ASIAN DEVELOPMENT BANK
Independent Evaluation Department

SECTOR ASSISTANCE PROGRAM EVALUATION

FOR THE TRANSPORT SECTOR

IN THE

LAO PEOPLE'S DEMOCRATIC REPUBLIC

In this electronic file, the report is followed by Management's response and the Board of Directors' Development Effectiveness Committee (DEC) Chair's summary of a discussion of the report by DEC.

Evaluation Study

Reference Number: SAP: LAO 2010-44
Sector Assistance Program Evaluation
October 2010

Lao People's Democratic Republic: Transport Sector

Independent Evaluation Department

Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
ADTA	–	advisory technical assistance
AusAID	–	Australian Agency for International Development
CSP	–	country strategy and program
DOR	–	Department of Roads
DPWT	–	Department of Public Works and Transport
EIRR	–	economic internal rate of return
GMS	–	Greater Mekong Subregion
IED	–	Independent Evaluation Department
JICA	–	Japan International Cooperation Agency
km	–	kilometer
Lao PDR	–	Lao People's Democratic Republic
MCTPC	–	Ministry of Communications, Transport, Post, and Construction
MPWT	–	Ministry of Public Works and Transport
NSEDP	–	National Socioeconomic Development Plan
OPEC	–	Organization of Petroleum Exporting Countries
PCR	–	project completion report
PPER	–	project performance evaluation report
PPTA	–	project preparatory technical assistance
PRC	–	People's Republic of China
RMF	–	Road Maintenance Fund
RRP	–	report and recommendation of the President
SAPE	–	sector assistance program evaluation
Sida	–	Swedish International Development Cooperation Agency
SWAp	–	sector-wide approach
TA	–	technical assistance
UNDP	–	United Nations Development Programme

NOTES

(i) The fiscal year (FY) of the Government of the Lao People's Democratic Republic is from 1 October to 30 September. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2000 ends on 30 September 2000.

(ii) In this report, "$" refers to US dollars.

(iii) For an explanation of rating descriptions used in evaluation reports of the Asian Development Bank, see Asian Development Bank. 2006. *Guidelines for Preparing Performance Evaluation Reports for Public Sector Operations.* Manila.

Key Words

adb, asian development bank, development effectiveness, infrastructure, lao pdr, lao people's democratic republic, performance evaluation, roads, road maintenance, transport

Director General	H. Satish Rao, Independent Evaluation Department (IED)
Director	H. Hettige, Independent Evaluation Division 2, IED
Team leader	N. Singru, Senior Evaluation Specialist, Independent Evaluation Division 2, IED
Team members	R. Lumain, Senior Evaluation Officer, Independent Evaluation Division 2, IED C. Roldan, Assistant Operations Evaluation Analyst, Independent Evaluation Division 2, IED
	Independent Evaluation Department, SE-23

CONTENTS

The guidelines formally adopted by the Independent Evaluation Department (IED) on avoiding conflict of interest in its independent evaluations were observed in the preparation of this report. Ruel Janolino, James Chamberlain, Khamsay Hongsouvanh, and Marga Domingo-Morales were the consultants. To the knowledge of the management of IED, there were no conflicts of interest of the persons preparing, reviewing, or approving this report.

APPENDIXES

Attachments:	Management Response DEC Chair Summary

EXECUTIVE SUMMARY

The Asian Development Bank (ADB) has made substantial contributions to building transport infrastructure in the Lao People's Democratic Republic (Lao PDR). ADB assistance amounted to $406 million between 1983 and 2009, which forms about 45% of the total contribution by the major development agencies working in the Lao PDR transport sector. ADB has the opportunity to facilitate further improvements in the development effectiveness of transport assistance in the country.

As an input to the country assistance program evaluation, this sector assistance program evaluation (SAPE) assesses the performance of ADB's assistance between 2000 and 2009 to the Lao PDR transport sector. More specifically, the SAPE examines the effectiveness of ADB-funded projects in achieving their development objectives and assesses their contribution to human development impacts. It identifies lessons for further development of transport sector assistance in the country. The transport sector analysis focuses mainly on the road subsector, since ADB's transport operations have been in this subsector only during the period of evaluation.

As of December 2009, ADB approved 14 loans totaling $363 million, 32 technical assistance (TA) projects totaling $16 million, and 1 grant worth $27 million. Out of this, the civil aviation subsector received one loan of $15 million, while the tourism subsector received another loan for $11 million, which included rehabilitation of roads connecting tourist destinations.

ADB's program can be broadly divided into two categories based on the mode of lending—(i) the Lao PDR country program that has supported various levels of road improvements from national roads to rural roads contributing to the growth of the domestic economy, and (ii) the Greater Mekong Subregion (GMS) regional program that has supported mainly regional roads (national roads or highways) connecting the international borders contributing mainly to the growth in international trade. This document refers to the country program and GMS regional program separately to highlight the need for ADB to continue and scale-up assistance for improvement of provincial and rural roads, which typically forms part of the country program.

Transport Sector Context

Being a landlocked country, the Lao PDR depends heavily on road transport for economic development. The increase in the road network has been accompanied by an even faster growth in the number of vehicles across the country. However, remote areas still have low traffic density due to the low level of their economic activities. The Ministry of Public Works and Transport (MPWT) is the national government agency primarily responsible for expansion and maintenance of the transport infrastructure in the country.

The Lao PDR's development plans have consistently supported the expansion of the road network but have also recognized the limitations imposed by funding constraints. In recent years, regional connectivity has been emphasized. MPWT's multicriteria mechanism for prioritizing projects gives more weight to funding regional projects connecting the international borders than the projects providing access to remote areas within the country. In response, ADB's strategy has evolved to focus more on regional roads (through the GMS Program) to improve connectivity with neighboring countries. While there has been a growing awareness

within the government of the need to ensure the sustainability of projects, what ADB will do in this area has not been clearly identified.

ADB's investment in rural roads is not only through its transport sector portfolio but also through its agriculture and rural development lending window. ADB's completed and ongoing assistance has contributed to the improvement of about 796 kilometers of such roads in the Lao PDR. While the quality of outputs has generally been *satisfactory*, there is inadequate capacity at the provincial level to implement these projects.

Program Implementation

All ADB transport sector projects in the Lao PDR faced delays, ranging from 13 months to 47 months. Initial delays were attributed to late engagement of consultants, slow mobilization of equipment, design changes and/or additional work, and the prolonged and tedious procurement process of the government. To address these problems, ADB allowed advance procurement from 1993, which reduced the start-up problems. However, implementation was delayed in subsequent projects due to the insufficient capacity of the executing agency in project administration and in implementing ADB procedures, delays in mobilization of the required implementation structure, delays in counterpart funding, delays in preparation of tender documents, and contractor problems. Other factors that affected the completion of civil works include difficult physical conditions such as massive landslides (e.g., Fourth Road Improvement Project) and discoveries of deeply buried unexploded ordnances (e.g., East–West Corridor Project).

The Lao PDR has been able to encourage growth of private contracting firms, some of which have emerged from former state-owned enterprises. However, most of these national firms lack experience in technical and commercial aspects. The issue of poor performance of the national contractors has been seen on the Rural Access Roads Project and the Roads for Rural Development Project.

Evaluation of the Assistance

Strategic positioning. This is *satisfactory,* taking into consideration the regional projects, upcoming country program, and the integrated agriculture and rural development program. However, allocation of funding can be improved. Given the funding constraints in the Lao PDR, ADB's country strategy and program has applied selectivity in its programming. The transport sector program is inclined toward regional cooperation, in line with the government's development plans. As a result, there has been limited incremental allocation for the country program. The last transport project approved for the country program was in 2004. ADB is now planning a new project within the country program for approval in 2012. While this indicates a long gap in assistance, it needs to be noted that a GMS project was approved in 2007 for rehabilitating the roads in northern Lao PDR. However, the long gap in the country program has created a disconnect between the actual assistance (i.e., regional cooperation projects) and the sector road map, which is relatively inward looking (e.g., provinces without all-weather road access, paved roads in general, and increase in maintenance funding). As per the current program, the Lao PDR has been provided a biennial allocation of $150.56 million for 2009–2010, which includes adjustment in response to the global economic crisis. The relatively small size of this assistance indicates the funding constraints faced by the transport sector.

ADB has adopted an integrated approach for designing agriculture projects, combining rural roads with agriculture sector interventions. This should be continued, but the planning and implementation can be improved by incorporating several factors mentioned in this report.

