for Phases 1 and 2 are given in Appendix 12. In essence, these procedures will generally follow those of the provincial road components of the ongoing PRIP (footnote 4) and World Bank-financed rural transport projects. Harmonized bidding documents for use on all donor-funded LCB contracts are being prepared. Once they are approved for use on ADB projects, these documents will be adopted; pending this, the documents used for earlier projects, which have been approved by ADB, will be used. A civil works contract for the construction of, and the provision of office equipment for, an operations office for PMU-1 in Da Nang will be procured using LCB procedures. Approval for advance procurement action has been granted, and the Government has been advised that this approval does not commit ADB to finance the ensuing Project.

41. ADB and the World Bank have been engaged in the reform of state-owned enterprises (SOE) as part of an enterprise reform and corporate governance program. The purpose of the reforms is to promote competitive practices, maximize private sector involvement for ADB-financed projects, and support SOE corporatization or privatization. Under this program, it has been agreed that, to be eligible to bid on ADB funded projects from 1 January 2005, enterprises previously owned by the state must be legally and financially independent from MOT and must operate under the Government's commercial laws.

42. There are about 400 construction companies operating in the 19 central region provinces, of which about 130 have annual turnovers of greater than \$1 million. However, most of the larger companies are SOEs that may be ineligible to bid under ADB's conflict-of-interest guidelines, or joint stock companies that may also be ineligible under the guidelines set out in paragraph 41. A further 160 construction companies are small private companies with an annual turnover of less than \$500,000. These small private companies do not have the financial or technical capacity to undertake the type of work required under the Project as individual companies. The remaining 110 construction companies are private contractors with an annual turnover greater than \$500,000. To ensure that enough qualified private contractors, together

with those larger contractors that are eligible, are available to bid for the Project's contracts, the number and size of contracts have been specified to be within the capacity of these contractors.

43. Detailed procurement procedures and sample procurement documentation have been developed in consultation with PMU-1. They incorporate the experience of similar ADB and World Bank-financed projects, particularly the PRIP (footnote 4). After MOT review and approval, the procedures and documentation will be submitted to ADB for approval before the first bids are invited. Ideally, all the contracts for a particular province should be procured simultaneously. A contractor's performance in an earlier phase will determine whether the company can participate in bidding for the subsequent phases. The number of contracts a contractor can be awarded will be determined by the company's capacity to execute multiple contracts.

4. Consulting Services

44. About 275 person-months of international consultants and about 2,965 person-months of domestic consultants will be required to assist in (i) selection of subprojects, preparation of implementation documentation, and assistance in bidding; (ii) construction supervision, including preparation and implementation of resettlement plans, EMDPs (if required), HIV/AIDS/STI awareness and prevention programs, and IEEs with environment management plans; (ii) project performance monitoring and evaluation; (iii) institutional strengthening and capacity building for provincial agencies in the administration and management of the provincial road networks; and (iv) preparing and implementing a provincial road safety program. A list of contract packages and modes of recruitment are given in Appendix 12. The consultants are expected to be recruited as an association of international and domestic firms, as appropriate, engaged by the Government. The overall period of the services will be about 42 months. Furnished office facilities and utilities, vehicles, and equipment required by the consultants will be provided under the Project. Field offices and material testing laboratories with utilities and motorcycles required by construction inspectors will be supplied through civil works contracts. Equipment will be procured in accordance with ADB's *Guidelines for Procurement*.

45. Consulting services to be funded from ADB and NDF loan funds have been divided into four packages as set out below. Outline terms of reference for each consulting services package are in Supplementary Appendix D.

- (i) **Civil works preparation consulting services.** To avoid the startup delays encountered in previous projects, consultants will assist in the preparation of detailed designs and civil works bidding for Phase 1 and 2 roads. Recruitment will be based on direct selection procedures under the *Guidelines on the Use of Consultants by ADB and Its Borrowers*. Recruitment will be based on quality-based selection documents with a full proposal. It is proposed that the PPTA consultant be engaged for these services, as this consultant has successfully completed the services under the PPTA and has extensive knowledge of the project. A request will not, therefore, be made to require the PPTA consultant to abstain from future work on the Project. The Government has requested that funds from the loan be applied retroactively to these services up to a limit of \$2.5 million equivalent (approximately 3.5% of the loan amount) and that the period of eligibility be from 21 March 2005.¹³ This date will be within a period of 12 months prior to loan effectiveness. The amount requested and the period of

¹³ The first day of the loan appraisal mission.

eligibility are within the normal limits for sector loans. The use of direct selection and retroactive financing is justified as the proposed services are to complete preparatory work for the award of civil works contracts and are targeted at reducing delays in the physical commencement of civil works.

- (ii) **Project implementation services.** These services will include the preparation of implementation documents for Phase 3 and construction supervision for all Phases. These services will be funded by NDF and recruitment will be based on NDF guidelines.
- (iii) **Institutional development services.** These services will prepare and implement institutional strengthening, capacity building, and road safety programs for the provincial agencies responsible for administering and managing the provincial road networks. These services will be funded by NDF and recruitment will be based on NDF guidelines.
- (iv) **Gender, HIV and anti-trafficking prevention program.** These services include the design and implementation of a program that will target project communities for Phases 1, 2, and 3. Quality- and cost-based selection procedures will apply, with biodata proposals.

46. In addition to the above four packages, the Government will recruit and fund consulting services for (i) external monitoring of resettlement implementation, and (ii) unexploded ordnance clearance. Recruitment for these services will be based on normal government procedures for the recruitment of consultants.

5. Disbursement Arrangements

47. To expedite funds flows, PMU-1 will use ADB's imprest account procedure for eligible project expenditures, except those under a consulting services contract which may use ADB's direct payment procedure. Payments from PMU-1 for civil works contractors will be made from an imprest account held at a commercial bank acceptable to the Government and ADB. Selected provinces in Phases 2 and 3 will make payments to civil works contractors from second generation imprest accounts (SGIA). Selection criteria for these provinces will be based on their capacity to manage an SGIA and maintain adequate records. The initial deposit to the imprest account will be based on estimated expenditures for the first 6 months of the project implementation or \$5,000,000, whichever is lower. The amount to be deposited into each of the SGIA's shall not exceed the equivalent of the PDOT's 6-month estimated expenditure or \$100,000, whichever is lower. The imprest account and SGIA's will be established, managed, replenished, and liquidated in accordance with ADB's *Loan Disbursement Handbook* of January 2001, as amended from time to time, and detailed arrangements agreed upon between the Borrower and ADB. The statement of expenditure (SOE) will be used to reimburse eligible expenditures and liquidate advances to the imprest account to ensure speedy project implementation. The ceiling for the SOE is \$100,000 per payment.

6. Accounting, Auditing, and Reporting

48. PMU-1 will maintain separate records and accounts adequate to identify the goods and services financed from the proceeds of the loan, the financing resources received, the expenditures incurred for the Project, an audit of resettlement expenditures, and the use of local funds. Within 6 months of the close of the each year, PMU-1 will submit audited annual project accounts to ADB, which provide a detailed description of the source of funds and expenditures made. Annual project accounts will be audited by an auditor acceptable to ADB, and the

auditor's terms of reference will be approved by ADB before commencement of work. The audit results will be submitted to ADB on an annual basis.

49. Regular progress reports on the Project will be prepared by PMU-1 and submitted to ADB every quarter. They will include a description of the physical progress, status of implementation of resettlement plans, procurement and contractual status, and highlights of any implementation issues. The progress reports should also contain a summary of project accounts, including details of the latest project expenditures and contract amounts. These reports will include an evaluation of progress in implementing the Project. Within 3 months of physical completion of the project, PMU-1 will furnish to ADB a project completion report covering details of the project implementation, costs, and an evaluation of the Project's success in meeting performance targets.

50. ADB's Anticorruption Policy was explained to and discussed with the Government and PMU-1. Consistent with its commitment to good governance, accountability and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive or coercive practices relating to the Project. To support these efforts, relevant provisions of ADB's Anticorruption Policy are included in the Loan Regulations and the bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project shall include provisions specifying the right of ADB to audit and examine the records and accounts of the Executing Agency and all contractors, suppliers, consultants and other service providers as they relate to the Project.

7. Project Performance Monitoring and Evaluation

51. PMU-1, assisted by the consultants, will establish systematic project performance monitoring and analysis throughout the life of the Project in accordance with ADB's *Project Performance Management System Handbook*, integrating it with the existing management information system. Initially, the monitoring system will develop and conduct sample surveys to establish baseline data for subsequent performance monitoring and will establish pre-project social and economic living conditions for the direct project beneficiaries. A second survey will be carried out on project completion and a third survey after a period of not less than 2 years after project completion. The baseline and impact surveys will include appropriate control areas and will assess all interventions under the project, including resettlement and other safeguard interventions that affect the livelihood of project beneficiaries. In addition, a set of indicators reflecting transport costs, tariffs and mobility will be developed to assess the effects of improved access to the area. District indicators will include agricultural productivity, economic activity, and health and education indicators. The impacts of development on the poor resulting from improved road access will receive particular attention.

8. Project Review

52. In addition to regular reviews by ADB, a midterm review of project implementation will be carried out. Representatives of ADB, the Government, and NDF will take part in the review. The review will allow for any necessary midcourse corrections.

IV. PROJECT BENEFITS, IMPACTS, ASSUMPTIONS, AND RISKS

A. Project Benefits

53. The project will promote economic growth and social development in inaccessible rural areas with a high incidence of poverty. The project will relieve the isolation of these areas by reducing travel cost and travel time, and eliminating traffic disruption during the wet season. It will enable continuous trade and economic exchange, and uninterrupted access to schools, medical facilities, and other social and civil services. The direct benefits will be (i) savings in vehicle operating costs and (ii) savings in passenger time costs. The indirect benefits will be (i) induced lower input and consumer prices and (ii) greater economic activity in the project area. However, the indirect benefits cannot be estimated with precision and, therefore, they have not been taken into account in the quantitative assessment of net benefits.

54. Based on the assessment of the direct net benefits only, the project's economic internal rate of return (EIRR) has been estimated at 22.3%. A cost-benefit analysis shows that the nine road networks that were examined have EIRRs ranging from 12.5% to 43.6%. Sensitivity testing indicates that the economic viability of the project is robust against perceived project risks. The switching values¹⁴ for the overall project are estimated as a 98% increase in capital cost, or a 52% decrease in vehicle operating cost savings, or a decrease in traffic growth by 7%. Neither reducing passenger time savings nor delaying project benefits will reduce net benefits to the point that the Project is no longer economically feasible.

55. The incidence of poverty in the project provinces ranges from 16% to 53% depending on the province, against a national average of 29%. Poverty is highest in the central highlands (52%) and the northern coastal area (44%), and lowest in the southern coastal area (25%). Rural poverty is substantially higher than urban poverty, ranging from 34% to 65% depending on the province, which is significantly above the national average (urban poverty in the project provinces ranges from 11% to 24%). The project will increase accessibility in rural areas by improving the links from economic and social centers to inaccessible communities, which currently suffer slow, expensive and often interrupted access to services and facilities. The project roads have been selected on a network basis to ensure that the rural areas they serve are securely connected to centers of economic exchange and social service delivery. This will (i) encourage agricultural production beyond subsistence farming;¹⁵ (ii) reduce the cost of food for the landless because of both increased local production and a greater inflow of food items at lower cost, which is important since food poverty remains high in the project area;¹⁶ (iii) improve access to nonfarm employment opportunities, which will help reduce dependency on subsistence agriculture and seasonal labor; (iv) improve access to health facilities and medication, which will reduce the risk and severity of health hazards; and (v) improve access to education, which increases the chances that the young can increase their future earnings potential. The ability of the public sector to provide these services efficiently will be enhanced by

¹⁴ A switching value identifies the percentage change in a variable for the economic net present value to become zero, the EIRR to fall to the cut-off rate, and the project decision to change.

¹⁵ The validity of this mechanism in Viet Nam has been demonstrated in several studies, including an ADB RETA (ADB. 2000. *Technical Assistance for Assessing the Impact of Transport and Energy Infrastructure on Poverty Reduction*. Manila [RETA-5947]) and the Viet Nam Living Standards Survey (VLSS), which is a periodic, comprehensive household survey carried out in 1993, 1998, and most recently in 2002), which—in 1993—found that agricultural production and productivity drops rapidly when the distance from the farm to a trafficable road is more than 3 km.

¹⁶ Food poverty refers to the very poor, people who cannot afford a diet of 2,100 calories per day. The incidence of food poverty is 9.0% in the southern coastal area, 17.5% in the northern coastal area, and 29.5% in the central highlands.

better road access. The Project's impact on poverty has been quantified by examining the share of total project net benefits that will accrue to the poor. The distributional analysis indicates that the project yields a poverty impact ratio of 0.46. The high poverty impact ratio reflects a high incidence of poverty among direct beneficiaries¹⁷ and a substantial net transfer of resources from the economy at large to the project area.

B. Project Impacts

56. **Land Acquisition and Resettlement.** The Project will require the acquisition of mostly agricultural land, typically in narrow strips along one or both sides of the existing road alignment. There will be no physical displacement of houses. However, secondary structures (fences, toilets, kitchens), graves, crops, and trees will be affected by the road improvement as set out in paragraph 24. Adverse impacts will be mitigated by satisfactory resettlement planning and implementation in accordance with ADB's *Policy on Involuntary Resettlement* and the resettlement policy framework adopted for this Project. The objective is to improve or at least restore living standards, income-earning capacity, and production levels of affected people. Special assistance will be provided to the poorest and most vulnerable people to help them improve their socioeconomic status.

57. **Ethnic Minorities.** The impacts on ethnic minorities in Phases 1 and 2 will be limited. Many of the roads are in poor condition and pass through sparsely populated rural areas, but the roads have been in existence for some time, providing access for the ethnic minority communities, although some are closed for periods of days during the rainy season. Overall, most ethnic minorities along the project roads live among majority Kinh people and are assimilated to varying degrees. In Lam Dong province, where the ethnic minority population is significant, an ethnic minority specific action (EMSA) has been incorporated into the draft resettlement plan to provide for consultations in ethnic languages. An ethnic minority development framework has also been prepared to guide the preparation of the EMSA and EMDPs in accordance with ADB's *Policy on Indigenous Peoples*.

58. **Environment.** The environmental impacts of the subprojects will be limited, as the civil works will generally be restricted to rehabilitation and upgrading of existing roads. Upgrading works will generally be along the same alignment as the existing roads but short sections of new road will be constructed to improve alignments and to address safety concerns. In addition, the Project includes some subprojects that may affect nature reserves or other protected areas and related ecological resources. IEEs for sample subprojects have been conducted and mitigation measures and monitoring programs were proposed in the site-specific environmental management plans (EMPs) as part of the IEEs to address those potential impacts. With careful implementation of the proposed EMPs and good engineering practices (such as spoil disposal, erosion control, quarry and borrow sites selection, and management and rehabilitation), environmental impacts will be reduced to acceptable level. Further risks are minimized by having the environmental selection criteria in place for future subprojects and by conducting IEEs for the selected subprojects, as specified under ADB's sector loan environmental assessment requirements. IEEs will be prepared for all subprojects based on agreed environmental assessment and review procedures. Within the central region, there are areas with significant unexploded ordnance and surveys will be undertaken to determine the extent of contamination. All unexploded ordnance will be cleared.

¹⁷ The project road user survey found that 47.3% of road users were poor. Of these, 31% live just below the poverty line while 16.3% were very poor.

C. Project Risks

59. **Sustainability.** With a cost of \$138 million, the Project represents about 5% of MOT's planned annual program. Over the period 1999–2002, the national budget has funded about 65% of total commitments in the transport sector through the annual budgeting process. Government support to the transport sector will continue and the Government has confirmed that counterpart funds for donor-assisted projects will be allocated on a priority basis. Maintenance of the project roads will be the responsibility of the provincial authorities. By international standards, funding for road maintenance is low but systems are required to determine the actual needs. As an interim measure, the provincial roads sector policy action plan requires that by project completion the provinces will have increased the amount allocated to provincial road networks by 100% from that allocated in 2004. On average this would equate to a 10% increase in the annual provincial budget allocated to roads. These funds will be allocated from each provincial government's annual budget allocation from the national budget. For the longer term, the institutional development services under the Project include a component to establish planning and maintenance systems within the provincial road authorities.

60. Available funds currently cover about 50% of road maintenance requirements in Viet Nam. As Viet Nam maintains ADB-financed roads in accordance with the loan covenants, this would imply that other parts of the road network are neglected. The problem is that infrastructure development is needed to enable economic growth but initial utilization of the infrastructure is light, which curtails the scope for financing from user charges. Funding from the Government's general tax revenue is equally constrained. The funding problem will be temporary and will last until economic growth increases general tax revenues and the number of transport users. Based on current trends, Viet Nam is likely to reach breakeven with respect to road maintenance funding in about 10 years. Thus, adequate funds should be available by the time major maintenance is required for the project roads. The World Bank is undertaking a road maintenance financing study to review the scope for reducing the timeframe until breakeven and the possibilities for supplementary funding until it is attained. Based on this assessment, the Project is considered to be sustainable.

61. **Project Implementation.** To mitigate the risk of delays in starting the Project, advance actions for the recruitment of consultants and procurement of civil works have been approved. Further, in order to allow preparations for the award of civil works contracts to be expedited, the Government of Viet Nam has asked for retroactive financing be applied to the civil works preparation consulting services. To ensure that sufficient numbers of qualified contractors are available a survey was undertaken during project preparation to confirm that suitable contractors existed. Procedures developed under ongoing projects have been adopted to ensure that bidders for civil works contracts have the capacity to implement the contract. Based on the experience of previous projects, appropriate consulting services resources have been provided to assist the executing and implementing agencies to implement the Project in a timely manner and to ensure that quality and cost control measures are effective. Consulting services resources include specialists to help the executing and implementing agencies to manage resettlement, environmental, ethnic minority development and social action plans. These resources will also assist in ensuring that the safeguard policies are complied with. Other concerns are that the Project will increase the potential for the spread of HIV/AIDS and other STIs because of the influx of construction workers and greater contact with the rest of the country as a result of the road improvements. This potential risk will be mitigated or minimized through a program to increase awareness and provide preventive measures for local communities, mobile populations, and construction workers. On previous projects, the provision

of counterpart funds and staff has been adequate and timely and provision of such funds is considered a minor risk in the Project.

62. **Project Operation.** After construction, there is a risk that PPCs will not incorporate road maintenance management systems into their business practices and will not provide sufficient additional funds to enable regular maintenance of the roads. To mitigate this risk, the Project includes a component to help the PDOTs to carry out core road management activities. The technical assistance will address the preparation of provincial road network plans, and the implementation of provincial road maintenance management processes. The Government has given assurances that, by project completion, (i) the PDOTs will use the road maintenance management system developed as part of the institutional development services, and (ii) that the PPCs will increase road maintenance budget allocations for provincial road networks by 100% from that allocated in 2004. As noted above, initial maintenance requirements for the project roads will be modest and major maintenance should not be necessary until about 10 years after construction work has been completed.

63. With the completion of the project roads, there is a risk of an increase in the number and severity of road accidents. To mitigate this, the institutional development services include pilot road safety programs for three provinces to extend the national road safety strategy down to the provincial level.

64. Other risks include lower-than-expected traffic and inadequate transfer of savings in vehicle operation costs to users of transport services. As part of the economic analysis for the Project, sensitivity analyses were performed that included reducing traffic growth forecasts by 2%. These analyses showed that even though this level of reduction reduced the EIRR for individual roads below 12%, the overall Project remained robustly viable. Inadequate transfer of savings to users of transport services is considered to be a minor risk given the assessment during project preparation that transport services in the project area were competitive. Lesser risks are failure of transport provision and failure of agricultural development because of unrelated constraints. Neither risk is considered likely to materialize, given the findings of the preparatory TA and previous project experience.

V. ASSURANCES

65. The Government has given the following assurances, in addition to the standard assurances included in ADB loan agreements:

A. Specific Assurances

1. Subproject Selection

66. A road section subproject will be eligible for financing under the loan if it: (i) is economically, technically, and environmentally feasible and has an economic internal rate of return greater than 12%; (ii) has received all applicable governmental clearances; and (iii) complies with ADB's and the procedural requirements of the Government of Viet Nam, and ADB's resettlement, ethnic minorities and environment policies. A proposed road subproject will be excluded from the Project if the road (i) connects to an international border, or (ii) will cause significant adverse environmental impacts.

2. Road Sector

67. MOT will implement the provincial road sector policy action plan prepared and agreed upon with ADB. A copy of the provincial policy action plan is in Appendix 3. In particular, MOT will ensure that: (i) for all project provinces, the PPCs increase road maintenance budget allocations for provincial road networks by 100% by project completion, using 2004 as the base year for determining compliance; (ii) PDOTs in ten Provinces (i.e., Binh Thuan, Da Nang, Dak Lak, Dak Nong, Gia Lai, Khanh Hoa, Kon Tum, Lam Dong, Ninh Thuan, and Quang Nam Provinces) will utilize, by project completion, the road maintenance management system developed as part of the institutional development services; (iii) PDOTs and MOT incorporate road safety audit recommendations developed under the Project into the road network improvements resulting from the Project; and (iv) PDOTs adopt an open competitive bidding process for at least 50% of the periodic maintenance program in the Project provinces by the end of the Project.

3. Resettlement

68. MOT will be responsible for the timely acquisition of the land required for each subproject and for compensation and, if required, relocation, resettlement, and rehabilitation of people affected by any subproject. MOT will be responsible for preparing a new resettlement plan for any subproject requiring one in accordance with the resettlement framework agreed between ADB and the Government and will submit such resettlement plans to ADB for approval prior to implementation. The preparation and implementation of resettlement plans will be in accordance with the requirements of ADB's Policy on Involuntary Resettlement. MOT will provide ADB with quarterly monitoring reports on the land acquisition and resettlement process and will provide a report immediately following completion of Resettlement Plan implementation.

69. ADB will not approve award of any civil works contracts for any road to be financed from the loan proceeds unless (i) the MOT has satisfactorily completed for each road a DMS and validated compensation unit rates for all categories of losses and allowances; (ii) the MOT has provided to ADB a final database of affected persons, summary of the updated DMS data, and replacement cost tables for each subproject; and (iii) an updated resettlement plan, incorporating subparagraphs (i) and (ii), has been submitted to and approved by ADB.

70. MOT will ensure that civil works contractors are not issued a notice of possession of site for construction work for any specific section of a road unless for that section MOT has (a) satisfactorily completed, in accordance with the approved RP, compensation payment and relocation to new sites; and (b) ensured that rehabilitation assistance is in place and the area required for civil works is free of encumbrances.

4. Social Safeguards

71. If MOT determines that a subproject will affect any minority group or ethnic minority, then MOT will ensure that Ethnic Minority Specific Actions (EMSA) are prepared if the negative impacts on ethnic minorities are found to be limited. The Government will ensure that EMDPs are prepared and implemented if the impacts on ethnic minorities are significant. Preparation of EMSAs and EMDPs will be in accordance with the approved Ethnic Minority Development Framework, ADB's *Policy on Indigenous Peoples*, and in coordination with the Government's ethnic minorities programs and will be subject to ADB's approval.

5. Environmental Management

72. For each subproject for which an IEE has not been prepared, the relevant PDOT will prepare an IEE, which includes an EMP specific to that subproject. MOT will ensure that IEEs: (i) are based on the sample IEEs prepared during project preparation, (ii) include details of local consultation carried out before and during IEE preparation, and (iii) are prepared prior to civil works contracts being awarded for the subproject.

73. The MOT will ensure that the contract documents for all civil works under the Project include specific measures as indicated in the SIEE and IEE and in accordance with ADB's *Environment Policy* to mitigate negative environmental impacts caused by the construction and to give due consideration to prevention of damage to the natural environment in the design, construction, operation, and maintenance of project facilities. The Government will ensure that for contaminated areas MOT conduct an unexploded ordnance survey and clearance and certify that this work has been completed before commencement of civil works.

6. Project Performance Monitoring and Evaluation

74. MOT will establish a systematic project performance monitoring and analysis system for use throughout the project period. A Road Management Information System will be established at each PDOT to collect the required data.

B. Condition for Loan Effectiveness

75. The NDF Loan Agreement for approximately \$11 million has been agreed, signed, and made effective (other than a condition requiring effectiveness of the ADB Loan Agreement).

VI. RECOMMENDATION

76. I am satisfied that the proposed loan and grant would comply with the Articles of Agreement of ADB and recommend that the Board approve:

- (i) the loan in various currencies equivalent to Special Drawing Rights 65,197,000 to the Socialist Republic of Viet Nam for the Central Region Transport Networks Improvement Sector Project, from ADB's Special Funds resources with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreement presented to the Board; and
- (ii) the grant not exceeding the equivalent of \$500,000 to the Socialist Republic of Viet Nam for the Central Region Transport Networks Improvement Sector Project, from ADB's Special Funds resources, with such terms and conditions as are substantially in accordance with those set forth in the draft Grant Agreement presented to the Board.

Haruhiko Kuroda
President

20 October 2005

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanism	Assumptions and Risks
Impact <ul style="list-style-type: none"> Access to markets Employment Opportunities Social Services 	<p>Household incomes in the project ZOI increased by 10% within 2 years of project completion.</p> <p>All provincial and district roads accessible 12 months a year, other than for exceptional events.</p> <p>Average surface roughness for provincial roads reduced to no more than an IRI of 6 and for district roads reduced to no more than an IRI of 8 by 2015.</p> <p>Scheduled public transport to operate on all provincial and district roads by 2015.</p>	<p>National and Provincial Road Management Information Systems (RIMS)</p> <p>Provincial statistical reports</p>	<p>Assumption</p> <ul style="list-style-type: none"> Program of transport improvement projects in central region continues <p>Risk</p> <ul style="list-style-type: none"> PPCs provide sufficient additional funds for road maintenance programs on an ongoing basis.
Outcome <ul style="list-style-type: none"> Induce more efficient and cost-effective movement of passengers and goods in the Central Region 	<p>For roads improved under the Project, the average surface roughness for provincial roads reduced to no more than an IRI of 4 and for district roads reduced to no more than an IRI of 6 by project completion.</p> <p>Levels of motorized traffic on improved roads increased by average of 40% from 2005 within 2 years of project completion.</p> <p>Value of goods carried on improved roads increased by average of 25% from 2005 within 2 years of project completion.</p> <p>Passenger and freight transport rates on project roads reduced by an average of 10% in real terms from 2005 within 2 years of project completion.</p>	<p>Monthly and quarterly progress reports from PDOT's RMIS.</p> <p>Baseline and ex-post surveys of road conditions and traffic</p> <p>Project completion report</p> <p>Road safety progress reports</p> <p>PDOT road maintenance budget allocation and expenditure reports</p>	<p>Assumptions</p> <ul style="list-style-type: none"> Road safety programs receive support from PPCs, MOT, and police. PPCs adopt road maintenance management systems into their business practices. <p>Risks</p> <ul style="list-style-type: none"> Quality management and cost control of civil works are not effective. MOT and PPCs do not have the capacity to manage resettlement, environmental, ethnic minority development, and social action plans. Lower-than-expected traffic

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanism	Assumptions and Risks
	<p>Scheduled passenger services introduced on project roads by project completion.</p> <p>Road closures eliminated on project roads, except in severe flood conditions.</p> <p>Annual financial allocation for routine and periodic maintenance of provincial roads increased by 100% from FY2004 levels by project completion</p>		<ul style="list-style-type: none"> • Inadequate transfer of savings in vehicle operating costs to users • Increase in traffic accidents and fatalities • Increased spread of AIDS due to influx of construction workers and increased communication as a result of the road improvements
<p>Outputs</p> <ol style="list-style-type: none"> 1. Improvement of provincial and district roads and associated bridges and drainage completed 2. Operationalization of road maintenance budgeting and planning systems in all project provinces completed 3. Road safety audits completed for all roads and of road safety programs established in pilot provinces 4. HIV/AIDS and STI awareness and prevention programs completed on all project roads 	<p>Preparation and implementation of Resettlement Plans and Initial Environmental Examinations and Environmental Management Plans approved by PPCs and ADB and implemented without delays in project schedule</p> <p>Improvement of 1,195 km of provincial and district roads to Class V and IV sealed standard including repair or replacement of bridges and adequate drainage</p> <p>Completion of civil works contracts on schedule, in compliance with conditions of contract and all defects rectified by end of the defects liability period</p> <p>Introduction of a maintenance management system in target provinces, training of PDOT staff and adoption into PPC and PDOT business practices by project completion</p> <p>Establishment of a road safety program in three pilot provinces by project completion</p>	<p>Subproject preparation studies</p> <p>Resettlement monitoring reports</p> <p>Civil works bid evaluation and award of contract reports</p> <p>PDOT and MOT monthly and quarterly progress reports</p> <p>Project completion report</p> <p>Road safety progress reports</p> <p>PDOT road maintenance budget allocation and expenditure reports</p> <p>ADB quarterly Project Performance Reports (PPRs)</p> <p>Consultant's final report</p> <p>PPTA Interim and Final Reports</p>	<p>Risks</p> <ul style="list-style-type: none"> • Advance actions do not result in timely recruitment of consultants or procurement of civil works contracts. • There are insufficient eligible bidders with technical and financial capacity. • Procurement processes do not ensure bidders are qualified. • Consultants and contractors do not carry out works on time. • Government delay in providing counterpart funding • Government delay in providing counterpart staff • Civil works not completed in compliance with ADB safeguard policies, thematic priorities, and government requirements. HIV/AIDS awareness campaigns not completed. • Environmental degradation due to insufficient cleanup and mitigation

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanism	Assumptions and Risks
	All vulnerable groups and contractors' personnel have participated in HIV/AIDS and STI awareness and prevention programs within 3 months of commencement of civil works	ADB Mission Reviews ADB Project Completion Report (PCR)	
Activities with Milestones 1.1 Civil works Preparation Consulting Services—complete project implementation documentation for Phases 1 and 2. Target: Begin Q3 2005 and completed Q3 2006 2.1 Project Implementation Consulting Services—prepare Phase 3 roads and supervise construction of roads under Phases 1, 2, and 3. Supervision of implementation of resettlement plans, ethnic minority development plans, environmental mitigation and monitoring, and HIV/AIDS awareness. Target: Begin Q3 2006 and complete Q2 2009 3.1 Institutional Development Consulting Services—training and equipment for institutional strengthening, and pilot road safety programs. Target: Begin Q1 2007 and complete Q2 2009 4.1 Civil Works Targets: Start of Phase 1 construction in Q3 2006. Start of Phase 2 construction in Q1 2007. Start of Phase 3 construction in Q3 2007. Completion of construction Q2 2010		Inputs Civil Works (including land acquisition and resettlement) estimated value approximately \$120 million (ADB and Government of Viet Nam (GOV)) Consulting services (including ethnic minority development and social action plans, institutional strengthening, training, road safety, and HIV/AIDS awareness) estimated values: Civil Works Preparation \$2.0 million (ADB) Implementation Services \$8.8 million (NDF) Institutional Development \$1.7 million (NDF) Gender, HIV/AIDS \$0.5 million (ADB) External Monitoring \$0.1 million (GOV) UXO Clearance \$1.4 million (GOV)	

ADB = Asian Development Bank, DFID = Department for International Development (UK), FX = foreign exchange, GOV = Government of Viet Nam, HIV/AIDS = human immunodeficiency virus/acute immunodeficiency syndrome, IRI = international roughness index, MOT = Ministry of Transport, NDF = Nordic Development Fund), PDOT = Provincial Department of Transport, PPC = Provincial Peoples' Committee, PPTA = project preparatory technical assistance, RMIS = Road Management Information Systems; STI = sexually transmitted infections, UXO = unexploded ordnance, ZOI = zone of influence.

PROVINCIAL ROADS SUBSECTOR ANALYSIS

A. Provincial Road Administration

1. The Ministry of Transport (MOT) is responsible for the overall management and development of the transport sector. Four administrations within MOT—Viet Nam Road Administration (VRA), Viet Nam Railways, Viet Nam Inland Waterway Administration, and Viet Nam National Maritime Bureau—are responsible for roads, railways, inland waterways, and ports, respectively. The Planning and Investment Department of MOT undertakes overall policy coordination, programming, and budgeting; and sets investment priorities in the transport sector with support from its Center for Statistics and a number of other institutions. At provincial and district levels, planning and programming for transport sector investments and operations are vested with the provincial departments of transport (PDOT), which are responsible to their respective provincial people's committees (PPCs). The PDOTs have no direct responsibility to MOT, but they have links to MOT to carry out certain works.