Relevance. The transport sector assistance for the Lao PDR is *relevant* based on (i) the degree to which ADB assistance was consistent with the country needs and ADB's strategic priorities, (ii) the quality-at-entry of the country partnership strategies and program, and (iii) coordination with development partners. ADB's program has been consistent with the Lao PDR's socioeconomic development plans. However, the thrust of ADB's assistance for 2006–2010 was on regional projects, and no new assistance was approved for the Lao PDR's country program. Further, ADB-funded projects have typically been geographically dispersed in various parts of the country, affecting the implementation efficiency as well as the attribution of their impacts. ADB's transport sector program has generally been coordinated with other development partners but this can be further improved. Finally, the quality of the project design frameworks in the past reports and recommendation of the President and project completion reports needed strengthening, especially in relation to the indicators for outcomes and impacts. Since 2009, they have shown improvement.

Efficiency. ADB assistance is *less efficient* based on the economic analysis and the implementation performance of the transport projects. Based on the economic internal rate of return criterion alone, out of the 5 completed ADB road projects between 2000 and 2009, 1 was found to be *highly efficient*, 3 were *efficient*, and 1 was *less efficient* as reported in previous evaluation reports. Two of these projects were self-evaluated. The efficiency ratings of the first four projects did not consider their implementation performance in the rating although these projects also had implementation issues. The inclusion of the implementation efficiency as the criterion has resulted in a lower performance rating. The recently completed Rural Access Roads Project was found to be *less efficient*, owing to a combination of low economic benefits accrued and implementation efficiency issues. The lower economic viability of rural roads and, to a certain extent, of regional roads is not unexpected but could improve later with change in economic conditions after the intervention. Generally, overall transport sector efficiency has been affected by poor implementation performance characterized by substantial delays (average 35 months) and cost overruns (average 13%) for projects completed between 2000 and 2009. Finally, the use of loan savings for funding additional works needs to be justified in terms of adequate due diligence at the time of utilization and at the project completion stage.

Effectiveness. ADB assistance is *effective,* based on the extent to which ADB's program achieved sector-specific outcomes and institutional development outcomes. The government and its development partners have been contributing to road network expansion and improvement of the connectivity. Typically, the majority of the outputs from road subsector projects in the Lao PDR can be summarized in terms of physical accomplishments, such as the length of roads improved or constructed and numbers of bridges improved or built. Projects have also contributed to all-weather connectivity in southern and western parts of the country. The most recently completed project, the GMS: Northern Economic Corridor Project, links the People's Republic of China with Thailand via the Lao PDR's Louang Namtha Province. Assistance for periodic maintenance of roads has been difficult to assess since ADB funding was fungible.

ADB has provided effective support for institutional development, but some areas need to be improved. ADB's efforts need to focus on the core areas of safeguard implementation, rural road network expansion, and maintenance planning and funding. MPWT's current draft transport sector strategy also advocates this institutional strengthening.

Sustainability. Overall, ADB assistance to the Lao PDR transport sector is *likely to be sustainable* based on an assessment of government's financing of recurrent costs, cost recovery of the projects, institutional arrangements, and the past experience of road maintenance in the country. The maintenance of national roads and highways in the Lao PDR is funded from the Road Maintenance Fund, which allocates 90% of its revenues to national roads. Based on the revenue growth estimated by MPWT, this fund is expected to be self-sufficient in the medium term. However, this will depend on a large increase in the fuel levy, which has political ramifications. In view of the assurances provided by MPWT for continued rise of this levy in the future and the demonstrated fuel levy increases in the past, ADB assistance for the national roads program is rated *likely to be sustainable.* However, the funds allocated for provincial, district, and rural roads continue to remain short of the requirements. This has increased the risk of deterioration of recently rehabilitated roads. With the low demand in the form of traffic, maintenance of those roads remains low in the order of funding priority. In view of this, ADB assistance for rural roads is *less likely to be sustainable,* unless the government sets up a mechanism to address this issue.

Impacts. The contribution of ADB's assistance to development impacts in the transport sector is rated *substantial*. This assessment measures the extent to which ADB's cumulative interventions contributed to the Lao PDR's long-term development results. These impacts are assessed across ADB's portfolio in the following key thematic areas: poverty reduction, impact on trade and tourism, impact on health, vehicle overloading and safety, agricultural development, environmental impact, and impact on ethnic people (or indigenous peoples, as described in ADB's Safeguards Policy Statement). This assessment has highlighted the need for setting up appropriate impact assessment tools to capture post-project impacts. An important area that ADB needs to monitor is the differential impacts of the transport projects among ethnic communities.

Two conclusions are intuitive to the Lao PDR's context: (i) more time is needed for project benefits to be captured by the residents in rural areas; and (ii) other interventions are essential for economic benefits to be captured by the population, such as improvement in policies for land allocation, village consolidation, opium cultivation eradication, and eradication of swidden cultivation; agriculture development in terms of improvement of quantity, quality, and diversity of crops; encouragement of crop substitution; and provision of health and education services. The Lao PDR's transport sector is susceptible to adverse impacts on environment and ethnic people, as highlighted in this report. Use of external monitors for sensitive projects also needs to be mainstreamed. Specifically, the issue of the delayed appointment of external monitors for the ongoing Northern GMS Transport Network Improvement needs to be addressed.

Overall assessment. The overall rating of ADB's program is *successful* based on the above six criteria. This rating is an outcome of several factors. First, ADB's contribution to the Lao PDR transport sector has been tangible and consistent with the country's needs. Second, the assistance has been effective in enabling positive outcomes at the local, country, and regional levels. Third, it can be attributed to having contributed to agricultural development. There remains room for improvement in other areas, such as project implementation performance, low utilization of project outputs, institutional development, sustainability, strategic positioning, and differential impacts among ethnic people.

ADB performance. This is *satisfactory* for the transport sector in the Lao PDR. ADB has added value by funding capital investment projects and capacity development in selected areas. Although this continues to be consistent with the needs of the country, there are other areas of

intervention that need improvement, such as sustainability. ADB can further improve its performance by assisting MPWT in addressing sector-wide issues relating to capacity development, road maintenance, and private sector development. Delegation of loan and grant administration to the Lao Resident Mission could be scaled up provided it is supported by adequate staff and other resources.

ADB has been at the forefront of participating in sector working groups to coordinate transport investments in the Lao PDR. With the increase in the number of development agencies and the amount of external assistance, there was heightened awareness of the need for donor coordination. However, coordination among agencies can be improved, especially regarding knowledge sharing and project implementation monitoring.

Lessons and Recommendations for Future Assistance

The country assistance program evaluation in 2006 for the Lao PDR had recommended that ADB should continue to support road maintenance and road safety. These recommendations continue to be valid.

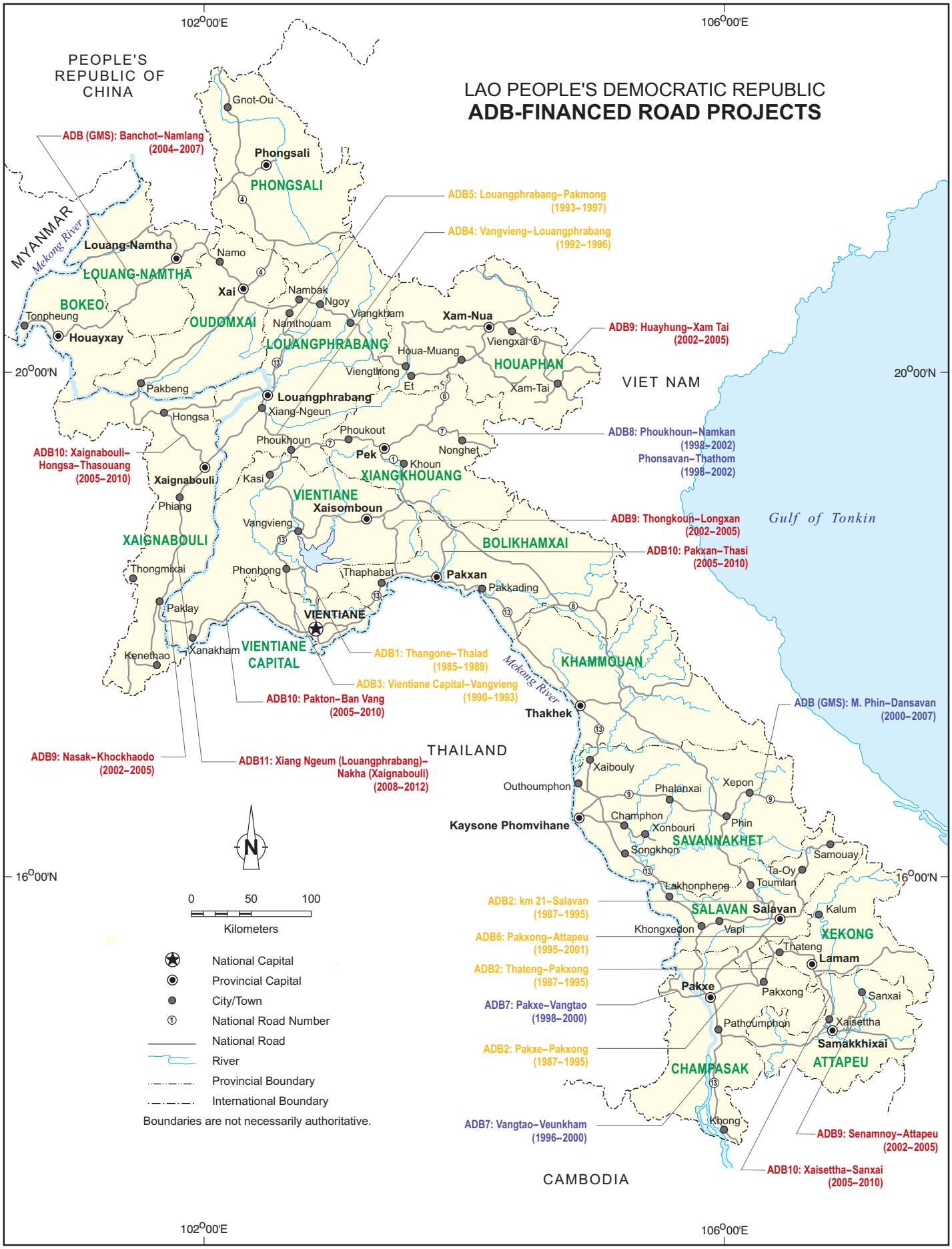
From this SAPE, the lessons identified for ADB for future assistance are (i) higher development effectiveness could be achieved by continuing and scaling up the assistance for provincial and rural roads; (ii) geographically focused projects enable better project management and development effectiveness; (iii) the quality of sector and project design frameworks can be improved to ensure better measurement of outcomes and impacts; (iv) ADB can facilitate transfer of knowledge from other countries to the Lao PDR; (v) better due diligence during procurement of civil works contracts can avoid selection of poorly qualified contractors; (vi) sector-wide solutions for road maintenance will ensure consistent sustainability; and (vii) more detailed and careful ex-ante assessment of environmental and social impacts will ensure that propensities for negative impacts are identified correctly at the feasibility stage. External monitors have been useful and could be replicated in other projects.

Recommendations for ADB's future assistance are summarized in the table below. These recommendations are suggested for inclusion in the next country partnership strategy. The results of the interventions linked to these recommendations can be measured after 5 years to evaluate their effectiveness.

Recommendation	Responsibility
Capacity development (para. 178). Support the government in the development of integrated capacity-building programs (instead of one-off TA) in specific areas.	Southeast Asia Department
Project-readiness filters (para. 179). Improve implementation performance of ADB transport projects by mainstreaming project-readiness filters to assess the institutional preparedness within the government for implementing a new project.	Southeast Asia Department
Coordination of assistance (para. 180). Work in conjunction with the government to improve development agency coordination in the areas of knowledge sharing and implementation monitoring.	Southeast Asia Department

ADB = Asian Development Bank, TA = technical assistance.

H. Satish Rao
Director General
Independent Evaluation Department


LAO PEOPLE'S DEMOCRATIC REPUBLIC
ADB-FINANCED ROAD PROJECTS
PEOPLE'S REPUBLIC OF CHINA
MYANMAR
VIET NAM
THAILAND
CAMBODIA
Gulf of Tonkin
Mekong River
102°00'E
106°00'E
20°00'N
16°00'N
Gnot-Ou
Phongsali
PHONGSALI
Louang-Namtha
LOUANG-NAMTHA
Namo
Xai
Nambak
Ngoy
BOKEO
Tonpheung
OUDOMXAI
Houayxay
Namthouam
Viangkham
LOUANGPHRABANG
Xam-Nua
Viengxai
Houa-Muang
HOUAPHAN
Viengthong
Et
Xam-Tai
Pakbeng
Louangphrabang
Xiang-Ngeun
Hongsa
Phoukout
Phoukhoun
Pek
Nonghet
Khoun
XIANGKHOUANG
Xaignabouli
Kasi
VIENTIANE
Xaisomboun
Phiang
Vangvieng
XAIGNABOULI
BOLIKHAMXAI
Thongmixai
Phonhong
Thaphabat
Pakxan
Pakkading
Paklay
VIENTIANE
Kenethao
Xanakham
VIENTIANE CAPITAL
KHAMMOUAN
Thakhek
Xaibouly
Outhoumphon
Phalanxai
Xepon
Champhon
Phin
Kaysone Phomvihane
Xonbouri
SAVANNAKHET
Songkhon
Samouay
Ta-Oy
Lakhonpheng
Toumlan
SALAVAN
Salavan
Kalum
Khongxedon
Vapi
XEKONG
Thateng
Lamam
Pakxe
Pakxong
Sanxai
Pathoumphon
Xaisettha
Samakkhixai
ATTAPEU
CHAMPASAK
Khong
ADB (GMS): Banchot–Namlang (2004–2007)
ADB5: Louangphrabang–Pakmong (1993–1997)
ADB4: Vangvieng–Louangphrabang (1992–1996)
ADB9: Huayhung–Xam Tai (2002–2005)
ADB8: Phoukhoun–Namkan (1998–2002)
Phonsavan–Thathom (1998–2002)
ADB10: Xaignabouli–Hongsa–Thasouang (2005–2010)
ADB9: Thongkoun–Longxan (2002–2005)
ADB10: Pakxan–Thasi (2005–2010)
ADB1: Thangone–Thalad (1985–1989)
ADB3: Vientiane Capital–Vangvieng (1990–1993)
ADB10: Pakton–Ban Vang (2005–2010)
ADB (GMS): M. Phin–Dansavan (2000–2007)
ADB9: Nasak–Khockhaodo (2002–2005)
ADB11: Xiang Ngeum (Louangphrabang)–Nakha (Xaignabouli) (2008–2012)
ADB2: km 21–Salavan (1987–1995)
ADB6: Pakxong–Attapeu (1995–2001)
ADB2: Thateng–Pakxong (1987–1995)
ADB7: Pakxe–Vangtao (1998–2000)
ADB2: Pakxe–Pakxong (1987–1995)
ADB7: Vangtao–Veunkham (1996–2000)
ADB9: Senamnoy–Attapeu (2002–2005)
ADB10: Xaisettha–Sanxai (2005–2010)
N
0 50 100
Kilometers
National Capital
Provincial Capital
City/Town
National Road Number
National Road
River
Provincial Boundary
International Boundary
Boundaries are not necessarily authoritative.
10-0698 HR

I. INTRODUCTION

A. Background

1. The Lao People's Democratic Republic (Lao PDR) is a landlocked country, with a population of more than 5 million people. Its transport system depends heavily on the road network, much of which was destroyed during past conflicts as well as through natural calamities. Although considerable network rehabilitation has been achieved, network coverage must be further extended to remote areas to enable their access to social services, trade, and income and employment opportunities. While the Asian Development Bank (ADB) has provided technical assistance (TA), grants, and loans to support these efforts, such interventions need to be continued to further improve the gaps in the network coverage.

2. ADB lending assistance for the transport sector in the Lao PDR was initiated in 1983 with the road subsector, and subsequently in 1993 for the civil aviation subsector. Since then, ADB assistance has focused on the road subsector only. Cumulative ADB lending for the transport sector in the Lao PDR has amounted to $406 million, covering 14 loan projects, 1 grant-financed project, and 32 TA projects as of December 2009, of which 13 were for the road subsector. As per the ADB country classification system, the Lao PDR is eligible to receive concessionary Asian Development Fund (ADF) resources in light of its gross national income per capita and creditworthiness. Appendix 1 provides details of loans and TA projects, both completed and ongoing.[1]

B. Objective and Scope

3. The objective of this sector assistance program evaluation (SAPE) is to provide an independent assessment of ADB assistance between 2000 and 2009 to the Lao PDR transport sector and to identify areas for improving the effectiveness of its interventions. It uses facts and lessons from earlier projects to establish the content of this evaluation. The findings of this evaluation will feed into the broader country assistance program evaluation being carried out by the Independent Evaluation Department (IED). Taking into account the sector context, the SAPE evaluates the contribution of ADB to specific development results in the Lao PDR and identifies issues and lessons in the sector pertinent to the preparation of the next country partnership strategy.