B. Provincial Road Inventory and Condition

2. In the central region, the road network comprises approximately 84,500 km with 6,900 km of national highway, 6,900 km of provincial roads, 16,900 km of district roads, and 53,800 km of commune roads. Of this network, the 19 PDOTs¹ are responsible for 9,018 km of provincial and district roads with 448 long bridges greater than 20 m in length and 3,736 km of national highway with 351 long bridges. As a rule, the district administrations are responsible for district roads but in a few provinces the PDOTs are responsible for some district roads. The VRA has delegated the operation and maintenance of the main national highway to its subsidiary road maintenance and management units (RRMUs) and the less important national highways to the PDOT.

3. From information gathered from the central region PDOT,² 61% of provincial and district roads under the PDOT are sealed and 39% are gravel or earth. Pavement condition ratings for these same roads are: 16.9%, good; 33.9%, fair; 34.7%, poor; and 14.5%, very poor. Approximately one half of the total road length is therefore in poor or very poor condition. Typical deficiencies include: road foundations and pavement cross-sections do not meet the basic single-lane Class V standard; poor alignments and narrow bridges and culverts create numerous road safety hazards; cross-drainage is inadequate; and many bridges need to be repaired or replaced; many sections of road are passable only by motorcycle and four-wheel drive vehicle; many roads are closed for long periods during the wet season; international roughness index (IRI) on most roads exceeds 10; and the net result is that travel speeds are very low. Many roads do not have bus transport services because operators are deterred by rough road surfaces and freight transport is often limited to *cong nongs*³ or motorcycles. The PDOTs have identified about 4,200 km of provincial and district roads which need to be upgraded to a minimum single- or two-lane standard, providing bituminous surfaces and repairing or replacing damaged or missing short bridges and culverts.

¹ Da Nang's road network contains extensive lengths of streets in Da Nang City which are not representative of the provincial roads in the central region.

² Information presented in this Appendix was obtained from questionnaires sent to 19 PDOTs. All PDOTs responded but did not necessarily provide information for every question.

³ A small domestically manufactured simple truck which is used in rural areas.

C. Road Traffic

4. The provincial roads generally carry lower levels of traffic than national highways, although there are some heavily used sections near provincial and district centers. Traffic counts on a sample of 28 roads show average daily traffic levels in the order of: less than 300 motor vehicles (mostly trucks and *cong nongs* with a few buses and cars); 500–1,500 motorcycles; and 500–2,000 bicycles. Motorcycles and bicycles are a major means of transporting goods in rural areas.

D. Vehicle Registrations

5. There were approximately 1,292,600 vehicle registrations in 17 provinces⁴ in 2003 (Table A1.1). The number of vehicles, especially motorcycles, increased sharply in 2002 and again in 2003, albeit at a lower rate. There is every indication that the number of vehicles will continue to increase as people change from bicycles to motorcycles and more cars, buses and trucks are introduced.

Table A1.1: Vehicle Registrations in 17 Provinces (2003)

Vehicle Class	Registrations 2003	Growth Rate 2001–2002 (%)	Growth Rate 2002–2003 (%)
Motorcycle	1,228,000	31	13
Car, jeep, 4WD	18,300		
Bus	10,200		
Truck	28,300	15	11
<i>Cong nong</i> , tractor	7,800		
Total	1,292,600	30	13

4WD = four-wheel drive.

Source: Viet Nam Road Administration, Ministry of Transport, and Asian Development Bank estimates.

E. Road Safety

6. Poor road safety is a serious and growing problem throughout Viet Nam: 16 provinces in the central region reported 3,065 road deaths in 2003, which is equivalent to a rate of 17 deaths per annum per 100,000 population or 24 deaths per annum per 10,000 vehicles. In Table A1.2 the data for road deaths is shown by location and mode of transport. These rates are very high, even in comparison with many neighboring countries in Southeast Asia, and new initiatives in road policy and management are urgently required. Most road deaths (60%) occurred on national highways but the number of accidents and deaths on provincial roads is expected to increase as well. Road safety audits on a sample of provincial roads revealed that there are many road hazards which should be eliminated as a part of the road improvements made by the Project. The number of reported deaths increased by 19% in 2001–2002 and declined by 6% in 2002–2003.

F. Provincial Road Sector Organization

7. The management of roads in each province is the responsibility of a board of directors or management board appointed by the PPC. The organizational structure of a typical provincial road sector organization comprises:

⁴ Data for Quang Binh and Thua Thien Hue Provinces are not available.

- (i) PDOT - administration division, planning division, transport management division, traffic inspection division, technical audit unit, vehicle and driver registration unit, and provincial project management unit (PPMU);
- (ii) road and bridge maintenance management companies for maintenance works;
- (iii) road and bridge construction companies for construction works;
- (iv) road consulting companies for surveys and design;
- (v) passenger transport companies; and
- (vi) freight transport companies.

Table A1.2: Distribution of Road Accidents

Location	Percent	Type of Transport	Percent
National highway	60	Pedestrian	4
Provincial road	22	Bicycle, motorcycle	63
District road	13	Motor vehicle	33
Commune road	5		

Source: Viet Nam Road Administration, Ministry of Transport, and Asian Development Bank estimates.

G. Road Budgets

8. The PDOTs receive budget allocations from the PPCs for the development and maintenance of provincial and district roads under their jurisdiction and from the MOT for the national highways they operate and maintain on behalf of the VRA. Budget allocations for 2004 for 16 provinces are summarized in the table below.

Table A1.3: 2004 Provincial Budget Allocations for Roads

Category	Provincial Roads	Percent	National Highways under PDOT	Percent
Administration, routine and periodic maintenance	\$5.9 million \$700/km	11	\$5.7 million \$1,970/km	7
Rehabilitation and improvement	\$23.2 million \$4,343/km	44	\$13.0 million \$6,273/km	16
New construction	\$23.5 million	45	\$60.6 million	77
Total budget	\$52.6 million		\$82.3 million	
Total road length	8,390 km		2,880 km	

km = kilometer, PDOT = Provincial Departments of Transport.

Source: Viet Nam Road Administration, Ministry of Transport, and Asian Development Bank estimates.

9. The information received from the PDOTs shows the amount allocated for routine and periodic maintenance of provincial roads is \$700/km. Other PDOT sources reported that the actual expenditure per km is approximately 50–60% of this amount, and is only 50% of the amount required. By international standards this level of expenditure is too low to maintain roads at a reasonable standard, which is borne out by the findings of the road and bridge inspections carried out under the PPTA.⁵

10. The total allocation of \$52.6 million to provincial roads is a significant proportion of the total allocation to the PDOTs. Further, the Project's investment of approximately \$115 million

⁵ ADB. 2002. *Technical Assistance to Socialist Republic of Viet Nam for Preparing the Central Region Network Project*. Manila. (TA4034-VIE)

over 4 years is almost double the current annual PDOT budgets for provincial road rehabilitation and improvements. The increasing expenditure on road improvements, in combination with the underfunding of road maintenance, underlines the need to introduce an effective provincial road and bridge asset management capacity at the PDOT level complementing the efforts being expended on national highways.

H. Road Construction Industry

11. Most road and bridge maintenance companies are fully state-owned enterprises (SOEs) which are contracted for maintenance planning and execution by the PDOT. The capacity of these SOEs varies. Some are limited to small-scale works while others are capable of undertaking large complex projects. The PPCs are now converting many of their construction, consulting, and transport SOEs into joint stock companies (JSCs) with different degrees of state shareholdings. The construction industry possesses the plant, engineering, and materials resources needed to meet the road construction and maintenance requirements in the central region. There are approximately 400 construction companies operating in the 19 central region provinces. About 40% are small private companies with an annual turnover of less than \$500,000. Although small, these private companies can grow if they have access to a pipeline of work, as has been demonstrated in other provincial road projects in Viet Nam. The table below shows the breakdown by type of ownership and the reported annual value of work completed.

Table A1.4: Distribution of Annual Value of Work by Ownership.

Ownership	Annual Value of Work Completed in Past One Year (\$'000)				
	<\$500	\$500-1,000	\$1,000-6,000	>\$6,000	Total
State-Owned Enterprise	15	9	42	13	79
Joint Stock Company	5	18	32	3	58
Private Company	164	59	37	1	261
Subtotal	184	86	111	17	398

Source: Asian Development Bank estimates.

I. Institutional Capacity and Strengthening Requirements

12. A review of existing donor-funded road projects show there is a large amount of technical assistance being provided to strengthen road sector agencies at national, provincial, district, and commune levels. The donor community has realized that there are overlaps and a need for close coordination among the project executing agencies to avoid conflicts and duplication. Nevertheless, it appears that none of the current institutional strengthening programs is focusing on the PDOT's management of provincial roads. Workshops and investigations carried out during the PPTA (footnote 5) showed there is a need within the PDOT to ensure that

- (i) effective road network planning processes are in place covering national, provincial, district, and commune roads in each province;
- (ii) effective maintenance management systems and processes covering provincial roads are in place;
- (iii) staff are trained and capable of operating and sustaining these systems;
- (iv) road safety programs are introduced at the provincial level; and
- (v) sufficient budget support is given by the PPCs to maintain the provincial roads.

ROAD SUBSECTOR AND PROVINCIAL ROADS POLICY ACTION PLANS

Table A3.1: National Road Sector Policy Matrix

Policy Objective	Key Issues and Actions Taken	Future Actions
1. Ensure that responsibility for every road is assigned to a road authority, and that road authorities at the national, provincial, district, and commune levels have the required resources to operate and maintain the roads under their jurisdiction.	<p>The Road Traffic Act, passed in June 2001, and Decree 167/1999/ND-CP on Road Management Organization define (1) the general responsibilities of the MOT, VRA, and Peoples' Committees at all levels, (2) the road classification system, and (3) the road authority for each class of road. This Decree has been fully implemented.</p> <p>VRA has delegated management of 'secondary' national highways to the provincial departments of transport (PDOT) and provides budget allocations for their maintenance and improvement.</p>	With the improvements to the road network and the rapid increase in road traffic, there is a need to review and update the administrative classification and responsibility for roads assigned to the VRA, PDOTs and districts. Reclassification will entail changes in budget allocations and resources for road operations and maintenance by the different road authorities.
2. Develop the road network to promote economic growth and reduce poverty by improving road access in rural areas.	<p>Rapid growth in the number of motor vehicles and traffic volumes has accompanied economic development. Despite extensive investment in the past 10 years, the capacity and condition of much of the road network is inadequate.</p> <p>ADB, DFID (Department for International Development), JBIC (Japan Bank for International Cooperation), and World Bank have provided funding for road investment projects at all levels in the road network including new bridges.</p> <p>The Government is funding several major links in the road network both with its own funds and private sector participation.</p>	<p>Further investment in the road network at all levels is required either to rehabilitate and increase the capacity of existing roads or to add new links in the network, including expressways and bypasses.</p> <p>Major donors are funding new projects for rehabilitation and improvement of roads work not covered in earlier projects. Major new projects include the ADB Provincial Road Improvement Project^a in the northern region, JBIC's Weak Bridges Program, and World Bank's Road Network Improvement Project (RNIP)</p>
3. Increase the allocation of funds to meet the maintenance requirements of the road network.	Road maintenance programs and funding have not kept pace with investment in road network improvements resulting in a backlog of maintenance requirements and the deterioration of road assets. Studies show maintenance budget allocations need to be increased by at least 60% (to at least 25% of the road budget).	VRA has prepared a 10-Year strategic maintenance plan which MOF has agreed to fund when approved by the Government. World Bank RNIP will fund repairs on 1,100 km of national highways as part of the VRA 10-year Plan.
4. Assure a flow of funds for long-term routine and periodic maintenance of the road network.	At present, road tolls, fuel taxes, and other road-related charges are allocated to repay loan obligations or to go into general revenues. The Government has not supported the establishment of a road fund.	MOF has agreed to fund the VRA 10-year maintenance plan subject to government approval. World Bank's RNIP will assist VRA to improve road maintenance funding and management, and cost recovery.

Policy Objective	Key Issues and Actions Taken	Future Actions
5. Build institutional capacity for road maintenance management.	<p>VRA has received technical assistance under several donor projects. It has adopted computerized systems for road and bridge maintenance management but has not yet implemented them in all parts of the national road network.</p> <p>VRA has also developed simplified computerized systems for maintenance of rural roads (district and commune roads) and distributed them to the PDOT.</p>	<p>The Implementation of Sector Development Policy (ISDP) component of ADB's Third Road Improvement Project^b will help the VRA to implement road maintenance management procedure based on HDM-4, ROSY, and BridgeMan computer systems. A uniform road information management system (RIMS) will be created covering all national highways. 40 PDOTs which operate and maintain national highways for MOT and VRA will be included in ISDP. A consultant has been appointed and work will begin in June 2004</p> <p>The road sector management and institutional building component of World Bank's RNIP will provide technical assistance to VRA for further strengthening of road planning, maintenance and financing.</p>
6. Improve the efficiency of road maintenance delivery.	<p>VRA and MOT have a large number of state-owned enterprises (SOEs) which are employed by VRA for road design, construction, and maintenance. The Government intends most SOEs to be converted to joint stock companies (JSCs) with substantial or majority private sector ownership.</p> <p>The capacity of existing private companies is limited and the private sector is generally restricted to small construction projects.</p>	<p>Under Decree 63/2003/QĐ-TTĐ of 21 May 2003, the Government has set guidelines and specific targets for MOT to convert its SOEs to joint stock companies.</p>
7. Increase road safety on all classes of road	<p>Road accidents, serious injuries and fatalities have increased significantly and now have a major impact on economic and social development. The situation will worsen as more roads are improved, allowing higher speeds, and traffic volumes increase on all classes of roads.</p> <p>The Government has established a National Traffic Safety Committee (NTSC) and developed a road safety action plan which will be implemented in stages and will involve many agencies.</p>	<p>World Bank will fund a Road Safety Project to support the NTSC and develop a multisector program involving: demonstration programs in three 'high risk' national highway corridors, accident monitoring and analysis, road safety audits, accident blackspots, improved driver training, licensing and vehicle testing, education of the public and in schools, emergency services.</p>

ADB = Asian Development Bank, DFID = Department for International Development, JBIC = Japan Bank for International Cooperation, JSC = joint stock company, ISDP = Implementation of Sector Development Plan, MOF = Ministry of Finance, MOT = Ministry of Transport, NTSC = National Traffic Safety Committee, PDOT = Provincial Department of Transport, PPC = Provincial Peoples' Committee, RMIS = Road Management Information Systems, RNIP = Road Network Improvement Project, RRMU = road maintenance management units, SOE = state owned enterprise, VRA = Viet Nam Road Administration.

^a ADB. 2001. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to the Socialist Republic of Viet Nam for the Provincial Roads Improvement Project*. Manila (Loan 1888-VIE).

^b ADB. 1998. *Report and Recommendation of the President to the Board of Directors on Proposed Loan to the Socialist Republic of Viet Nam for the Third Road Improvement Project*. Manila (Loan 1653-VIE).

Source: Viet Nam Road Administration, Ministry of Transport, and Asian Development Bank estimates.

Table A3.2: Provincial Road Sector Policy Action Plan

Policy Objective	Key Issues and Actions Taken	Next Steps and Actions	Compliance Monitoring
1. Develop the provincial road networks in the central region to promote economic growth and reduce poverty by improving road access in rural areas.	<p>Road transport costs in rural areas in the central region are high because of the bad condition of the roads, many of which are impassable in the wet season. Access to employment, health, and education centers is limited, especially for poor households.</p> <p>Road and bridge improvement projects funded by the Government, ADB, DFID (Department for International Development), JBIC (Japan Bank for International Cooperation), and World Bank have improved many provincial and rural roads and bridges but it is estimated that a further \$260 million is required for improvement of provincial road networks and bridges in the central region.</p>	<p>The Central Region Transport Networks Improvement Sector Project (CRTNP) will improve about 1,200 km of provincial road networks, thereby reducing transport costs and improving connectivity between commune, district, and provincial centers.</p> <p>In parallel with CRTNP, World Bank, and DFID Second and Third Rural Transport Projects (RT2/3) will improve district and commune roads in most central region provinces.</p> <p>Provincial Departments of Transport (PDOTs) will prepare/update their road network master plans to show existing programmed road improvements and prioritized lists of additional road improvement requirements.</p>	Road network subprojects included in CRTNP will be selected from the prioritized lists identified by the road network master plans.
2. Increase the allocation of funds to meet the maintenance requirements of the provincial road networks.	PDOTs receive funding from Ministry of Transport (MOT) for maintenance of national highways delegated to them by VRA and from the PPCs for maintenance and improvement of provincial roads, and district roads assigned to them. The budget allocations for routine and periodic maintenance of provincial roads are grossly inadequate, resulting in a deterioration of road and bridge assets.	CRTNP will assist the PDOTs to implement road and bridge maintenance management systems to identify requirements and prepare multiyear routine and periodic maintenance programs. Analysis of current operations indicates that routine and periodic maintenance budget allocations for provincial roads need to be increased by 100% from 2004 levels.	PPCs will increase maintenance budget allocations for provincial road networks by 100% by project completion. This equates to approximately 20% per year beginning in 2006.

Policy Objective	Key Issues and Actions Taken	Next Steps and Actions	Compliance Monitoring
3. Ensure an adequate flow of funds for long-term routine and periodic maintenance of the provincial road networks.	Road tolls, fuel taxes, and other road-related charges are allocated to repay loan obligations or go into general revenues. Government has not supported the establishment of a road fund.	MOT and MOF have agreed to increase budget allocations to PPCs to provide for an increase of 20% per year in road maintenance expenditures during the project. PPCs have agreed to apply the increased budget allocation to provincial road maintenance only.	MOT and PPCs will prepare annual reports showing maintenance budget allocations and expenditures.
4. Build institutional capacity for road maintenance management in the PDOTs.	PDOT procedures for inventory, condition measurement, planning, prioritizing, and programming and implementing routine and periodic maintenance are weak. VRA has provided limited assistance in the form of computer systems but in most cases these have not been incorporated into the PDOTs' normal business practices.	World Bank and DFID RT2/3 Projects are providing technical assistance to communes, districts and PDOT in rural road planning and maintenance. A provincial road maintenance handbook is being developed. RT3 will provide technical assistance in nine Central Region provinces. CRTNP will provide technical assistance to implement the planning and maintenance systems developed by RT2/3 for provincial roads in the 10 remaining central region provinces.	World Bank and DFID RT2/3 Projects will develop and introduce the Provincial Road Maintenance Handbook. PDOT in all provinces included in CRTNP will formally agree to incorporate the handbook procedures in their provincial road maintenance planning and management business processes. PDOTs in 10 provinces will incorporate the road maintenance management system in their business processes by project completion.
5. Improve the efficiency of road maintenance delivery by the PDOT.	PDOTs and the road maintenance companies have large organizations and staffing levels relative to the length of roads they manage. Major increases in productivity are likely to result from (1) converting state-owned enterprises (SOEs) into joint stock companies (JSCs) or private companies and (2) contracting for maintenance works through open competitive bidding.	The Government has adopted a policy of converting and divesting itself of SOEs. Decree 63/2003/QD-TTG sets guidelines and targets for MOT. PPCs have also begun converting their SOEs into JSCs. Other donor projects will help VRA to contract out maintenance works. PDOTs should also introduce contract maintenance into their business processes.	PDOT will adopt open competitive bidding for 50% of periodic maintenance program by project completion.

Policy Objective	Key Issues and Actions Taken	Next Steps and Actions	Compliance Monitoring
<p>6. Increase road safety on provincial road networks.</p>	<p>Road accidents, serious injuries and fatalities have increased significantly and now have a major impact on economic and social development. The situation will worsen as provincial roads are improved, allowing higher speeds, and traffic volumes increase.</p> <p>The Government has established a National Traffic Safety Committee (NTSC) and developed a road safety action plan which will be implemented in stages and involve many agencies. As part of the action plan most PPCs have already established provincial traffic safety committees (PTSCs).</p>	<p>World Bank will fund a Road Safety Project to support the NTSC and develop a multisector program involving: demonstration programs in three 'high risk' national highway corridors, accident monitoring and analysis, road safety audits, accident blackspots, improved driver training, licensing and vehicle testing, public and school education, and improved emergency services.</p> <p>CRTNP will provide technical assistance in three pilot provinces to transfer and implement programs developed by the Road Safety Project to the provincial road network as a first step in implementing the Road Safety Action Plan in all central region provinces.</p> <p>CRTNP will carry out safety audits on all roads included in the Project and incorporate safety improvements in the detailed engineering designs.</p>	<p>NTSC and PTSCs will adopt the program developed by the Road Safety Project.</p> <p>PPCs in central region will agree to provide budget allocations for components requiring PDOTs and other provincial department inputs.</p> <p>Comprehensive road safety programs will be established and implemented in three pilot provinces following the models developed by the Road Safety Project.</p> <p>PDOT and MOT agree to incorporate road safety audit recommendations in the scope of the road network improvements funded by the Project.</p>

ADB = Asian Development Bank, CRTNP = Central Region Transport Networks Improvement Sector Project, DFID = Department for International Development (UK), JBIC = Japan Bank for International Cooperation, JSC = joint stock company, MOT = Ministry of Transport, NTSC = National Traffic Safety Committee, PDOT = Provincial Department of Transport, PPC = Provincial Peoples' Committee, PTSC = provincial traffic safety committee, RT2 = Second Rural Transport Projects (RT2/3), RT3 = Third Rural Transport Project, SOE = state owned enterprise, VRA = Viet Nam Road Administration.
Source: Viet Nam Road Administration, Ministry of Transport, and Asian Development Bank estimates.

EXTERNAL ASSISTANCE TO THE ROAD SUBSECTOR

Project	Implementation Schedule	Project Cost (\$ million)	External Funding Source(s)
A. National Highway and Provincial Roads Network			
Loan 1272 Road Improvement Project	Completed	141.0	ADB – 120 m
Loan 1487 Second Road Improvement Project	Completed	237.0	ADB – 120 m JBIC – 64 m
Loan 1564 Rural Infrastructure Sector Project.	1997–2005	150.0	ADB – 105 m CFD – 15 m
Loan 1653 Third Second Road Improvement	1999–2003	239.0	ADB – 130 m JBIC – 60 m
Loan 1660 GMS: Phnom Penh–Ho Chi Minh Highway	Completed	144.8	ADB – 100 m
Loan 1728 GMS: East-West Corridor Project	2000–2005	30.0	ADB – 25 m
Loan 1888 Provincial Roads Improvement Project	2002–2006	100.0	ADB – 70 m
Highway Rehabilitation Project II and III	Completed	416.6	World Bank
Road Safety Project	2005–2009	25.0	World Bank
NH No.1 Bridge Rehabilitation Project	Completed	162.2	JBIC
NH No.1 Bridge Rehabilitation Project (2)	1999–2006	211.0	JBIC
NH No.1 Bridge Rehabilitation Project (3)	2003–2009	80.1	JBIC
NH No.5 Improvement Project (1), (2), & (3)	Completed	326.3	JBIC
NH No.10 Improvement Project (1)	1998–2007	161.3	JBIC
Highway No.18 (1)	1998–2006	107.8	JBIC
Transport Infrastructure in Ha Noi	1998–2006	113.7	JBIC
Hai Van Tunnel Construction (1), (2), & (3)	1998–2008	372.4	JBIC
NH No. 18 Widening Projects – (2)	2000–2007	232.0	JBIC
Can Tho, Thanh Tri, Bai Chay, Binh Bridge Construction	2000–2005	882.0	JBIC
NH No.10 Improvement Project (2)	2000–2007	116.3	JBIC
Red River Bridge Construction (1), (2) & (3)	2002–2010	179.1	JBIC
Sai Gon East-West Highway Project (1), (2) & (3)	2000–2008	919.9	JBIC
NH No.1 Bypass Road Construction Project	2001–2006	76.3	JBIC
Transport Sector Loan	2004–2010	86.7	JBIC
My Thuan Bridge	Completed	79.3	Australia
Subtotal		5,589.8	
B. Rural Roads Network (District and Commune Roads)^a			
Rural Transport Project I	Completed	60.9	World Bank
Rural Transport Project II	2000–2005	145.3	World Bank/DFID
Rural Access Project	1998–2000	1.3	DFID
Rural Infrastructure Development and Living Standard Improvement Project (Loan II) ^b	Completed	133.0	JBIC
Subtotal		340.5	
Total		5,930.3	

ADB = Asian Development Bank, AusAID = Australian Agency for International Development, CFD = Caisse Francaise de Developpement, DFID = Department for International Development, HCMC = Ho Chi Minh City, JBIC = Japan's Bank for International Cooperation, NH = national highway, OECF = Overseas Economic Cooperation Fund.

^a Excludes ADB-financed rehabilitation of rural roads as specific components of rural infrastructure projects.

^b Amount of project cost is only for the road.

Sources: Viet Nam Road Administration, Ministry of Transport, and Asian Development Bank estimates.

DESCRIPTION OF ROAD IMPROVEMENTS

A. Technical Description of Subprojects

1. The civil works will comprise improvements to provincial and district road networks in the 19 provinces in the central region. Work will take place in three phases. Phases 1 and 2 will be improvements to 544 km of provincial and district roads in nine provinces. Networks for Phase 3 will be identified in due course. Generally, the project roads are narrow and have bad or poor unpaved surfaces. Some roads are impassable for three to four months during the wet season. Most of the roads are low-volume carrying no more than 100–200 motor vehicles per day, although in others the levels of motorcycle and bicycle traffic can be high. The proposed improvements will take the form of widening and/or raising the road foundation and providing a sealed single-lane or two-lane carriageway. Most improvements will be constructed along the existing road alignment and within the right-of-way. A road safety audit conducted on selected roads revealed that some road sections are unsafe and need to be realigned. Therefore, the proposed improvements include short diversions to eliminate dangerous alignments, some short bypasses around densely developed villages and improvements at intersections with major roads.

B. Design Standards for Project Roads

2. The highway design criteria adopted are in accordance with the Viet Nam publication *TCVN 4054: 1998 Highway Specifications for Design*.¹ These standards are consistent with standard international practices adopted by the American Association of State Highway and Transportation Officials (AASHTO) design standards. The road design will be based on Vietnamese methods and checked against the design methods given in *AASHTO Guide for Design of Pavement Structures*² and *Transport Research Laboratory Overseas Road Note 31*.³

3. The choice of surfacing takes into account such factors as traffic, soil type, and rainfall. It is envisaged that double bituminous surface treatment (DBST) will be adequate for all the district roads and the low-volume provincial roads included in Phases 1 and 2. Some higher-volume roads will require asphaltic concrete (AC) pavement. For the low-volume roads, DBST will be the most economical solution, since the bitumen content and cost is low and the thin, flexible surface will resist damage from any overweight vehicles. For medium-volume roads and intersections with major roads, full-depth bituminous surfacing is likely to be the most economical solution. Cement concrete roads are unlikely to be economical except in locations where occasional flooding may occur. In these locations, it is recommended that light reinforcement is used in the concrete to distribute loads and to eliminate cracking.

4. There is insufficient detailed traffic and geotechnical information available at the PPTA (footnote 1 in the main text) stage to choose the most economic pavement option for each subproject road. The most practical course of action is to evaluate pavement design options at the detailed design stage using reliable data on traffic, axle loads, pavement strength, construction materials, and updated unit costs.

¹ Ministry of Transport. 1998. *TCVN 4054: 1998 Highway Specifications for Design*. Hanoi.

² American Association of State Highway and Transportation Officials (AASHTO). 1993. *AASHTO Guide for Design of Pavement Structures*. Washington D.C.: AASHTO.

³ Overseas Development Agency. 1993. *Overseas Road Note 31: Guide to the Structural Design of Bitumen-Surfaced Roads in Tropical and Subtropical Countries*. London. Transport Research Laboratory.

C. General Design Considerations

5. The major improvements to the project roads are as follows.

- (i) Raise the embankment a minimum of 0.5 m above natural ground level or 0.6 m above highest flood level to meet hydraulic requirements.
- (ii) Class V Roads: widen the existing roadway to 3.5 m with 1.5 m shoulders. The shoulders would normally be gravel in rural areas and paved in urban areas and outside schools and hospitals etc. A capping layer would be provided where required with a granular base and subbase, overlaid with bitumen.
- (iii) Class IV Roads: widen the existing roadway to 5.5 m with 1.5 m shoulders. The shoulders would normally be gravel in rural areas and paved in urban areas and outside schools and hospitals, etc. A capping layer would be provided where required with a granular base and subbase, overlaid with bitumen.
- (iv) Class V Roads: improve horizontal and vertical alignment to allow a minimum design speed of 40 km/h on level terrain and 20 km/h in mountainous terrain.
- (v) Class IV Roads: improve horizontal and vertical alignment to allow a minimum design speed of 60 km/h on level terrain and 40 km/h in mountainous terrain.
- (vi) Provide guard barriers at bridge approaches and on high embankments.
- (vii) Provide road furniture including signs, delineator posts, kilometer posts, etc. and additional signs where there is high pedestrian activity.
- (viii) Provide pedestrian crossings and speed controls at key locations outside schools and hospitals and in other areas where there are high pedestrian movements.

D. Bridges and Culverts

6. Most bridges on project roads under Phases 1 and 2 are in good condition or need only minor repairs. In several cases, bridges will be replaced because their width is substandard for the level of road improvement proposed. There are three bridges longer than 20 m in Phases 1 and 2. Two of these will be repaired and one bridge (32 m) will be replaced.

7. Proper cross-drainage structures will be provided where necessary, to ensure all-weather connectivity and to prevent environmental erosion, flooding, or other damage. Box, slab, or circular culverts will be provided at suitable intervals and at suitable sizes determined by hydrological and hydraulic calculations.

F. Unexploded Ordnance Clearance

8. A study of unexploded ordnance clearance requirements for Phases 1 and 2 subproject roads was conducted by domestic specialists associated with the Headquarters of Army Engineering and licensed by the Ministry of Defense. The study found subproject roads fell into four zone classifications (KV1 to KV4) with all roads in Quang Tri province classified as KV4, the highest risk classification. The study recommended that all Phases 1 and 2 subproject roads will require surveying and clearance at an estimated cost of \$950,000.

G. Environmental Management Plan

9. The project initial environmental examination has recommended a series of mitigation measures that take the form of good engineering practices. These will be included in the contract technical specification. Otherwise, there are no special environmental mitigation measures that need to be incorporated into the designs of the subproject roads.

SUBPROJECT SELECTION AND PROCESSING ARRANGEMENTS

A. Provincial Road Network Master Plans

1. The definition and selection of subproject road networks for inclusion in the Project will be based on the long lists of proposed subprojects (road sections) prepared by the provincial departments of transport (PDOTs). The provinces have already prepared long lists of proposed road and bridge subprojects during the PPTA (footnote 1 of main text). A workshop was held with representatives of the PDOTs to review each province's requirements and agree upon the long lists. The provinces' needs are expected to change over the duration of the Project. Therefore, the PDOT will be requested to update their provincial road network master plans and road improvement programs to ensure their long lists are consistent with provincial economic and social development plans.

2. The total long list of road improvements and new or replacement bridges required in the provincial road networks in the central region is estimated to be \$260 million (\$200 million for roads and \$60 million for bridges), of which the Project will select approximately 45%.

B. Selection of Subproject Networks from Provincial Long Lists

3. The long lists will be scrutinized by MOT with the assistance of the project implementation consultant for completeness and consistency, and to identify suitable networks. In each province the updated long list of networks will be prioritized using a multicriteria methodology to assess the individual network's potential for generating economic benefits, and for achieving the social objectives of the project following the methodology set out in the subproject selection and preparation manual prepared under the PPTA (footnote 1 in the main text). The criteria adopted to form the basis for selection of subproject networks were (i) population served, (ii) the incidence of poverty in the area of influence, (iii) traffic intensity, (iv) the general surface condition of the existing roads, and (v) the number of days of road closure per year. No network will include any road links that connect to an international border.