4. In the Lao PDR transport sector, the SAPE mainly covers the road subsector, with a limited analysis of the civil aviation subsector. Although ADB has funded only one civil aviation project, this subsector is included in the SAPE to fully cover all of ADB's transport assistance.

C. Evaluation Framework and Methodology

5. The SAPE follows ADB guidelines for a country assistance program evaluation.[2] Appendix 2 provides the evaluation framework for the SAPE. The evaluation criteria for the sector comprise relevance, efficiency, effectiveness, sustainability, development impacts, and strategic positioning. Taking into account the findings from these assessments, this SAPE provides an overall rating for transport sector assistance and identifies lessons and recommendations for future assistance.

---

[1] Details of these loans and TA projects are not footnoted when they are referred to in the text.

[2] ADB. 2010. *Revised Guidelines for the Preparation of Country Assistance Program Evaluations*. Manila. Draft.

6. The SAPE draws on a combination of desk reviews, project documents, and primary data collection to analyze the transport sector. Out of the 13 ADB-funded road projects completed in the Lao PDR, IED evaluated seven projects through project performance evaluation reports (PPERs). More recently, a PPER has been prepared for the Rural Access Roads Project.[3] These evaluation reports provide a comprehensive analysis of the completed projects.

D. Findings of Earlier Evaluation

7. The 2006 country assistance program evaluation for the Lao PDR[4] indicated that ADB had performed well in the transport sector. It found that an important factor contributing to the overall success of ADB operations was continuity in key sectors, like transport. The success of the country program in enabling infrastructure development reflected a systematic, continued series of interventions, allowing succeeding projects to build on past achievements.

8. The evaluation concluded that ADB assistance to the Lao PDR transport sector was *highly relevant* to the country strategy objectives and the country's needs since it provided investments in essential infrastructure to enhance connectivity and to stimulate market transition, which were priority areas in all three periods of the ADB country strategies for the Lao PDR. Assistance to the transport sector was *efficient*. Capacity building of the Ministry of Public Works and Transport (MPWT)—formerly called the Ministry of Communications, Transport, Post, and Construction (MCTPC)—has been a key element of ADB support to this sector through a series of advisory technical assistance (ADTA) projects over the past 2 decades. Institutional development and other impacts of ADB assistance to the transport sector were rated *substantial*.

E. Organization of the Report

9. Chapter II of this SAPE describes the background of the Lao PDR transport sector and identifies the development challenges. Chapter III provides a summary of ADB strategy and assistance for the sector. Chapter IV evaluates ADB sector assistance. Chapter V provides the conclusions, lessons, and recommendations for future sector assistance.

II. SECTOR CONTEXT

A. Sector Profile

10. Being a landlocked country, the Lao PDR depends heavily on road transport for trade links both externally and internally. In 2007, road transport accounted for 93% of passenger travel (passenger-kilometers [km]) and 85% freight movement (ton-km).[5] The remaining passenger and freight traffic were carried through waterways and civil aviation. The road network has increased by 78% over the last decade from 20,000 km in 1997 to 35,558 km in 2009.[6]

11. **Roads.** Transport infrastructure in the Lao PDR is at an early stage of development as demonstrated by the road density as well as by the road quality. Its road density is low, compared with other Southeast Asian countries, as well as with most other landlocked countries. For example, Mongolia, which is also a landlocked country, has a road density of 19.0 km per

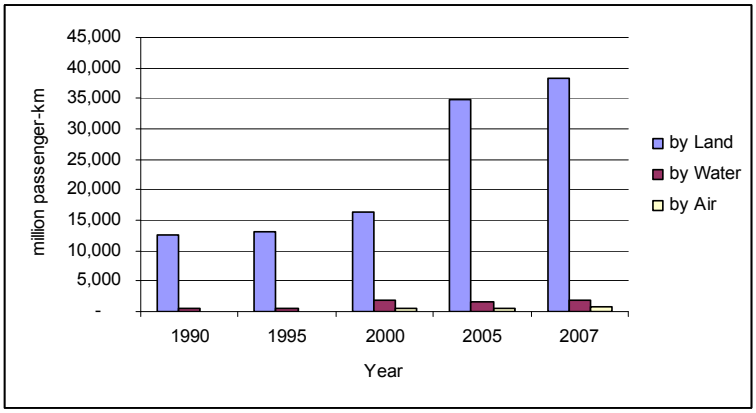
[3] ADB. 2009. *Performance Evaluation Report: Rural Access Roads Project in the Lao People's Democratic Republic.* Manila.
[4] ADB. 2006. *Country Assistance Program Evaluation: Lao People's Democratic Republic*. Manila.
[5] Lao PDR National Statistical Center. http://www.nsc.gov.la/Statistics
[6] Government of the Lao PDR, MPWT. 2009. *Strategy for Transport Sector Development for the Period 2008–2010 and Direction for 2011–2015*. Vientiane. Draft. This document is yet to be formally approved by the government.

1,000 people as compared with the Lao PDR's road density of 6.1 km per 1,000 people. In addition, the general demands on the transport infrastructure are low, since traffic levels on the national network (except near Vientiane and Savannakhet) are below 1,000 average annual daily traffic and below 500 average annual daily traffic on most other networks. However, demand has been increasing over the years at an annual rate of 5%–8% for goods and 8%–10% for passengers, indicating a rise in line with economic growth. A majority of the roads are impassable during the rainy season. Appendix 3 provides a summary of the transport sector profile.

12. The number of vehicles in the country increased from 59,781 in 1985 to 568,290 in 2005, with the highest growth occurring from 2000 to 2005 (a two-fold increase).[7] At the end of 2007, the Lao PDR had 641,031 vehicles registered, and motorcycles accounted for almost 80%. Most of the country's transport fleet is registered in Vientiane, which has more than 40% of the country's vehicles. This indicates a concentration of vehicles in urban areas, increasing the corresponding pressure on its transport infrastructure and traffic management. The long-distance traffic segment is dominated by lighter vehicles, with trucks forming about 30% of the traffic, mostly on the national roads. A section of Road 13 (Vientiane–Vangvieng–Louangphrabang) generated the highest traffic volume at 2,000–4,000 vehicles per day.[8]

13. The low traffic demand, combined with the need to provide access to remote areas, shows that the Lao PDR needs to develop basic two-lane roads at a low cost for the medium term until demand rises to levels requiring significant capacity expansion. Figure 1 shows the passenger-km for the Lao PDR.

Figure 1: Passenger-Kilometer Evolution in the Lao People's Democratic Republic



km = kilometer.
Source: Lao People's Democratic Republic National Statistical Center. http://www.nsc.gov.la/Statistics

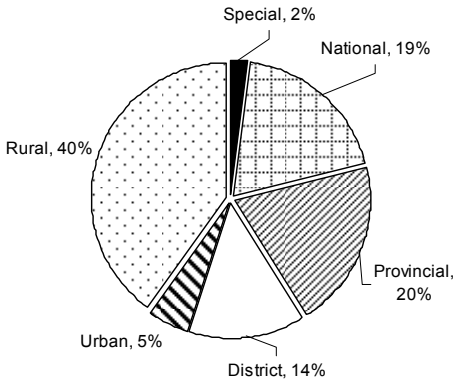
14. **Road classification and network condition.** The public road network is divided into (i) national roads or highways which connect the capital city to other provincial towns and economic centers, connect to the international borders, and serve socioeconomic development at the national level; (ii) provincial roads link provincial capitals and connect special economic zones to the district centers; (iii) district roads link district economic centers to villages; (iv) urban roads, which are internal to towns and cities; (v) rural roads link villages and utilities serving the villages;

[7] ADB. 2007. *Proposed Asian Development Fund Grant to the Lao People's Democratic Republic for the Northern Greater Mekong Subregion Transport Network Improvement Project*. Manila (Grant 0082-REG, for $27 million, approved 27 September).

[8] The Vientiane–Louangphrabang road was rehabilitated using ADB funds. The traffic figures on this road have been obtained from the draft strategy report (footnote 6).

and (vi) special roads serve specific purposes such as for tourism, environmental conservation, and water source protection. Each class is formally defined in the Road Law of 1999.[9] Based on mid-2008 estimates, out of the total 35,558 km of public roads, rural roads form the majority of the road network, followed by provincial and national roads (Figure 2).[10] Feeder roads connect national roads with other smaller roads or with adjacent dwellings.