4. The networks selected for inclusion in the Project will be checked in the field by MOT and the project implementation consultant to confirm the results of the selection methodology and the overall suitability of the subproject.

5. In addition, the selection process will consider other road sector projects in the central region, including the Government's development plans for national highways, to maximize the benefits of the Project. In addition, the JBIC Weak Bridge Project, which includes replacement long bridges in the provincial road networks, will be reviewed during the selection process.

C. Economic Analysis of Improvement Options

6. Field surveys will be conducted to collect road and bridge inventory and condition data, traffic counts, preliminary environmental screening data, and social surveys. These data will be used to identify improvement options and the proposed subproject network will then be subjected to a detailed economic evaluation. The evaluation will be based on the results of field surveys and classified traffic counts that produced an inventory for each project road and traffic data for analysis by the HDM-4 model.¹ This analysis will make use of calibration factors for

¹ The Highway Development and Management tool version 4 (HDM-4) is the acknowledged reference model for economic assessment of road projects.

HDM-4 derived to reflect local conditions, in particular vehicle speeds and the effects of the very high proportions of motorcycles in total traffic flow.

7. The economic evaluation will be made by comparing the “with” and the “without” project cases. The cost-benefit analysis will be performed on a network basis (rather than on the basis of individual road sections) to ensure that the Project produces coherent networks that connect to major roads, thus ensuring that the project area receives effective all-year connectivity to markets and services.

8. The evaluation of the project networks will allow for a 2-year construction period starting in 2006, or later for subsequent phases, followed by a benefit period of 20 years. The results of the selection process and economic analysis will be submitted to MOT and ADB for approval before the start of detailed design and preparation of bid documents.

D. Detailed Design and Contract Packages

9. Following approval by MOT and ADB, the engineering investigations will be conducted and detailed designs (drawings and specifications), bid documents, and cost estimates will be prepared and submitted to the PDOTs (who will be responsible for the day-to-day supervision of civil works and will be the road authority upon completion of the civil works) and MOT for approval. The works will be grouped into practical contract packages not exceeding \$2 million for local competitive bidding. All necessary documents will be then submitted to ADB for approval.

E. Initial Environmental Examination (IEE)

10. Before any candidate subproject is selected and an IEE conducted, it will be screened using a list of environmental selection criteria. These criteria have been prepared in the sample subproject IEE prepared by the PPTA and have been agreed upon by both ADB and Project Management Unit No 1 (PMU-1). Subprojects categorized as Category A will be screened out. The selected candidate subprojects will be assessed and reviewed by MOT and, for each selected subproject, an IEE (including site-specific EMP) will be carried out and submitted to ADB for approval. At the same time, the approval procedure of the Ministry of Natural Resources and the Environment (MONRE) and related safeguard requirements of the Government will be followed.

F. Resettlement

11. Resettlement plans will be prepared following detailed designs where the subproject requires land acquisition and resettlement. Designs will take account of productive land uses and the location of houses. Where relevant they will realign and adjust the pavement width and alignment and associated works, and incorporate the drainage into the road shoulder to reduce the need for major land acquisition, physical displacement of houses, structures, and other improvements.

12. Preparation of resettlement plans will be based on (i) resettlement screening; (ii) consultation and participation programs; (iii) census, inventory of losses, detailed measurement, and socioeconomic surveys; (iv) replacement cost study and establishment of compensation rates; (v) formulation of appropriate rehabilitation measures for severely affected, very poor and other vulnerable groups; (vi) preparation of budget, implementation

arrangements, monitoring, and implementation schedule in coordination with the civil works schedule.

13. Resettlement plans will be prepared in accordance with the ADB's *Policy on Involuntary Resettlement* (1995) and the approved resettlement policy framework. To ensure that resettlement planning is completed in a timely manner, it will be a condition for the award of contract that for each road the Government has (i) satisfactorily completed a detailed measurement survey and validated compensation unit rates for all categories of losses and allowances; (ii) provided to ADB a final database of affected persons, summary of the updated detailed measurement survey data, and replacement cost tables for each road; and (iii) submitted an updated resettlement plan, incorporating the above, and that this has been approved by ADB. To ensure that implementation of each resettlement plan is effected in a timely manner, it will be a condition that the Government will not issue notices of possession of site for any section of a road to begin construction work until the Government has (i) satisfactorily completed, in accordance with the approved resettlement plan, compensation payment and relocation to new sites; and (ii) ensured that rehabilitation assistance is in place and the area required for civil works is free of encumbrances.

G. Ethnic Minorities

14. Specific actions for ethnic minorities will be prepared if the impacts on ethnic minorities are identified but are not considered to be significant. Ethnic minority development plans (EMDPs) will be prepared if the benefits and impacts on ethnic minorities are found to be significant. The objectives of the specific actions and the EMDP are to ensure negative effects on them are mitigated and benefits are enhanced.

15. Specific activities will include: (i) screening of basic characteristics and issues of ethnic minorities in each commune within the zone of influence of the project roads; (ii) social and cultural assessment of each commune within the zone of influence; and (iii) full participation of the local communities, committee for ethnic minorities and mountainous areas (CEMMA), local organizations and bilateral and NGOs in the preparation and implementation of development programs.

16. Specific Actions on ethnic minorities and EMDPs will be prepared in accordance with ADB's *Policy on Indigenous Peoples* and the approved ethnic minority development framework (EMDF).

H. Unexploded Ordnance Clearance

17. A study by specialists during the PPTA showed that many subproject road sections are in areas where there is a high risk from unexploded ordnance. In these areas surveys and clearance will be needed before the construction site can be handed over to the contractors. Therefore, MOT has agreed to contract with one or more specialist companies to conduct these surveys when the road design details are known and to complete them before the contractor takes possession of the construction site.

SUMMARY RESETTLEMENT POLICY FRAMEWORK

A. Introduction

1. The resettlement policy framework (RPF) establishes the policies and procedures for compensation, rehabilitation and resettlement of people affected by the Project. The provisions of the RPF will be applicable in all cases where land acquisition and/or resettlement is required as part of the implementation of a subproject.

B. Legal Framework

2. The RPF builds on the laws of the Government of Viet Nam, particularly the Land Law No. 13/2003/QH11 and regulations to implement the Law; and, the Asian Development Bank's (ADB's) *Policy on Involuntary Resettlement* (1995). The Government legislation covers land acquisition and resettlement approaches but is not fully consistent with the ADB policy. The provisions of the RPF take precedence over relevant decrees currently in force in Viet Nam wherever a gap exists between the ADB policy and Vietnamese law, as per Decree 17/2001/ND-CP.

C. Project Affected People

3. In accordance with ADB policy, affected people (APs) include any person, household, firm, or private institution who, on account of changes resulting from the Project, or any of its phases or subprojects, will have its (i) standards of living adversely affected; (ii) right, title, or interest in any house, land (including residential, agricultural, nonagricultural, forest, salt-making, and/or grazing land), water resources or any other moveable or fixed assets acquired, possessed, restricted, or otherwise adversely affected, in full or in part, permanently or temporarily; and/or (iii) business, occupation, place of work, residence, or habitat adversely affected, with or without displacement.

D. Resettlement Objective and Principles

4. The overall objective of the Project with respect to land acquisition and resettlement is to ensure that all people affected by the Project and its subprojects are able to maintain and, preferably, improve their pre-project living standards and income-earning capacity through compensation for the loss of physical and nonphysical assets and, as required, other assistance and rehabilitation measures. The following principles have been adopted for the Project to guide the compensation and entitlement policy.

- (i) Acquisition of land and other assets and the relocation of affected people will be minimized as much as possible by exploring all viable options.
- (ii) All APs are entitled to compensation at replacement cost for their lost assets, incomes, and businesses, including temporary losses or impacts.
- (iii) Rehabilitation assistance will be provided to severely affected people and other vulnerable groups to assist them to improve or at least restore their pre-project living standards, incomes, and productive capacity.
- (iv) Particular attention must be paid to the needs of the poorest people and vulnerable groups that may be at high risk of impoverishment. This may include those without legal title to land or other assets, landless households, households headed by females, the elderly, or disabled and other vulnerable groups,

- particularly ethnic minorities. Appropriate assistance must be provided to help them improve their socioeconomic status.
- (v) Affected people that lose only part of their physical assets will not be left with a portion that will be inadequate to sustain their current standard of living. The minimum size of remaining land and structures will be agreed during the resettlement planning process.
 - (vi) Lack of legal title to affected assets will not bar APs from entitlement to compensation and assistance to achieve the stated objectives of this Resettlement Policy Framework.
 - (vii) As a priority, loss of agricultural land will be compensated with alternative land of equal size and productive capacity. If suitable replacement land is not available and/or at the “informed request” of APs, compensation will be paid in cash at replacement value base on current market prices for agricultural land of the same category (or productive capacity) as the affected land.
 - (viii) Replacement land for agriculture, residential purposes, and businesses will be provided with secure tenure status; all fees, sales taxes, or other surcharges associated with transfer of land title will be waived.
 - (ix) Compensation for houses and other structures will be determined according to replacement value for materials and labor to rebuild similar structures, at current market prices in the locality. In determining replacement costs, depreciation of assets and salvage value of materials will not be taken into account.
 - (x) In the case of the relocation of APs, replacement houses and/or agricultural land will be located as close as possible to the assets that were lost, and at locations acceptable to APs. Relocated APs will receive relocation and transition subsistence allowances.
 - (xi) Efforts shall be made to maintain, to the extent possible, the existing social and cultural institutions of the resettled people and host communities.
 - (xii) APs will be fully consulted and will participate in the preparation and implementation of resettlement plans (RPs) for each subproject. The comments and suggestions of affected people and communities will be taken into account during the design and implementation phases of resettlement activities.
 - (xiii) Adequate resources will be identified and committed during resettlement planning for each subproject and the overall Project. This includes adequate budgetary support fully committed for each subproject and made available to cover the costs of land acquisition, compensation, resettlement, and rehabilitation within the agreed implementation period for the subproject; and, adequate human resources for supervision, liaison, and monitoring of land acquisition, resettlement, and rehabilitation activities.
 - (xiv) Appropriate reporting, monitoring, and evaluation mechanisms will be identified and set in place as part of the resettlement management system. Monitoring and evaluation of the land acquisition, resettlement, and rehabilitation processes and the final outcomes will be conducted by an independent monitoring agency.
 - (xv) Detailed RPs will be translated into Vietnamese or, where necessary, the local language and placed in the commune offices for the reference of APs as well as other interested groups.
 - (xvi) ADB shall not approve the hand over for commencement of civil works of any specific part of a subproject to be financed from the loan proceeds unless the Government has satisfactorily completed payment of compensation for affected assets and any relocation to new sites, in accordance with the approved RP for the subproject. Rehabilitation measures must also be in place but not necessarily completed, as these may be ongoing activities.

E. Eligibility

5. For each subproject that requires land acquisition, the cut-off date for eligibility for entitlements to compensation for lost assets is defined as the completion of the detailed measurement survey (DMS). People who move into the subproject area and/or who construct assets after the subproject cut-off date are not entitled to compensation or any other form of resettlement assistance. They will be requested to vacate premises and dismantle affected structures prior to project implementation. Their dismantled structures will not be confiscated, and they will not have to pay any fine or sanction.

F. Compensation and Entitlement Policy

7. The project compensation and entitlement policy is designed to cover compensation for lost assets and assistance to restore or enhance livelihoods of all APs. Affected people will not only receive replacement land or cash for land and other assets at replacement value based on market prices at the time of compensation, but various rehabilitation measures will be available to severely affected, very poor and otherwise vulnerable APs. Table A7.1 summarizes the main types of losses and the support proposed for each type of loss.

G. Institutional Arrangements

8. The Ministry of Transport (MOT) is the Executing Agency for the Project, with responsibility for planning and implementation delegated to Project Management Unit No 1 (PMU-1) and the provincial department of transports (PDOTs). PMU-1 will ensure that Provincial Resettlement Committees (PRC) are established for each subproject under the direction of the Provincial Peoples' Committee (PPC), as well as resettlement committees at the district and commune levels. The PRC and RCs at lower levels will be responsible to the PDOTs and PMU-1 for preparation and implementation of approved RPs. Representatives of the Women's Union and/or the Farmers' Association will participate actively in RCs at all levels. The PDOT will maintain computerized databases of affected people and assets.

9. The PPC and PRC will establish compensation rates for the subproject. These rates will be based on annual PPC rates adjusted, as necessary, by the findings of a replacement cost survey to be conducted by the independent monitoring agency. Compensation rates will be continuously updated to ensure that APs receive compensation based on full replacement value at the time of compensation payments.

H. Public Consultation and Disclosure

10. According to ADB policy, APs must be fully consulted and provided with opportunities to participate in the planning and implementation of land acquisition and resettlement. In addition, they must be informed in an appropriate and timely manner of the outcomes of the planning process, as well as schedules and procedures for implementation of the RP. PMU-1 and the PDOTs will oversee the activities of the PRC and RCs at lower levels to carry out public information and consultation programs during all stages of the land acquisition and resettlement process, including public information meetings, participation of APs in the DMS, full disclosure of the RP and informing APs about procedures for payment of compensation and, as required, relocation.

11. Prior to the Management Review Meeting (MRM) for the Project, the RPF was translated into Vietnamese and copies, in both English and Vietnamese languages, were distributed to the

project provinces for review and endorsement. The RPF will be uploaded on the ADB resettlement website immediately upon Board approval.

12. For the four RPs that have been prepared for Phase 1, the following requirements were met prior to MRM: (i) distribution of a public information brochure in Vietnamese and, as required, ethnic minority language(s) to the affected communities; (ii) placement of copies of the RP in Vietnamese and English in provincial, district, and commune offices; and (iii) uploading of the RPs on the ADB resettlement website. During loan implementation, the (i) RPs will be updated for Phase 1 and (ii) RPs will be prepared for Phases 2 and 3 following detailed design. All RPs, prior to submission to ADB for review and approval, will include: (i) the distribution of a public information brochure in Vietnamese and, as required, ethnic minority language(s) to the affected communities; and (ii) placement of copies of the RPs in Vietnamese and English in provincial, district, and commune offices. All RPs submitted to ADB for review will be disclosed on the ADB resettlement website before ADB approval.

I. Complaints and Grievances

13. The Project will ensure that APs have clear and accessible mechanisms and procedures to address complaints and grievances about any aspect of land acquisition, compensation, and resettlement. A four-step process will permit APs to submit grievances to the Commune People's Committee (CPC) and, if not satisfied with the decision, appeal successively to the People's Committees at district and provincial levels and, finally, to the District People's Court.

J. Monitoring and Evaluation

14. The Project will ensure internal and external monitoring of land acquisition, compensation and resettlement activities. PMU-1 is responsible for internal monitoring, in close collaboration with PRC and RCs at lower levels. An independent monitoring agency will be retained to conduct external monitoring and evaluation, focusing on the social impacts of the Project and whether APs are able to improve or at least restore their pre-project living standards, incomes, and productive capacity. Sample surveys of APs will be carried out biannually during implementation of the RP, as well 6–12 months after completion of all resettlement activities.

K. Budget

15. The budget for the RPs covers the cost of land acquisition, compensation payments, and allowances to APs, operational/administration expenses, internal and external monitoring, and contingencies.

16. PMU-1 will be responsible for channeling funds for the compensation for land acquisition and resettlement to the respective PPC. The PPC will be responsible for payment directly to APs with respect to affected land, structures, crops and trees. PMU-1 will also be responsible for contracting an NGO or other independent institution to conduct external monitoring of implementation of the RP.