Figure 2: Classification of Roads (number of kilometers), 2008



Source: Government of the Lao People's Democratic Republic, Ministry of Public Works and Transport. 2008. *Strategic Plan for Transport Sector Development: Guiding the Sector-Wide Approach*. Vientiane.

15. In mid-2008, only 13.6% of the total length of roads was paved (using bitumen, asphalt, or concrete); 33.7% was gravel; and the remaining 52.7% was earth construction. Paved roads form 56% of the national roads and 3% of the other roads. Other roads have gravel (33.7%) or earth surfaces (52.3%). Seasonal closures are frequent due to poor pavement and deficient cross-drainage. MPWT reported in its 2009 strategy paper that many of these sections are impassable during the rainy season (footnote 6). It also estimated that about 36% of the roads are in an unmaintainable condition, that is, their condition is so poor that they have to be rehabilitated.

16. **Air transport.** In the civil aviation subsector, the Lao PDR operates the Wattay Airport at Vientiane and two regional airports at Louangphrabang and Pakxe. In addition, there are 10 minor airports in the provincial capitals and 39 other airstrips.

17. **Inland waterways.** The Lao PDR's topography has traditionally facilitated inland waterway transport. However, this form of transport is insufficiently used and lacks integration with the other forms of transport, especially roads. The country has over 2,000 km of rivers, comprising the Mekong and its tributaries. Twenty-one river port facilities, constructed by the government, have typically been employed for domestic trade only. However, recent years have witnessed a growth in cross-border trade with the People's Republic of China (PRC), Myanmar, and Thailand.

18. **Railways.** Other than a 3.5-km rail link across the Mekong River between Thanaleng in the Lao PDR and Nongkhai in Thailand, the railway subsector in the Lao PDR has not been developed, restricting the transport of bulk and heavy freight at lower costs. This has contributed to slow growth of large industries in rural areas.

19. Nonroad transport infrastructure has not developed much in the Lao PDR, due to lack of adequate funding as well as the relatively low level of economic activities in rural areas. The Lao PDR economy faces a conundrum: the lack of infrastructure hinders economic development, and the lack of economic activities does not provide a sufficiently strong rationale for

[9] The Road Law was passed by the National Assembly on 3 April 1999.
[10] MPWT estimates in mid-2008.

infrastructure development. Yet this issue can be resolved by developing economic centers that have good access to urban areas and can attract economic and commercial activities.

20. **Urban transport.** The pressure on urban transport systems has been building up slowly. While the number of vehicles has been increasing in line with national figures, urban infrastructure in Vientiane and other large towns needs to be upgraded, and mass rapid transit systems must be introduced. A 2008 study on Vientiane's urban transport network forecasted a rise in vehicle trips from 418,775 in 2007 to 958,144 in 2025, a growth of 2.3 times.[11] This will impact traffic congestion in the city similar to other Asian cities such as Bangkok and Manila.

21. According to the 2008 study, the number of registered vehicles especially increased after 2000, primarily attributed to the growing availability of low-priced motorcycles. Traffic surveys conducted in Vientiane showed that there is usually high traffic on major roads, with the highest traffic volume (58,470 vehicles per day in both directions, including motorcycles) observed in front of the Pohphano Temple along Kaysone Road. This indicates a growing problem of congestion, requiring a combination of infrastructure improvement and traffic management.

B. Institutional Arrangements

22. MPWT is the national government agency primarily in charge of transport. It is responsible for developing national and provincial roads, civil aviation, urban transport systems, river wharves, and river and road transport. MPWT consists of six departments: the Department of Civil Aviation, Department of Housing and Urban Planning, Department of Inland Waterways, Department of Planning and Cooperation, Department of Roads (DOR), and Department of Transport. Based on 5-year transport plans, the provinces prepare and submit annual implementation plans for transport projects to MPWT.

23. **Roads.** Recent changes to the institutional structure of MPWT resulted in a delegated, decentralized system of coordination and implementation. MPWT has the overall responsibility but has delegated certain project management and maintenance responsibilities to departments of public works and transport (DPWTs) in each province, with subsidiary offices in districts. Similarly, DPWTs have delegated various tasks to offices of public works and transport, which are headed by DPWT staff. DPWTs report to the provincial governor for budget purposes but also to MPWT for compliance with national technical standards.[12] Although MPWT provides partial budgetary support for routine and periodic maintenance, the implementation is carried out by DPWTs, requiring adequate technical capacity at the provincial and district levels.

24. The Road Maintenance Fund (RMF) was created within the organizational structure of MPWT. It is supervised and directed by an RMF advisory board, which consists of representatives from the public and private sectors appointed by the Prime Minister from the Ministry of Finance, MPWT, provincial authorities, Lao National Chamber of Commerce and Industry, road and passenger transport operators, and the general public. The advisory board also recommends user charges based on maintenance requirements.[13] The Road Administration Department of MPWT coordinates with the RMF regarding financial support for national road maintenance and the Local Roads Division with regard to local roads.

---

[11] Government of the Lao PDR, MCTPC and the Japan International Cooperation Agency (JICA). 2008. *The Study of Master Plan on Comprehensive Urban Transport in Vientiane in Lao PDR*. Vientiane. Draft. This document is yet to be formally approved by the government.

[12] Government of the Lao PDR, MPWT. 2008. *Strategic Plan for Transport Sector Development: Guiding the Sector-Wide Approach*. Vientiane. Draft. This document is yet to be formally approved by the government.

[13] K. Vaidya and P. Tusanasorn. 2004. *Review of Rural Road Maintenance in Lao PDR: Current Status, Issues, and Options*. Vientiane: International Labour Organization.

25. **Air transport.** Within MPWT, the Department of Civil Aviation is responsible for policy and planning in civil aviation and for regulatory oversight of technical and safety matters pertaining to aviation and the Lao Airports Authority. The department has eight divisions in addition to the Lao Airports Authority, which is responsible for the operation and maintenance of the Wattay international and domestic airport terminals (Vientiane), two regional airports (Louangphrabang and Pakxe), and two provincial airports (Louang Namtha and Savannakhet). All other provincial small airports are the responsibility of the provincial governments with the department's technical consultation.

26. **Inland waterways.** The Department of Waterways is responsible for policy, planning, and managing all inland waterways in the country. This includes port and navigation channel management, flooding and river bank protection, and waterways transport. These waterways carry freight within the Lao PDR, as well as across the border to the PRC, Myanmar, and Thailand.

27. **Railways.** The Lao National Railways Authority under MPWT is responsible for managing the short railway line, which is used for freight traffic, between the Lao PDR and Thailand.

C. Development Challenges

28. **Funding constraints.** Despite large investments to develop the national roads and highways, the road network remains less developed due to funding constraints for rehabilitation. Most remote parts of the Lao PDR remain inaccessible and depend on earth roads, which are often impassable during the rainy season. As previously stated, only 56% of the national roads are paved with a bitumen surface (footnote 12). Further, besides central budget allocations, MPWT depends on funding from multilateral and bilateral development agencies, whose funding has been mainly channeled toward developing the national road network, i.e., highways, often overlooking the smaller and more remote provincial and rural roads. Lack of adequate funding has been the main constraint faced by the sector, which is also evident by the delays in the availability of counterpart funds. The project completion reports (PCRs) of the recently completed Rural Access Roads Project and Greater Mekong Subregion (GMS): Northern Economic Corridor Project indicated that counterpart funding has become a significant challenge in the recent years. It is being resolved in the current projects through tax breaks, e.g., for the ongoing Northern GMS Transport Network Improvement Project, the counterpart funding includes taxes of $5.6 million.

29. **High dependence on external assistance.** The Lao PDR continues to depend heavily on external assistance from multilateral and bilateral development agencies to fund capital investments and, to a certain extent, for maintenance expenditure. For 2007–2008, MPWT's total public investment for roads amounted to $78.59 million, of which 73% came from external assistance and the remaining from national budget resources (Table 1). Although this dependence has fallen in recent years, about 50% of MPWT's budget is still funded by external assistance.

Table 1: Annual Investment for Road Sector in the Lao People's Democratic Republic

Year	Total Road Sector Investment by MPWT ($ million)	Funding from National Budget ($ million)	Funding from External Assistance[a] ($ million)
2007–2008	78.59	20.86 (27%)	57.73 (73%)
2008–2009	83.64	28.81 (34%)	54.06 (65%)
2009–2010 (estimate)	88.55	40.15 (45%)	48.40 (55%)

MPWT = Ministry of Public Works and Transport.

Note: Funding from the national budget includes that for the Road Maintenance Fund. The currency exchange rate used is KN8,500 per US dollar.

[a] Multilateral and bilateral assistance.

Source: Disbursement Division, Department of Roads, MPWT, Government of the Lao People's Democratic Republic.

30. **Road maintenance.** Rehabilitated paved roads have been deteriorating due to lack of regular maintenance, both routine and periodic. Although the RMF has been set up and operationalized, it is focused on national roads and highways, and can allocate only 10% of its revenues to provincial and rural roads. This has resulted in neglect of rural road maintenance, which is also due to insufficient funding by the provincial governments.

31. **Institutional capacity.** The Lao PDR lacks technically trained personnel in general and also in MPWT. The capacity to plan, implement, monitor, and maintain transport projects is currently insufficient to keep pace with the increasing size of the network. Although several capacity development programs have been implemented, gaps remain in various areas, such as project management, safeguard monitoring, rehabilitation and maintenance planning, and procurement.

32. **Differential impacts on ethnic groups.** Improvement of roads could increase the economic inequality between ethnic groups since benefits may not accrue equally to all groups. Such differential impacts can be addressed only if the assessment at appraisal is carried out efficiently, propensities for differential economic development are identified correctly at the feasibility stage, and mitigation measures are put in place. At times, such assessments have been rudimentary.

33. **Road safety.** Road improvement is typically linked to higher vehicle speeds, which in turn leads to more road accidents. In addition, there has been an increase in the severity of these accidents in terms of injuries and fatalities. Between 2002 and 2007, there was 4% average annual growth (year on year) in the number of accidents in the country.[14] Motorcycles accounted for the highest accident rates, followed by cars and pickups. Another challenge linked to road safety is vehicle overloading. Logging trucks and international traffic on some road sections continue to be main sources of overloading. This leads to road damage, reducing the life of the road. Further, existing weigh stations on national roads do not adequately enforce vehicle axle controls, while provincial and rural roads lack such stations. Finally, road construction remains a challenging task, owing to the country's generally steep terrain and propensity toward landslides. Slope stabilization techniques for reducing landslides tend to be costly, reducing the economic viability of projects.

D. Government Strategy

34. The government's sector strategy has focused primarily on expanding the road network in a continuing effort to provide all-weather access. The Socioeconomic Development Plan, 2001–2020 and the Fifth Five-Year Plan for Socioeconomic Development, 2001–2005 have identified the main goal for 2010, which is to improve and build economic infrastructure with firm and secured steps in particular to strengthen agricultural production, eradicate slash-and-burn cultivation, complete poverty reduction of the people, and build basic industrial initiatives and human resources in sufficient quality and quantity in order to step into industrial development and modernization step by step.[15] While the emphasis on infrastructure development includes the transport sector, the sector strategy has focused on improving the national roads, i.e., highways, for providing international connectivity with neighboring countries. The development of district and rural roads has been included under the rural development efforts that cover various other interventions.[16]

[14] Data provided by MPWT.

[15] Government of the Lao PDR, Lao PDR Committee for Planning and Cooperation. 2001. *Socioeconomic Development Plan from 2001 to 2020 and the Fifth Five-Year Plan for Socioeconomic Development, 2001–2005*. Vientiane.

[16] Rural development efforts were strategically combined with poverty reduction activities and comprised slash-and-burn cultivation stabilization; permanent resettlement management and land and forest allocation; opium eradication; communications, electricity, and water supply basic infrastructure development; education and public health improvement; improvement of gender issues; and district and village staff training.

35. Transport development has always been a priority of the government. However, owing to financial constraints, international development agencies have played an important role in contributing to sector investment. The country's transport strategy, set forth in the most recent National Socioeconomic Development Plan (NSEDP),[17] aims to provide transport infrastructure for the entire country so that the population can more readily communicate and participate in development activities as well as interact with neighbors and markets outside of the country. Attention to primary roads will continue, but increasing emphasis is placed on GMS road links, rural transport infrastructure, and railways development. Table A3.9 provides the details of the government's strategic plan for transport development anchored within the NSEDP 6 and indicates the priorities for each subsector. Although Table A3.9 shows high government commitment toward road maintenance, it needs to be backed up by appropriate allocations, especially for rural road maintenance, which is currently lacking (paras. 109–112).

36. **Development agency coordination.** The NSEDP's medium-term expenditure program for transport lists an extensive investment plan for projects with an estimated total cost of $900 million, which exceeds available resources. In keeping with the Vientiane Declaration and in conjunction with the government, development agencies have agreed to adopt a sector-wide approach (SWAp) to increase aid effectiveness for the transport sector.[18] The SWAp approach has already been adopted by the World Bank in its support of the Road Maintenance Program, albeit in a limited way. MPWT has now created a secretariat for the SWAp, which will take steps to strengthen financial management systems and their capacity to implement environmental and social safeguards. Transport sector donors, including ADB, the Australian Agency for International Development (AusAID); Department for International Development of the United Kingdom; KfW; Swedish International Development Cooperation Agency (Sida); Thailand's National Economic Development Authority; and the governments of PRC, Japan, and the Republic of Korea have agreed to support the SWAp.[19] Thus, an infrastructure sector working group has been set up by MPWT and is co-chaired by ADB and the Embassy of Japan (para. 83).

37. **Decentralization.** The government initiated a policy of decentralization of the development effort in 2000. A Prime Ministerial Instruction set out the general principles to build up "provinces as strategic units, districts as planning and budgeting units, and villages as implementation units."[20] This was complemented by (i) detailed recommendations by the State Planning Committee on the competence, functions, and responsibilities of the stakeholders regarding planning; and (ii) a Ministry of Finance recommendation on establishing and implementing provincial budgets. The decentralization policy enables the provinces to formulate their 5-year and annual socioeconomic plans and related budgets, and delegates the revenue collection tasks linked with these plans. Such decentralization has implications on the transfer of specific activities such as maintenance contract management, project management for smaller roads, various procurement activities, etc., to the DPWT. It will require a definitive building of technical and administrative capacities at the district and provincial levels, especially in the DPWTs.

[17] Government of the Lao PDR, Lao PDR Committee for Planning and Investment. 2006. *National Socioeconomic Development Plan, 2006–2010.* Vientiane.

[18] The Vientiane Declaration on Aid Effectiveness was signed by the Government of the Lao PDR and its development partners in November 2006. Its five key principles were (i) increased country ownership, (ii) better alignment of development partners' support, (iii) harmonization and simplification of development partner's procedures and activities, (iv) managing for results, and (v) mutual accountability. http:// www.rtm.org.la/VT%20DeclarationOverview.php

[19] Government of the Lao PDR, MPWT. 2008. *First Infrastructure Sector Working Group Meeting on 30th October 2008*. Vientiane.

[20] Prime Ministerial Instruction 01/PM of 11 March 2000.

38. **Future outlook.** Now included in the NSEDP 6, the National Growth and Poverty Eradication Strategy places poverty eradication and acceleration of social development as the country's primary long-term strategic goals.[21] The three pillars of the strategy are (i) economic growth with equity, (ii) sociocultural development, and (iii) sustainable environment preservation. The four priority sectors for ensuring poverty reduction are agriculture, health, education, and infrastructure. Thus, a key presupposition of the government is that improvement of the transport sector (i.e., infrastructure) will lead to poverty reduction.

39. The government's recent draft strategy for transport sector development adopts a multicriteria analysis for prioritizing projects based on the following factors (in descending order of weight): (i) international links, (ii) linking provinces and Vientiane, (iii) impacting socioeconomic or poverty eradication, (iv) serving national integration and defense, and (v) serving large populations (footnote 6). These prioritization criteria reflect the government's policy of improving the connectivity with neighboring countries. The strategy indicates that a subregional project is five times more important than a project serving a large population, and it is 60% more important than a project serving socioeconomic development and poverty reduction. This has policy implications on giving higher importance to developing international links, such as regional roads, as compared with providing access to remote areas within the country by developing provincial and rural roads.