Table A7.1 Entitlement Matrix

Type of Impact	Entitlement
1. Loss of agricultural land	<ul style="list-style-type: none"> Legal/legalizable APs and eligible organizations are entitled to replacement land of equal area and productive capacity up to a maximum of the land quota in the province, or cash at full replacement value of the affected land. If affected land exceeds the land quota area, APs are entitled to cash at replacement value for the excess affected land. APs with temporary/lease rights are entitled to cash for loss of net income for the remaining lease period, or 30% of replacement value for the affected land, whichever is higher. Non-titled APs are not entitled to compensation for land, but will receive an economic rehabilitation package and, if left landless, local authorities will allocate replacement land if available. Severely affected APs who lose more than 10% of their land and very poor APs are entitled to an economic rehabilitation package.
2. Loss of residential land and non-agricultural land	<ul style="list-style-type: none"> Legal/legalizable APs and eligible organizations are entitled to replacement land of equal area up to a maximum of the land quota in the province, or cash equal to full replacement value of the affected land. If affected land exceeds the land quota area, APs are entitled to cash at replacement value for the excess affected land. APs with temporary/lease rights are entitled to cash equivalent to 30% of the replacement value for affected land. Non-titled APs are not entitled to compensation for land, but if left landless or otherwise vulnerable, local authorities will allocate alternate land or housing.
3. Loss of crops, trees and fisheries	<ul style="list-style-type: none"> All APs regardless of land use rights are entitled to cash compensation at current market prices.
4. Loss of structures	<ul style="list-style-type: none"> All APs regardless of land use rights are entitled to cash compensation at full replacement value for affected structures, with no deduction for depreciation or salvageable materials. APs with partially affected structures who do not relocate are entitled to an allowance to repair damages due to dismantling. If remaining structures are not viable and APs relocate, they are entitled to relocation and transition subsistence allowances. Compensation for removal of graves will be paid directly to APs, including costs of new graves, exhumation and transport of remains, reburial and all other reasonable costs.
5. Loss of business income or employment	<ul style="list-style-type: none"> APs with unregistered businesses are entitled to cash allowance based on the provincial minimum wage for the period that business income is disrupted up to six months. APs with registered businesses are entitled to an allowance equal to monthly after-tax revenues, for six months. If businesses relocate, owners are entitled to a relocation allowance. Employees and hired labor that temporarily lose work are entitled to an allowance equal to current salary/wages for the period they can not work; if they lose jobs permanently, they are entitled to six months' wages/salary or value of the remaining contract.
6. Temporary impacts during construction	<ul style="list-style-type: none"> If land temporarily acquired during construction is returned to APs, they are entitled to rent during the period of temporary use and the Project will pay to restore land to its previous condition. If temporary acquisition exceeds one year, APs can opt to continue the rental arrangement or sell the land to the Project.
7. Assistance to severely affected and vulnerable APs	<ul style="list-style-type: none"> Eligible APs will receive an economic rehabilitation package consisting of a transition subsistence allowance and in-kind assistance to assist them to restore living standards.

AP = affected person.

Source: Asian Development Bank staff

SUMMARY ETHNIC MINORITY DEVELOPMENT FRAMEWORK

A. Ethnic Minority Development Framework

1. The ethnic minority development framework (EMDF) was prepared in accordance with ADB's *Policy on Indigenous Peoples* (1998) and *Operations Manual Section F3*, May 2004, and policies and programs of the Government of Vietnam, and will guide the preparation of ethnic minority specific actions (EMSA) and ethnic minorities development plans (EMDP). The overall objectives of the EMDF are to ensure (i) that the project does not cause adverse social and cultural impacts; and (ii) that it provides the opportunity for ethnic minorities to reap project benefits that are equal to, or greater than, the dominant cultural group by ensuring ethnic minorities participate fully in project planning and implementation.

B. Preparation of Ethnic Minority Specific Actions and Ethnic Minority Development Plans

2. Screening to establish basic characteristics and issues of ethnic minorities in each commune within the zone of influence of the project roads is the first step in categorizing the impacts and identifying approaches to address ethnic minority issues. An ethnic minority specific action (EMSA) is prepared if impacts on affected ethnic minorities are limited and when there is a risk that the Project may not bring the intended benefits to the affected ethnic minorities. The EMSA may take the form of (i) incorporating ethnic minorities (who might be excluded from the Project) into the project beneficiary group; (ii) incorporating ethnic minorities' specific needs (that may not be addressed by the Project) into the project plan; and (iii) a common community action plan where ethnic minorities live with the non-ethnic minorities peoples in the same project location. The Project will avoid any unnecessary distinctions or inequalities between ethnic minorities and other poor and marginal groups who live in the same locality.

3. An ethnic minority development plan (EMDP) is prepared when the impacts on ethnic minorities are found to be significant and they positively or negatively (i) affect their customary rights of use and access to land and natural resources; (ii) change their socioeconomic status; (iii) affect their cultural and communal integrity; (iv) affect their health, education, and livelihood, and social security status; or (v) alter or undermine the recognition of indigenous knowledge. The EMDP is an integral part of the project design which includes provisions for project implementation, monitoring, and evaluation. The EMDP is time-bound, with an adequate budget for its implementation. The EMDP is needed to ensure that ethnic minorities are included in the development process. The EMDP will also need to provide specific mechanisms for the concerns of ethnic minority women to be identified and addressed through the subproject process. Activities include:

- (i) Conduct of social and cultural analysis, to consist of: (a) identification of significant negative and positive impacts on the ethnic minorities; (b) identification of the measures required to mitigate the negative impacts; and (c) identification of the types and levels of vulnerability that might limit the ethnic minorities' ability to benefit from the project recommend measures, on a priority basis, to enhance benefits.
- (ii) Preparation of stand-alone EMDPs identifying the analysis and include specific strategies and activities as a result of participatory community consultations and planning.
- (iii) Coordination with CEMMA, local organizations and bilateral agencies or international NGOs working on poverty reduction programs (e.g., agricultural

- extension services) in the project area to allow possible integration of project activities with existing social interventions.
- (iv) Disclosure of EMDPs to affected communities and general public prior to submission to ADB for review and approval.
 - (v) Submission to ADB for review and approval prior to implementation.
 - (vi) Disclosure of EMDPs on ADB indigenous peoples website immediately upon ADB approval.

C. Ethnic Minorities in Phase 1 and 2 Road Networks

4. An initial social assessment was carried out during the project preparatory technical assistance (PPTA) for Phase 1 and 2 road networks. Five of the nine networks that make up the Phase 1 and 2 area have ethnic minority groups living on the subproject roads. In total, there are approximately 54,816 people from ethnic minorities living in 27 communes within these five networks along eight subproject roads. These eight roads are in Ninh Thuan (roads 1303, 1307, and 1310), Binh Thuan (road 1403), Dak Nong (road 1701), Dak Lak (roads 1702 and 1703) and Lam Dong (road 1801). Overall, people from ethnic minorities account for 6.2% of the population along network roads in Phases 1 and 2 but on roads on five of these networks, people from ethnic minorities account for 11.4% of the population. However, some of the communes in these networks have very high percentages of ethnic minorities, most notably Binh Thuan, Dak Lak, and Lam Dong, where in four communes over 85% of the population is from ethnic minorities.

5. The roads providing access for the ethnic minority communities have been in existence for some time, although they are generally in poor condition, with some closed for periods of days during the rainy season. Consequently, none of the project communities or ethnic minority communities, fall within the definition of “isolated” within the Vietnamese context, where this term is used to describe very remote mountain communities without road access. This is an important point in terms of the potential impacts on culture and traditions of the ethnic minority communities living in on eight of the subproject roads. Overall, ethnic minority communities along the roads mostly live among Kinh people and are assimilated to varying degrees. The Project will have a range of social benefits mostly associated with improvements in standards of living and enhancement of general well-being of households and communes. However, there may be some ethnic minority communities that are vulnerable and may face difficulties in absorbing project benefits compared with the mainstream population due to poverty, language, cultural differences, low skill levels and, in some cases, limited contact with the mainstream population. The impacts on ethnic minorities are found to be limited. The issue with the most potential for negative impacts is that of land acquisition and resettlement. The general impacts and benefits on ethnic minorities are found in Table A8.1.

D. Mitigation and Development Strategy

6. The following mitigation measures and development interventions arose from the results of community consultations.

- (i) Resettlement plans have been and will continue to be prepared to address the land acquisition and resettlement impacts. Sociocultural conditions of the ethnic minorities have been and will be taken into account to ensure that they are aware of project impacts and benefits, their rights and entitlements as affected ethnic minorities, in a form and language and approach that they can understand. In Phase 1, the resettlement plan that has been prepared for Lam Dong province includes specific actions on ethnic minorities.

Table A8.1 General Impacts and Benefits

Impact	Effect
Positive Impacts	
Decrease in Transportation Cost.	The poverty impact analysis finds that the primary mechanism through which benefits will accrue to the poor is savings in vehicle operating costs that will be passed on to the poor through lower freight rates, lower passenger fares, and time savings. However, ethnic minorities may benefit to a lower degree than other project beneficiaries because they use passenger transport or shipping services less. Many ethnic minority households do not produce enough agriculture produce to be able to sell meaningful quantities and those that do usually sell locally. Ethnic minority households in more remote areas may benefit from an increase in the availability of goods and a decrease in prices because of a fall in transport costs.
Improved access to Markets and Agricultural Extension	The ability to get goods to market will encourage farmers to produce more and higher value products and move out of subsistence farming. Although some ethnic minority farmers produce cash crops and livestock products, many may need assistance to move beyond subsistence farming. It may be more difficult for ethnic minorities to make investments in production and marketing (eliminating middlemen and be able to take greater advantage of market fluctuations) of higher-valued and perishable products. Improved access to agricultural extension services such as sustainable production techniques could assist ethnic minorities
Impact on Service Delivery and Access	<p>Access to existing services at commune and district level will improve and ethnic minorities will benefit from easier and less costly access to these services. As the project surveys found, local people, including ethnic minority people, are heavy road users. It is anticipated that all groups, ethnic minority and mainstream populations will benefit from easier travel and improved year round access.</p> <p>Improved roads will also have a positive impact on the attendance of ethnic minority children in schools. Social services in villages may also improve benefiting ethnic minority communities. For example, teachers and other social service providers may be more willing to work in the area after transportation problems have been reduced and/or make more regular trips to the villages. This impact will be strongest on roads that were previously not opened all year round.</p>
Employment During Construction	There is an expectation among ethnic minorities of employment during the construction stage. However, this may not arise without explicit project intervention. Often road building contractors hire mainly through labor contractors, who may or may not hire from surrounding villages. This can result in only a few local people being hired and then only for short periods. It is important that ethnic minorities from local communities benefit as much as possible from increased earnings resulting from construction employment and that all civil works contractors comply with all applicable labor laws. Provisions for these issues will be built into the monitoring program for the Project.
Negative Impacts	
Relocation and Resettlement	The issue with the most significant potential for negative impact is land acquisition and resettlement. In Phase 1, about 30 people from ethnic minorities in Lam Dong Province will be affected by acquisition of agricultural land. Five will be severely affected. Specific actions have been included in the resettlement plan prepared for Lam Dong.
Increased Road Accidents	Local residents are concerned about an increase in road accidents because of faster vehicle speeds. Concern was expressed by members of ethnic minorities, both women and men, about the risk to their children traveling to school along the roads. Roadside improvements will need to include proper signage for speed limits and passing areas.
Increased Exposure to Communicable Diseases	It is not anticipated that truck traffic will increase in the short term. The network layouts provide little scope for the diversion or generation of traffic to the subproject roads. The subproject roads mainly serve low-density rural communities and do not provide thoroughfares between major highways or cross border connections. Therefore, the risk of increasing transmission of HIV/AIDS ^a because of increased truck traffic appears to be low.
Increased in Migration	Given the current condition of the roads, it is not anticipated that road improvements will lead to significant in-migration. However, although the impact of in-migration from distant provinces may be small, the improved roads will probably draw people from the local area. The amount of good land in the project area is finite and people moving closer to the road could put pressure on ethnic communities, as they may have less experience at dealing with outsiders and other ethnic minority groups.

^a Human immunodeficiency virus/acquired immunodeficiency syndrome

Source(s): Asian Development Bank Staff

- (ii) Road safety designs will be covered within the institutional capacity building and training needs component of the Project.
- (iii) The HIV/AIDS and sexually transmitted infections (STI) awareness and prevention program will be implemented under the Project and will target ethnic minorities.
- (iv) The sustainable agricultural production program has been identified during the initial social assessment and community consultations as an intervention that can increase the agricultural production of ethnic minorities. The farmer field schools and farmer life schools activities of Viet Nam's national integrated pest management (IPM) program offers a good example of a community-driven, sustainable livelihood approach to increasing community empowerment while increasing agricultural production. The national IPM Program is already well-established, offers a nationwide body of trainers, and has a proven track record.

E. Institutional Arrangements

7. The Ministry of Transport (MOT) is the Executing Agency for the Project, with responsibility for planning and implementation delegated to Project Management Unit No 1 (PMU-1) and the provincial departments of transport (PDOTs). A social development/ethnic minority development program coordinator will assist PMU-1 in the design and implementation of the EMSAs and EMDPs. PMU-1 will ensure that a suitable NGO is engaged to implement EMDPs in accordance with ADB indigenous peoples policies, procedures and implementation requirements.

F. Budget

8. A budget of \$500,000 has been allocated from the overall project cost to provide funds for the preparation and implementation of EMSAs and EMDP if these are required. The design and implementation of EMSA and EMDP will be covered in the terms of reference for the civil works and implementation services.

G. Implementation Schedule

9. Detailed design, resettlement planning and implementation started in September 2005. It is anticipated that construction contracts will start being awarded in July 2006. It is essential that the EMSAs and EMDPs be prepared before the civil works begin so that potential negative impacts can be identified and appropriate specific actions and mitigating measures put in place.

H. Monitoring and Supervision

10. The design and implementation of EMSAs and EMDPs will be monitored regularly. A set of monitoring indicators will be determined during project implementation. Monitoring will involve staff from PMU-1, provincial project management units (PPMUs) and representatives from ethnic minorities, communities, and organizations to ensure participatory monitoring arrangements. PMU-1 will submit regular reports to ADB. An external monitoring team will also be engaged, if required.

PROJECT DETAILED COST ESTIMATE AND FINANCING PLAN
(\$ million)

Item	Foreign Exchange	Local Cost	Total Cost	ADB			NDF			Govt
				FX	LC	Total	FX	LC	Total	LC
A. Civil Works ^{a,b}	69.1	26.4	95.5	69.1	17.2	86.3	0.0	0.0	0.0	9.2
B. Support to PMU-1	0.3	0.1	0.4	0.3	0.1	0.4	0.0	0.0	0.0	0.0
C. Land Acquisition and Resettlement/Ext Monitoring	0.0	4.9	4.9	0.0	0.0	0.0	0.0	0.0	0.0	4.9
D. UXO Clearance	0.0	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	1.4
E. Consulting Services										
Civil Works Preparation	1.6	0.3	1.9	1.6	0.3	1.9	0.0	0.0	0.0	0.0
Implementation Services	6.4	1.6	8.0	0.0	0.0	0.0	6.4	1.6	8.0	0.0
Institutional Development	1.3	0.4	1.7	0.0	0.0	0.0	1.3	0.4	1.7	0.0
Ethnic Minority Development Plan	0.5	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.5	0.0
Gender, HIV, and Anti- Trafficking Prevention Program	0.3	0.2	0.5	0.3	0.2	0.5	0.0	0.0	0.0	0.0
F. Environmental Mitigation	2.4	1.4	3.8	2.2	0.6	2.8	0.2	0.6	0.8	0.2
G. Project Management	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5
H. Taxes and Duties ^c	0.0	15.8	15.8	0.0	0.0	0.0	0.0	0.0	0.0	15.8
Total Baseline Cost	81.9	53.0	134.9	73.5	18.4	91.9	8.4	2.6	11.0	32.0
Interest Charges During Construction	3.1	0.0	3.1	3.1	0.0	3.1	0.0	0.0	0.0	0.0
Total Project Cost	85.0	53.0	138.0	76.6	18.4	95.0	8.4	2.6	11.0	32.0

FX = foreign exchange, HIV = human immunodeficiency virus, LC = local currency, PMU-1 = Project Management Unit No. 1, UXO = unexploded ordinance.

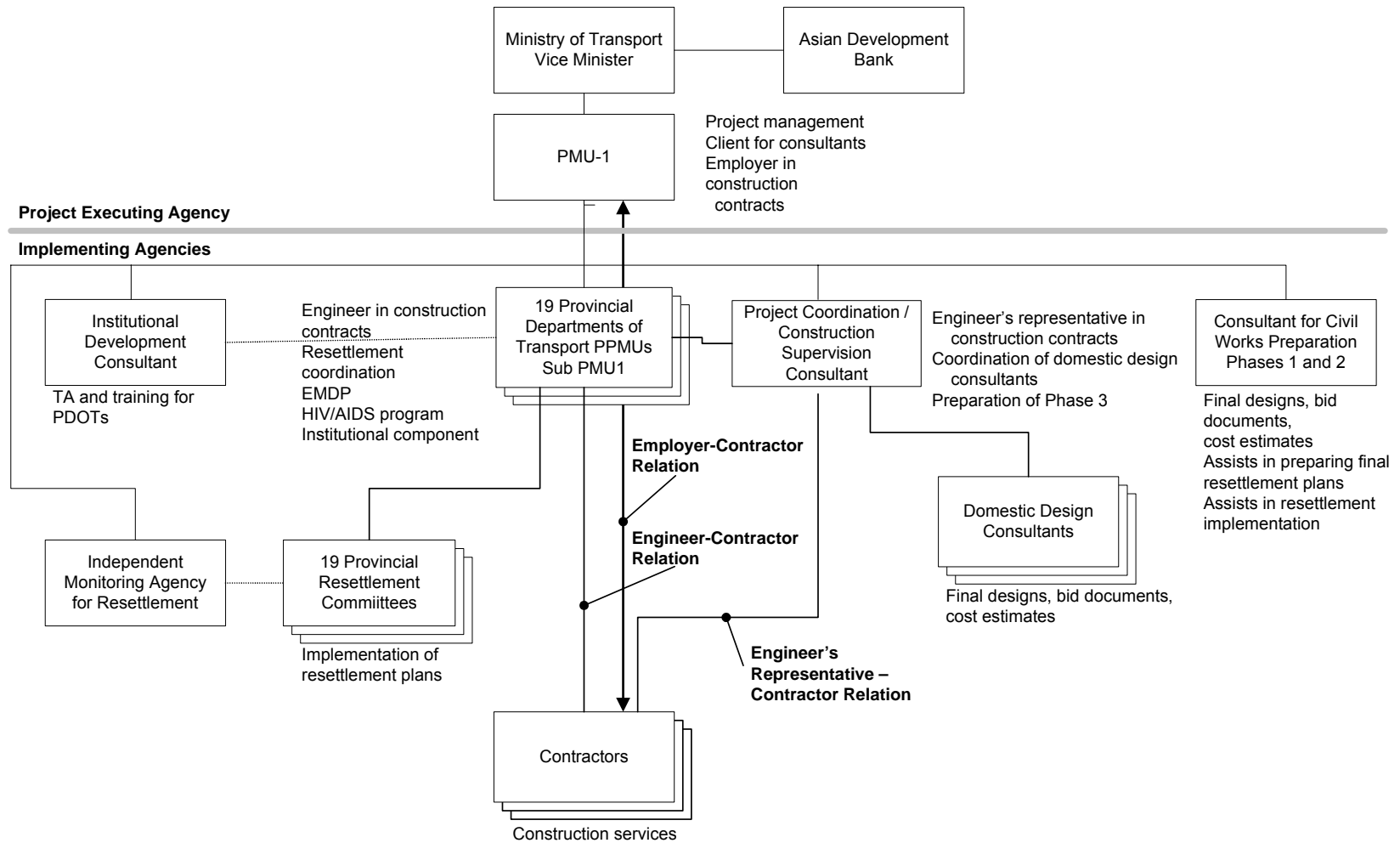
^a Includes price contingency and physical contingency based on unit cost estimates of sample roads.

^b Includes contingencies.

^c Estimated as equivalent to 16% of civil works costs.

Source: Asian Development Bank estimates.

PROJECT ORGANIZATION AND IMPLEMENTATION ARRANGEMENTS



EMDP = ethnic minorities development plan, HIV/AIDS = Human immunodeficiency virus/acquired immunodeficiency syndrome, PDOT = Provincial Department of Transport, PMU-1 = Project Management Unit No. 1, PPMU = Provincial Project Management Unit, TA = technical assistance.

IMPLEMENTATION SCHEDULE

		2005	2006	2007	2008	2009	2010
ADB and Government Project Processing							
Consulting Services							
Civil Works Preparation Services							
Recruitment							
Services							
Implementation Services							
Recruitment							
Services							
Gender, HIV, Anti-Trafficking Prevention Program							
Recruitment							
Services							
Intutional Development							
Recruitment							
Services							
Civil Works							
Phase 1	Detailed Design and Procurement						
	Construction— 4 Provinces						
Phase 2	Detailed design and procurement						
	Construction—5 Provinces						
Phase 3	Detailed Design and Procurement						
	Construction—10 provinces						
	Contractors Maintenance Period						

HIV = Human immunodeficiency virus

CONTRACT PACKAGES

Table A12.1: Civil Works and Consulting Services Contract Packages

Contract Details		Approximate Value (\$ million)	Procurement Mode
A. Civil Works^a			
Phases 1 and 2			
1	Nghe An—5 contracts	8.80	LCB
2	Ha Tinh—4 contracts	7.05	LCB
3	Quang Tri—3 contracts	4.33	LCB
4	Thua Thien Hue—4 contracts	4.91	LCB
5	Ninh Thuan—4 contracts	6.80	LCB
6	Binh Thuan—4 contracts	5.96	LCB
7	Dak Nong—4 contracts	9.31	LCB
8	Dak Lak—2 contracts	2.66	LCB
9	Lam Dong—3 contracts	5.02	LCB
Phase 3	10 provinces—about 35 contracts	59.35	LCB
	Support to PMU-1	0.35	LCB
Subtotal (A)		114.54	
B. Consulting Services			
1	Civil Works Preparation	2.00	ADB Guidelines on the Use of Consultants—Direct Selection
2	Implementation Services	9.29	NDF Recruitment Procedures
3	Institutional Development	1.71	NDF Recruitment Procedures
4	HIV/AIDS	0.50	ADB Guidelines on the Use of Consultants—International Recruitment
5	External Monitoring	0.08	Recruitment and Funding by Government of Viet Nam
6	UXO Clearance	1.40	Recruitment and Funding by Government of Viet Nam
Subtotal (B)		14.98	
Total		129.52	

HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome, PMU-1 = Project Management Unit No. 1, UXO = unexploded ordnance.

^a Civil Works only, includes taxes, duties, physical contingencies, and price escalation; excludes all land acquisition and resettlement.

Source: Asian Development Bank estimates.

Table A12.2: Inputs to Consulting Services Packages Funded by ADB and NDF

Consulting Services Package		Estimated Consulting Inputs (person-months)		
		International	Domestic	Total
1	Civil Works Preparation	30	184	214
2	Implementation Services	185	2,640	2,825
3	Institutional Development	42	84	126
4	HIV/AIDS	18	57	75
		275	2,965	3,240

HIV/AIDS = human immunodeficiency virus/acquired immunodeficiency syndrome.

Source: Asian Development Bank estimates.

SUMMARY ECONOMIC ANALYSIS

A. Introduction

1. The selection of networks for inclusion in the Project was based on long lists of proposed subprojects (road sections) prepared by the concerned provincial governments. These lists were subsequently scrutinized by the consultant to ascertain their completeness and consistency, and to identify coherent networks that connect to major roads, thus ensuring that the project area receives effective all-year connections to markets and services. The proposed networks were discussed in detail with representatives from the concerned provinces during a workshop in Hanoi, on 27 November 2003, to arrive at an agreed-upon long list of networks.

2. The networks were then prioritized to assess the potential of individual networks to generate economic benefits and achieve the social objectives of the project. The criteria adopted were: (i) population served, (ii) incidence of poverty in the zone of influence, (iii) traffic intensity, (iv) the general surface condition of the existing roads, and (v) the number of days of road closure per year. The networks with the highest score in each province were included in Phase 1 and subjected to detailed cost-benefit analysis based on road inventory and classified traffic counts for each project road. This produced the data needed for economic analysis by the HDM-4 model.¹ Calibration of HDM-4 was applied to reflect local conditions, in particular vehicle speeds and the effects of very high proportions of motorcycles in total traffic flow.

3. The economic evaluation compared the “with” and the “without” project cases. The project networks were evaluated for a period up to and including 2027, allowing for a 2-year construction period starting in 2006, followed by a benefit period of 20 years. The analysis was performed using the world price numeraire. Current wage rates in the project area were found to reflect the marginal value of skilled labor whereas the marginal value of unskilled labor was about 55% of the current minimum wage rate.² A medium-term forecast for crude oil of \$30 per barrel was adopted in lieu of current crude prices, to avoid the impact of spurious price variations. The estimate is derived from data and analysis published in by the International Energy Agency on its website in 2004. Except for oil products, all base prices are current as of 2004.

4. Benefits are identified by assessing (i) the incremental direct user benefits due to reduced vehicle operating costs (VOC) and passenger time savings, and (ii) the direct savings in road maintenance cost due to upgrading of road surfaces from earth or gravel to sealed standards. Future maintenance costs in the “with” and “without” cases were determined using HDM-4 to identify optimal maintenance. The capital cost associated with the project includes the cost of construction, design, supervision, environmental mitigation, land acquisition, and resettlement. The residual value of the roads at the end of the evaluation period, estimated at 25% of the cost of construction, was included. The assumed residual value of 25% reflects the fact that it is unusual for a road to be abandoned. More typically, the existing road will be incorporated into rehabilitation or upgrading work. The residual value assumed reflects the savings in the cost of constructing the “rehabilitated” or “upgraded” road by incorporating the remains of the existing road.

¹ The highway design and maintenance model version 4 (HDM-4) is the acknowledged reference tool for economic assessment of road projects.

² These results were obtained from the initial social analysis and concur with the findings of similar studies in Viet Nam performed recently by the Asian Development Bank and the World Bank.

B. Forecast Traffic and Traffic Benefits

5. Normal traffic growth is forecasted by applying income-elasticities that link future traffic growth to forecast future economic growth. The forecast assumes that the Vietnamese economy will continue to expand at approximately the same rate as in the previous 10 years, about 7.5% per annum on average. The elasticity adopted is based on those estimated in the Rural Transport Study,³ with some modifications reflecting trends in traffic growth rates in Viet Nam over the 10 years to 2003. The adopted growth rates are summarized in Table A13.1.

Table A13.1: Forecast Annual Normal Traffic Growth Rates

Forecast Year	Motorcycle	Car	Bus	Truck
2000–2005	13.5%	9.8%	9.0%	8.6%
2006–2010	10.5%	8.4%	7.8%	8.1%
2011–2027	8.5%	7.5%	7.5%	7.2%

Source: ADB. 2002. *Technical Assistance to Socialist Republic of Viet Nam for the Preparation of the Central Region Network Project*. Manila. (TA4034-VIE)

6. Generated traffic was included in the case of earth roads, where conditions during the rainy season significantly affect the flow of traffic. The potential for diverted traffic was not identified in any of the networks and diverted traffic has therefore not been included. Based on the traffic forecast and the improvements in road conditions, vehicle operating cost (VOC) savings relative to the “without” case were calculated using the HDM-4 model. The savings in VOC costs in the “with” case result from smoother road surfaces and higher speeds. The associated passenger time savings were based on estimated economic values of time, observed average vehicle occupancy rates, and the calculated time savings resulting from higher vehicle speeds.

C. Project Costs

7. The capital costs are estimated assuming upgrading or rehabilitation of the project roads to Class V or Class IV standard as indicated by predicted traffic and in all cases with a double bituminous surface treatment (DBST) pavement. Bridge repair costs have been included in the total capital cost of the road under consideration. Wherever an existing bridge has been evaluated as unsafe, replacement costs have been applied. The total costs include allowances for miscellaneous cost items, environmental mitigation measures, resettlement, design, and construction supervision. It was assumed that Phase I construction will take place during 2006–2007.

8. The cost of road maintenance, encompassing routine and periodic maintenance, was included using HDM-4 estimation based on the adopted construction standards and forecast traffic. In the case of upgrading of an unsealed road to sealed standard, future maintenance costs are lower than in the “without” case. The reduction is considered a benefit in the evaluation. Another benefit is the residual value of the roads at the end of the analytical horizon, estimated at 25% of construction cost.

D. Economic Analysis

9. The economic evaluation discounts the stream of benefits and costs over a 22-year evaluation period from start of construction in 2006 until 20 years after completion of the road

³ DFID. 2000. *Rural Transport Study*. Hanoi.

rehabilitation works. The EIRRs for the road networks considered for Phase 1 implementation are in the range of 12.5%–43.6%. Apart from these two extremes, three networks generate EIRRs of 14.4%–14.8% and four networks 20.0%–22.4%. The EIRR for Phase 1 in total is 22.3%. Table A13.2 provides a summary of the net benefit streams.

10. The poor current condition of many of the roads means that high levels of benefits are generated when traffic levels are significant, or there are high levels of motorcycle traffic. In some cases the benefits would be expected to be higher than those shown, as there will be additional benefits to those included in the evaluation. This applies particularly to the Ha Tinh and Lam Dong networks. In the case of Ha Tinh, a large number of bridgeworks are included in the improvements, for which there will be benefits in the form of preventing future closure of roads or restrictions on vehicle weights. The particularly high rate of return for the Nghe An network largely reflects the benefits to a particular high level of truck traffic recorded in that province.

Table A13.2: Summary of Net Benefits and Calculated NPV and EIRR

Year	1 Nghe An	2 Ha Tinh	3 Quang Tri	4 Thua Thien Hue	5 Ninh Thuan	6 Binh Thuan	7 Dak Nong	8 Dak Lak	9 Lam Dong	Total Project
	(\$'000)									
2006	(3,693)	(3,009)	(1,833)	(2,066)	(2,905)	(2,494)	(3,925.8)	(1,115)	(1,853)	(22,895)
2007	(3,693)	(2,989)	(1,824)	(2,067)	(2,844)	(2,494)	(3,925.4)	(1,115)	(1,853)	(22,804)
2008	3,416	801	768	680	689	901	872.5	417	367	8,913
2009	3,631	998	685	733	916	978	935.9	449	394	9,719
2010	3,871	742	741	788	823	1,060	1,006.0	486	423	9,940
2011	4,084	764	791	836	952	1,134	1,069.3	517	449	10,598
2012	4,269	818	846	888	1,101	1,214	1,136.3	551	477	11,300
2013	4,493	876	904	942	1,375	1,300	1,207.0	586	507	12,191
2014	4,748	939	967	1,000	664	1,393	1,283.5	623	539	12,157
2015	4,438	608	789	835	297	1,100	821.1	358	67	9,313
2016	5,405	1,086	1,108	1,120	906	1,611	1,460.1	707	610	14,014
2017	5,613	1,178	1,195	1,183	805	1,730	1,551.5	750	649	14,653
2018	5,909	1,325	1,309	1,246	1,141	1,858	1,647.9	794	690	15,920
2019	6,203	1,355	1,452	1,313	862	1,990	1,749.5	837	734	16,495
2020	6,566	1,608	1,301	1,395	1,072	2,122	1,856.5	884	780	17,584
2021	6,864	1,386	1,382	1,489	1,635	2,248	1,968.9	933	829	18,735
2022	7,120	1,298	1,464	1,540	1,071	2,400	2,086.6	982	881	18,842
2023	6,836	1,036	1,351	1,440	375	2,211	1,712.3	727	432	16,122
2024	8,874	1,834	1,805	1,915	1,464	2,830	2,598.2	1,216	1,079	23,617
2025	8,617	1,844	1,934	2,050	1,736	3,044	2,766.3	1,282	1,152	24,424
2026	8,814	1,984	2,143	2,135	2,650	3,301	2,936.5	1,339	1,229	26,533
2027	11,081	3,648	3,381	3,259	5,499	4,781	5,129.2	1,967	2,275	41,020
NPV^a	23,169	1,131	3,025	2,730	1,171	4,6312	1,447	1,920	144	39,369
EIRR (%)	43.6	14.6	21.8	20.0	14.8	22.4	14.4	22.1	12.5	22.3

EIRR = economic internal rate of return, NPV = net present value.

^a NPV is based on discounting at 12% to the present value in 2006.