III. ADB STRATEGY AND PROGRAM

A. Sector Strategy, 1991–2011

40. Appendix 4 provides details of the country strategies adopted by ADB in the Lao PDR from 1991 to 2011. These have evolved in accordance with national and regional demands. The 1991 and 1996 operational strategies adopted sustainable economic growth as a strategic focus. Under these country operational strategies, ADB identified development challenges for improving the physical infrastructure, particularly national and provincial roads, river ports, and airports. The country assistance plan, 2001–2003[22] also emphasized economic growth but paid particular attention to providing more balanced development. By highlighting improvement in public expenditure management, ADB saw a great demand for building capacity in road planning and sustainable operation and maintenance of road networks. The next country strategies and programs (CSPs) and updates,[23] which emphasized poverty reduction and covered 2002–2008, were more concerned with rural access roads and small airports to promote rural–urban market links. Appendix 4 also provides an evolution in the specific thematic areas. Significantly, there was increasing emphasis on GMS roads to create transport links in line with subregional integration and cooperation within the region. The current CSP 2007–2011[24] also adopts poverty reduction as a priority. While it seeks to maintain previous lines of assistance, it recommends expanding ADB support to the GMS Program, focusing on the improvement of transport corridors for trade and tourism. TA on transport has shifted from the introduction of regulatory frameworks on user charges to formulating a transport sector strategy and sustaining the RMF.

---

[21] Government of the Lao PDR. 2003. *National Growth and Poverty Eradication Strategy*. Vientiane.
[22] ADB. 2000. *Country Assistance Plan: Lao People's Democratic Republic, 2001–2003*. Manila.
[23] ADB. 2001. *Country Strategy and Program: Lao People's Democratic Republic, 2002–2004*. Manila; ADB. 2002. *Country Strategy and Program: Lao People's Democratic Republic, 2003–2005*. Manila; ADB. 2003. *Country Strategy and Program Update: Lao People's Democratic Republic, 2004–2006*. Manila; ADB. 2004. *Country Strategy and Program Update: Lao People's Democratic Republic, 2005–2006*. Manila; and ADB. 2005. *Country Strategy and Program Update: Lao People's Democratic Republic, 2006–2008*. Manila.
[24] ADB. 2006. *Country Strategy and Program: Lao People's Democratic Republic, 2007–2011*. Manila.

41. The above analysis leads to three main inferences:

(i) The ADB transport sector strategy in the Lao PDR has supported the government, and has evolved to focus more on regional roads (i.e., through the GMS Program) to improve connectivity with neighboring countries, even as it has exited from the civil aviation subsector.

(ii) There has been a growing awareness of the need to ensure the sustainability of projects, although what ADB will do in this area has not been clearly identified.

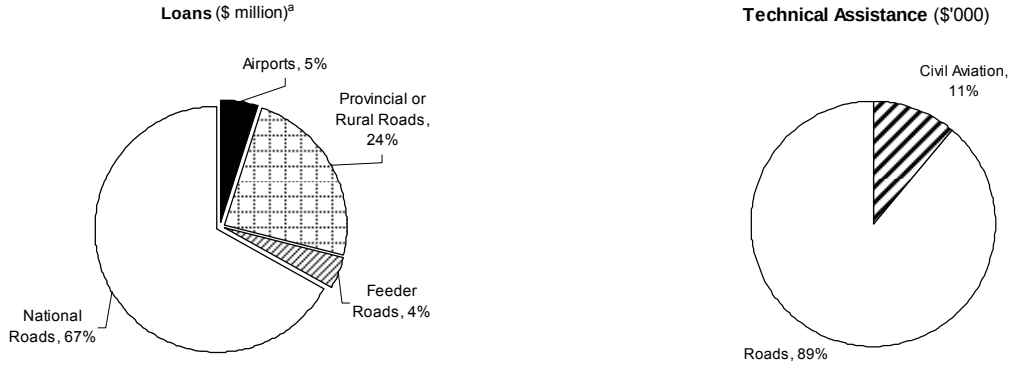
(iii) Rural roads is currently an emerging subsector for ADB in the Lao PDR.

B. Sector Program

42. ADB has been involved in the Lao PDR transport sector since 1979 when it first provided TA for the Vientiane Plain Road Improvement Project. During the 1980s, assistance for the Lao PDR's transport sector was concentrated on the road subsector. In 1992, ADB first entered the country's civil aviation subsector, which was made possible by the approval of the Civil Aviation Master Plan in August 1992 (Appendix 1).

43. Over the years, ADB has approved 14 loans totaling $363.0 million, 32 TA projects totaling $16.1 million, and 1 grant worth $27.0 million. Out of the 14 loans approved, only 2 were not specifically for the road subsector: the Airports Improvement Project in the civil aviation subsector and the GMS: Mekong Tourism Development Project in both the civil aviation and the road subsectors. There were 13 loans in the road subsector—4 were approved in the 1980s, 5 were approved in the 1990s, and 4 were approved in the 2000s.[25] The assistance for the civil aviation subsector amounted to $16.8 million, while the assistance for the road subsector amounted to $350.9 million.[26] Using the categorization mentioned in para. 14, Figure 3 illustrates the distribution of ADB-financed project capital investments and TA for the Lao PDR's transport sector.

Figure 3: ADB Assistance for the Transport Sector



ADB = Asian Development Bank.
[a] These relate to civil works costs only.
Source: Asian Development Bank project management database. For completed projects, actual data from the project completion report are used. For ongoing projects, data from the reports and recommendation of the President are used.

44. As for the TA projects, five projects were approved for the civil aviation subsector totaling $1.8 million, while the rest were projects for the road subsector. Out of the 5 TA projects in the civil

[25] This includes the GMS: Mekong Tourism Development Project.
[26] Includes investments in Louang Namtha airport and access road improvements under the GMS: Mekong Tourism Development Project.

aviation subsector, 3 were approved during the 1990s, and the rest were approved after. The 26 TA projects in the road subsector were mostly during the 1980s and the 1990s. Only one TA, Vientiane Plain Road Improvement, was approved before 1980 and only four TA projects excluding those on Management Information System (Phase II) (Supplementary)—Strengthening Social and Environmental Management Capacity in DOR, Roads for Rural Development, Northern Economic Corridor, and Northern GMS Transport Network Improvement, were approved after 1999.

45. ADB's road subsector program can be broadly divided into two categories based on the mode of lending—the Lao PDR country program that has supported various levels of road improvements from national roads to rural roads; and the GMS regional program that has supported mainly national roads connecting the international borders. The regional roads referred in this SAPE fall under the latter category. Table 2 summarizes the categories adopted for the purpose of this SAPE. The CSP 2007–2011 includes both these categories. The objective of separating these programs is to highlight the need for scaling up assistance for the provincial and rural roads to further improve the development effectiveness (para. 118).

Table 2: Category of ADB Assistance in the Lao PDR Road Subsector

Lao PDR Country Program	GMS Regional Program
National roads connecting domestic economic centers	National roads or highways connecting international borders (mentioned as regional roads in the SAPE)
Feeder, provincial, and rural roads	Minimal rural roads adjacent to the highways

ADB = Asian Development Bank, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, SAPE = sector assistance program evaluation.
Source: ADB project management database.

46. In the road subsector, loans amounting to $337 million are divided: $15 million went to feeder roads, $85 million went to provincial and rural roads, and $237 million went to national roads and highways.[27] This indicates the focus on national roads.

47. In addition to the rural roads included in the transport portfolio, ADB provided assistance through the agriculture and rural development lending window. These rural roads are typically farm-to-market roads, as well as selected district roads connecting district centers. ADB's completed and ongoing assistance has contributed to the improvement of about 796 km of such roads in the Lao PDR (TableA1.3). The rural roads component has varied between 12.7% and 34.5% of total project investments.

48. ADB had only one project in the civil aviation subsector in the 1990s, after which it virtually exited from the sector. In 2002, ADB reentered in this subsector by providing a loan for airport infrastructure improvement (extension and rehabilitation of Louang Namtha airport) aimed at tourism development.[28] Currently, assistance to this subsector forms 7% of total ADB assistance to the Lao PDR transport sector. This is a reflection of ADB's priorities presented in its second medium-term strategy, which provided a low priority for civil aviation projects.[29] The current Strategy 2020 continues to focus on other infrastructure areas, implying that civil aviation is not a core area.[30]

[27] Some provincial roads were designed as rural roads. Subsequently, several were recategorized by MPWT as national roads. However, their primary use continues to be mainly agriculture-related.
[28] The project also includes rehabilitation of access roads to tourist destinations.
[29] ADB. 2006. *Medium-Term Strategy II 2006–2008*. Manila.
[30] ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008–2020*. Manila.