Source: ADB. 2002. *Technical Assistance to Socialist Republic of Viet Nam for the Preparation of the Central Region Network Project*. Manila. (TA4034-VIE)

E. Sensitivity Analysis

11. The impact of adjusting some of the key input values has been tested to show the sensitivity of the IRR to the changes. The IRR of each proposed project network was analyzed with respect to changes in the benefit and cost streams. The tests applied were; (i) construction costs increased and decreased by 20%, (ii) road user benefits increased and decreased by 20%, (iii) traffic growth rates decreased by 2%, (iv) the value of time benefits decreased by 100%, and (v) completion delayed by 1 year. The results are shown in Table A13.3. In the case of the Lam Dong network the IRR falls below 12% with any change that increases costs or reduces benefits. The other three networks with a base case IRR below 15% remain viable in all sensitivity tests, although whenever a test reduces the IRR it reduces it to close to 12%. For these networks, reducing traffic growth by 2% has the greatest impact of all the sensitivity tests. The networks with IRRs of 20% or more in the base case, and the overall Project, remain clearly viable in all cases, even with significant increases in costs or reductions in benefits. The switching values for the overall project, which are the values that render the project economically infeasible, are estimated at a 98% increase in capital cost, a 52% decrease in vehicle operating cost savings, or a decrease in traffic growth by 7%. Neither reducing passenger time savings nor increasing delays in project benefits can reduce net benefits to the point of infeasibility.

Table A13.3: Sensitivity Analysis Results

Network	Base Case	Capital Costs		VOC Savings		Traffic Growth (2%)	Exclude Pass. Time	Delay Benefits 1 Year
		20%	(20%)	20%	(20%)			
		(IRR %)						
Nghe An	43.6	37.7	52.0	48.6	38.3	40.1	40.9	36.0
Ha Tinh	14.6	12.2	17.9	16.5	12.5	12.1	13.3	13.3
Quang Tri	21.8	18.7	26.2	24.3	19.2	19.0	19.7	19.6
Thua Thien-Hue	20.0	17.1	24.0	22.1	17.7	17.2	16.6	18.2
Ninh Thuan	14.8	12.4	18.2	17.1	12.3	12.6	14.0	13.6
Binh Thuan	22.4	19.3	26.7	24.7	19.9	19.7	18.6	20.5
Dak Nong	14.4	12.2	17.5	16.4	12.3	12.0	13.0	13.5
Dak Lak	22.1	19.0	26.5	24.7	19.3	19.4	19.8	20.1
Lam Dong	12.5	10.4	15.4	14.2	10.8	10.3	10.5	11.8
Total	23.7	20.4	28.5	24.9	19.5	21.1	17.2	17.7
Switching value for Total Project	—	(98%)		(52%)		(7%)	—	—

IRR = economic internal rate of return, VOC = vehicle operating cost, — = not applicable.

Source: ADB. 2002. *Technical Assistance to Socialist Republic of Viet Nam for the Preparation of the Central Region Network Project*. Manila. (TA4034-VIE)

F. Poverty Impact

12. The distribution of benefits is shown in Table A13.4. The estimates and assumptions underlying them are explained fully in the Final Report of the PPTA.⁴ The most significant are: (i) end users of public passenger transport will capture 28% and end-users of public freight transport will capture 55% of total road user cost savings; (ii) the proportion of poor in the

⁴ The assumptions are set out in the PPTA Final Report, Volume 3, Section 10. (ADB. 2002. *Technical Assistance to Socialist Republic of Viet Nam for the Preparation of the Central Region Network Project*. Manila. (TA4034-VIE))

population served by each network averages 47.3%, ranging from 16% in Da Nang to 53% in Ninh Thuan; (iii) the poor account for 38.7% of passenger transport usage and 41.7% of freight transport usage; (iv) 8% incidence of poverty among private transport service providers, 0% incidence among skilled workers, and 100% incidence among unskilled workers; (v) 12.6% of the gains and losses for the Government and the economy at large accrue to the poor. The analysis indicates that the poor receive about 46% of all project benefits. The relatively high impact on poverty is primarily due to two factors: (i) implementation of the project implies a transfer of substantial resources from the rest of the economy to the project area, which has a poverty incidence that is significantly higher than the national average; and (ii) the road user survey carried out during project preparation showed that a high proportion of road transport users are poor.

Table A13.4: Net Benefits Accruing to Project Stakeholders Defined as Poor

Sources	Received by Stakeholders in the Project Area							Total Received by Stakeholders
	Economic NPV	End Users of Public Passenger Transport	End Users of Public Freight Transport	Users of Non-mechanized Transport	Transport Providers and Users of Own Motor Vehicles	Un-skilled labor	Gov-ernment and Rest of the Economy	
(Net present value in \$'000)								
Capital	(40,351)	0	0	0	0	1,305	(41,656)	(40,351)
Maintenance	3,947	0	0	0	0	(255)	4,202	3,947
VOC savings	60,211	8,943	27,239	0	34,654	0	(10,625)	60,211
Pass time savings	8,881	3,179	0	0	5,702	0	0	8,881
NMT savings	6,681	0	0	6,681	0	0	0	6,681
Total Net Present Value	39,369	12,122	27,239	6,681	40,356	1,050	(48,079)	39,369
Share of net benefits to the poor (%)		38.7	41.7	57.1	8.0	100.0	12.6	
Net Benefits to the Poor		4,695	11,359	3,816	3,228	1,050	(6,058)	18,090
Poverty Impact Ratio (PIR)								46.0%

NPV = net present value, NMT = non-mechanized traffic, PIR = poverty impact ratio, VOC = vehicle operating cost.

Source: ADB. 2002. *Technical Assistance to Socialist Republic of Viet Nam for the Preparation of the Central Region Network Project*. Manila. (TA4034-VIE)

SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

A. Linkages to the Country Poverty Analysis

Is the sector identified as a national priority in country poverty analysis? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the sector identified as a national priority in country poverty partnership agreement? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>Contribution of the sector or subsector to reduce poverty in Viet Nam: ADB's country strategy and program (CSP) for Viet Nam, approved in January 2002, emphasizes: (i) generating economic growth, and (ii) a geographic focus on the central region. The Project is located in the central region and will address economic growth by improving connectivity to rural areas with poor or seasonal access and increase the efficiency by which people can move and goods can be traded. Thus, this Project is consistent with the CSP.</p> <p>Provincial roads form an important link between "lower level" infrastructure and "upper level" national networks. Connectivity is a key factor for enabling the poor to respond to market incentives and participate in economic growth. Improved transport infrastructure will contribute to a regionally balanced and equitable economic growth by stimulating agricultural production and access to employment opportunities and facilitating access to social services.</p>	

B. Poverty Analysis

Targeting Classification: General intervention

What type of poverty analysis is needed?

The Project will improve approximately 945 kilometers (km) of roads in the central region. Roads to be upgraded will be a combination of provincial and district roads selected using a network approach for each province. The project area comprises the 19 provinces of the central region of Viet Nam. The project area includes the entire length of the flat, flood-prone coastal plain, gently rolling hills near the border with the Lao People's Democratic Republic in the north, and low mountains in the central highland provinces. The predominant economic activity in rural areas is agricultural production. Rice predominates in coastal plains, while coffee, tea, and sugar cane are abundant in hilly and low mountain areas. The principal mode for the movement of goods and people is by road transport. Approximately 50% of provincial roads in the central region are earth or gravel or penetration macadam roads rated in bad or poor condition, with many roads closed in the rainy season.

The goal of the Project is to remove constraints on economic and social development in rural areas of the central region of Viet Nam caused by inadequate transport infrastructure. The purpose of the Project is to induce more efficient, and cost-effective, movement of passengers and goods in rural areas of the central region. Outputs from the Project will include all-weather roads connecting selected rural areas and district and provincial centers built, road safety programs implemented, and sustainable road and bridge asset management systems for provincial road networks established.

The incidence of poverty in the project provinces ranges from 16% to 53%, against a national average of 29%. The population served by the Phase 1 networks is approximately 908,000. The project road user survey found that overall 47.3% of road users in the project area were poor (expenditures between D100,000 and D150,000/per person/month) and 16.3% were very poor (expenditures less than D100,000/per person/month) and that both poor and nonpoor were heavy road users. The large majority of people living in the project area depend on agriculture for their livelihood. Off-farm employment opportunities are very limited. Local residents, mostly farmers, use the roads for transporting goods to market. Over 78% of local road users produced goods for sale, with 77% selling agricultural goods. Approximately 46% of households selling goods cited high transport costs and unsatisfactory prices offered by middle marketers as the reason for selling goods locally or at nearby markets.

The Project's impact on poverty has been quantified by examining the share of total project net benefits that would accrue to the poor and to the very poor. The distributional analysis indicates that the project yields a poverty impact ratio (PIR) of 0.46 and a poverty impact for the very poor of 0.15. The high poverty impact ratio reflects a high incidence of poverty among direct beneficiaries and a substantial net transfer of resources from the economy at large to the project area. Total net benefits accruing to the poor amount to approximately \$18.1 million, of which the very poor receive approximately \$6.0 million. With a Phase 1 network population of 908,000 and with 47.3% of road users being poor and 16.3% very poor, the project benefits will accrue to approximately 429,000 poor beneficiaries, of whom about 148,000 are very poor.

Although the project will greatly benefit the poor in the project area and is located in a geographical area that was identified in the CSP as focus area for ADB intervention, it cannot be claimed to be specifically targeted since non-poor and poor alike have access to the road and will reap identical benefits. The Project is therefore classified as a general intervention.

C. Participation Process

Is there a stakeholder analysis? ☒ Yes ☐ No

Is there a participation strategy? ☒ Yes ☐ No

Project field surveys and participatory community consultation as well as a number of key informant interviews and international studies were used to inform the analysis. In total, 668 local residents, 46 passengers, and 158 vehicle operators living in the project area were surveyed.

The communities along the project roads, including people from ethnic minorities, welcomed the opportunity to express their views and stated that they were willing to participate in project preparation and implementation. However, general knowledge and awareness of government programs and the Project is low. People had heard about road improvement plans and had been promised an improved road for years, so were now discouraged. Overall, people expressed the view that information needs to be widely publicized in a way that most people, particularly those from ethnic minorities people, would be able to access.

Communes in the project area, including those containing people from ethnic minorities, showed unanimous support for improving the roads. According to commune residents, the greatest benefits will be easier movement, increased income sources, and new job opportunities. People also stated it would increase trips to hospitals, schools, and other social institutions. Generally, people did expect a decline in transport costs that would benefit them directly through lower fares and freight rates. The overarching benefit anticipated by the communities along the road was expressed as an improvement in their quality of life.

A participation strategy has been prepared for the resettlement plan, ethnic minority development framework, and the HIV/AIDS¹ awareness and prevention program to ensure that the plans are culturally appropriate and implementable.

D. Gender Development

Strategy to maximize impacts on women:

Women accounted for 44.6% of total project survey respondents. Although the overall poverty rate for the project area was 47.3%, 49.5% of women are poor. Similarly, although 16.3% of the population is very poor, 17.4% of women are very poor. Hence, women as a separate group are poorer on average than the overall population in the project area. About 49% of women identified themselves as farmers and 28% as wage workers but almost all of this work is in agriculture. Approximately 33% of women had not completed primary school but this percentage is higher for women from ethnic minorities. Women mainly contribute to farming activities, frequently market small surplus production, and are usually responsible for fetching water and fuel-wood. Reduced travel costs, more available transport, and better roads will help improve the lives of women and children. Improved transport will result in increased access to basic social services (schools, health care facilities, and markets) and increased employment opportunities. It is anticipated that greater road connectivity may have a direct and positive impact on the mostly illiterate girls and women from ethnic minorities, by promoting their access to adult literacy and training opportunities. In the project survey, women identified easier movement as the primary benefit to arise from the improvements, followed by new job opportunities and increased source of incomes.

Other concerns are that the Project will increase the potential for the spread of HIV/AIDS and other sexually-transmitted infections (STIs) due to the influx of construction workers and increased communication as a result of the road improvements. An additional risk related to increased roadway connectivity lies in the human trafficking of teenage girls and women. These risks will be minimized and mitigated through a gender, HIV and anti-trafficking prevention program, to raise awareness and provide preventive measures for local communities (with a special focus on women from ethnic minorities), construction workers, and the mobile populations.

Women will benefit from the Project and a specific gender strategy has not been prepared. Gender equity issues have been mainstreamed into the resettlement plan, ethnic minority development framework and the HIV/AIDS awareness and prevention program.

Has an output been prepared? ☐ Yes ☒ No

¹ Human immunodeficiency virus/acquired immunodeficiency syndrome

E. Social Safeguards and Other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	<p>Four resettlement plans (RPs) for the subproject network of roads in Phase 1 have been prepared in accordance with ADB's policy on involuntary resettlement and the resettlement policy framework adopted for the project. These four RPs will be updated following detailed design. Approximately 400 affected households, or about 2,073 affected people (APs), have been identified. The road improvement will entail the acquisition of 6 hectares (ha) of land. It will also partially affect three house/shops and permanently affect 27 structures (fences and toilets). An estimated 5,300 trees, 1,800 meters (m) of plant fences, 53 ha of crops, and 630 m² of fishpond will also be affected by the Project.</p>	<input checked="" type="checkbox"/> Full <input type="checkbox"/> Short <input type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	<p>The Project will reduce transport costs for the poor through savings in vehicle operating costs (VOCs). These will be passed on to the poor through lower freight rates, lower passenger fares and time savings, making transportation more affordable. Both the passenger and freight shipping market in the networks is highly competitive, meaning that competition should force lower rates when the roads are improved and vehicle operating costs decline.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>There are no significant labor issues but one of the objectives is to maximize benefit generation for people from local communities, especially the poor, women and people from ethnic minorities by ensuring that all applicable labor laws and regulations are adhered to by all road contractors and that local employment is promoted to the fullest. This does not require a specific plan but the following provisions will be built into relevant documents and will be monitored under the project's general monitoring program.</p> <p>Contracts will specifically refer to maximizing the use of local labor, require that legal wages be paid to workers, prohibit use of child labor for construction and maintenance, and ensure there is differential between the wages paid to men and women for work of equal value. A specific clause will be placed in bidding documents to note that that compliance will be strictly monitored during project implementation.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Indigenous Peoples	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	<p>Five of the nine networks that make up the Phase 1 and 2 areas have ethnic minority groups living in the communes along the roads. In total, there are 55,000 people from ethnic minorities living in 27 communes within these five networks. Eight distinct ethnic minority groups have been identified along these project roads (Cham, Co ho, Dao, Ede, Rag Lai, Tay, Thuong, and Hoa).</p> <p>The overall initial social assessment concluded that impacts on ethnic minorities for Phase 1 and 2 road networks are limited and that the issue with the most significant potential for negative impacts is land acquisition and resettlement. The potential for exploitation of people from ethnic minorities is not high but may still increase with more contact with mainstream populations brought about due to road improvement.</p> <p>An ethnic minority development framework (EMDF) has been prepared in accordance with ADB's <i>Policy on Indigenous Peoples</i> (1999) and <i>Operations Manual</i> Section F3/BP, May 2004, and policies and programs of the Government of Viet Nam and will guide the preparation of ethnic minority specific actions (EMSAs) and ethnic minorities development plans (EMDP). Hence, EMSAs have been incorporated in the RP specifically for Lam province. For Phase 3 road networks, the preparation of EMSA or stand-alone EMDPs will only be known during loan implementation. The budget for the development of EMDPs has been estimated at \$500,000.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	<p>Increased Exposure to Communicable Diseases</p> <p>There is a risk of increasing the infection rate of HIV/AIDS during the construction stage. It is not anticipated that significant increases in truck traffic flows will occur in the short term. However, there is a risk that their lack of awareness of HIV/AIDS may make people from ethnic minorities exceptionally vulnerable. Hence, project implementation will include an HIV/AIDS awareness program and special measures will be taken to ensure information is delivered in a way that is accessible to ethnic minorities. The cost of the HIV/AIDS awareness campaign is estimated to be \$500,000.</p> <p>Road Safety</p> <p>Local residents were concerned about an increase in road accidents because of increased vehicle speeds. Concern was expressed by both women and men about the risk to their children traveling to school along the roads. Roadside improvements will need to incorporate wayside amenities. Improvements will be needed to road shoulders to improve safety for pedestrians and nonmotorized traffic. To incorporate other improvements to road safety the design will include signs and speed breaks near schools, hospitals and areas with many pedestrians such as towns and markets.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No