C. Program Implementation

1. Loan Projects

49. Analysis of planned and actual ADB assistance in the Lao PDR indicates that most of the planned assistance in the early 1990s was generally approved as envisaged (Appendix 5) except for some gaps. The Northern GMS Network Improvement Project was processed as scheduled in the CSP 2007–2011. Although the pipeline of the CSP 2007–2011 included the second Northern GMS Network Improvement Project for processing in 2008, this has been delayed. Similarly, the ADTA for Building Sector Program Readiness in the Transportation Sector to be approved in 2008 has been combined with the Southern Network Transport Project to be approved in 2012. Thus, the overall implementation performance of the CSP 2007–2011 has been mixed. For the earlier CSPs, GMS loans for the East–West Economic Corridor, Northern Economic Corridor, and Northern GMS Transport Network Improvement projects were approved as planned. However, assistance for rural roads (e.g., the Rural Access Roads II Project) to rehabilitate the national road network (as identified in the current CSP) has not yet been approved. Efforts are under way to process this assistance in a modified form.

50. ADB's portfolio of loan and grant projects has witnessed several implementation issues such as cost overruns, implementation delays, counterpart funding, and contractor problems. Out of the 10 evaluated road projects, half reported varying amounts of cost overruns. The five projects with major cost overruns (over 20%) showed actual civil works costs for road improvements that were greater than appraisal estimates. In fact, 9 of the 10 evaluated road projects experienced cost overruns or increase in costs due to various reasons surrounding cost escalations of various natures. For example, the Second Road Improvement Project overshot the appraisal target for civil works cost by 85% and needed additional funds to be transferred from the Sixth Road Improvement Project to complete its original scope (Appendix 1). The Sixth Road Improvement Project faced higher than expected civil works costs causing an indirect cost overrun fueling a reduction in project scope.

51. Table A6.2 describes evaluated road projects with cost overruns or increase in costs (linked to change in project scope) in their civil works or road improvement components. In several cases, cost overruns have been addressed through a reduction in project scope, which tends to reduce the effectiveness of the projects. In others, increase in costs reflected a change in scope of works, as loan savings created by currency fluctuations benefited the budgets of ongoing projects. This has been more common in recent years when cost overruns have been reduced due to low bid prices and depreciation of the kip, enabling ADB to use loan savings to increase the scope of works. The Xieng Khouang Road Improvement Project and the GMS: East–West Economic Corridor Project are examples of loan savings being used to fund additional works. Para. 91 brings out the issue about the lack of adequate economic analysis at completion of the increased project scope.

52. In the civil aviation sector, the Airports Improvement Project (Appendix 1) faced a 209% increase in cost due to the change in scope of the Japan International Cooperation Agency (JICA) component. This resulted from inadequate information available at appraisal. Besides the cost overrun, the project also witnessed implementation delays of more than 4 years. The underlying causes of this implementation performance were as follows.

(i) **Lack of adequate coordination among cofinanciers.** Besides ADB, the project was cofinanced by JICA, Nordic Development Fund, Organization of Petroleum Exporting Countries (OPEC) Fund for International Development, and the

governments of France and Thailand. This created additional implementation burdens on the executing agency. The changes in project scope and the increase in the costs of components financed by other cofinanciers affected the implementation performance.

(ii) **Institutional constraints.** The executing agency, originally the National Airports Authority (and the Department of Civil Aviation), were unfamiliar with ADB procedures relating to procurement of consultants and contractors. This led to start-up delays and subsequently slow approvals for payments.

53. **Implementation delays.** ADB's transport sector projects in the Lao PDR faced average completion delays of about 35 months (Table A6.3), which is higher than the ADB average of 24 months.[31] In projects that used advanced procurement, the major causes of delay were related to the inexperience of the executing agency in project administration and in ADB processes, mobilization of the required implementation structure, delayed counterpart funding, delays in preparation of tender documents, and contractor problems. For the remaining projects, delays were caused by the late engagement of consultants, slow mobilization of equipment, design changes and/or additional work, and the prolonged and tedious procurement process of the government. Other factors that affected the completion of civil works include physical conditions such as massive landslides (e.g., the Fourth Road Improvement Project) and discoveries of deeply buried unexploded ordnances (e.g., East–West Economic Corridor Project). Delayed counterpart funding continues to be a major cause of implementation delays, and was a cause in 4 out of the 10 completed road projects.

54. Until the early 1990s, start-up delays were common due to procurement issues, contract award delays, delayed engineering design, and contractor mobilization delays. From 1993, with the approval of the Sixth Road Improvement Project, ADB allowed advance procurement prior to loan approval for early contracting of goods or works.[32] This partly contributed to reducing the start-up delays as evidenced in the subsequent projects. Some projects, such as the Champasack Road Improvement Project, benefited from advance action, while others, such as the Xieng Khouang Road Improvement Project, faced start-up delays despite advance action. Although advance procurement helped facilitate preparatory activities, it did not guarantee timely completion of projects since other factors tended to impinge on construction. However, the SAPE encourages advance procurement, which needs to continue since it provides time savings at project start-up; however, project-readiness filters are needed to control start-up delays. Discussions with ADB project staff in the Lao PDR indicated that such filters are being developed to assess the institutional preparedness within the government to implement new projects. Appendix 6 provides details of the implementation performance of projects with and without advance action. It shows that although advance procurement action helped in reducing start-up delays, other implementation issues persisted indicating continued difficulties faced by the executing agency in implementation.

55. **Contractor problems.** The Lao PDR has encouraged the growth of private contracting firms, some of which are offshoots of former state-owned enterprises. However, most of these national firms lack experience in technical and commercial aspects. With limited financial

[31] ADB. 2008. *Annual Report on 2007 Portfolio Performance*. Manila.

[32] Under Procurement Guidelines (2010, as amended from time to time), advance action may be allowed to authorize procurement prior to loan approval, particularly when early contracting of goods or works is seen as crucial for the timely completion of a project. In such cases, ADB encourages borrowers to comply with its procurement procedures including the required advertising for the contracts to be eligible for ADB financing. The guidelines also stipulate that the advance actions undertaken should be subject to ADB review and taken at the risk of borrowers. Any concurrence by ADB with the procedures, documentation, or proposal for award does not commit ADB to finance the project. Retroactive financing or reimbursements may be permitted within the limits specified in the financing agreement.

capacities, they often face difficulties in purchasing equipment and completing the construction activities on schedule. Yet there has been growing encouragement from MPWT and multilateral agencies to award contracts to the national firms. However, this needs to be matched by adequate capacity within these firms, which currently is lacking. The issue of contractor performance was quite distinct on the Rural Access Roads Project and the Roads for Rural Development Project, which used national contractors in an effort to develop local capacities. While this justification was seen as appropriate, the national contractors were not capable of delivering the civil works as per the project requirements, leading to cost overruns and implementation delays. Better implementation of procurement rules during selection of the contractors, as well as close supervision, is needed.

56. **Implementation of rural roads as part of agriculture projects.** Para. 47 provides details of rural roads funded within the scope of agriculture projects. These road project components were executed either by the Ministry of Agriculture and Forestry or the provincial governments, but they were implemented by the provincial Department of Construction, Transport, Post, and Communication (now referred as DPWTs). This setup has ensured that the road interventions are integrated into broader agriculture-driven rural development. The Shifting Cultivation Stabilization Project, completed in 2006, witnessed cost and environmental impacts due to changes in physical road designs. The quality of outputs was adequate. DPWT capacity remains limited to manage these road improvement projects, as does sustainability given the meager funding for maintenance.

2. Technical Assistance

57. TA projects amounted to $16.10 million, out of which the road subsector received $14.32 (89%) million and the civil aviation subsector $1.78 million. Of the 32 TA projects approved from 1979 for the transport sector, 15 were classified as project preparatory technical assistance (PPTA) projects and 17 were classified as ADTA projects (Appendix 7). ADB approved PPTA for the GMS: Louangphrabang Airport Improvement Project in December 2006. After a gap of 4 years, ADB approved another PPTA for the proposed Second Northern GMS Transport Network Improvement Project in 2010, which is ongoing. An associated TA to the Rural Access Roads Project (approved in December 2000) was the last ADTA provided by ADB as part of the country program, indicating a gap in TA by ADB.

58. **Project preparatory technical assistance for roads.** The objectives of most PPTA road projects were to carry out technical and economic feasibility studies for the improvement and/or rehabilitation of roads, formulate project designs, and assess the capabilities of institutions tasked to undertake road construction and maintenance operations.

59. Most TA activities as envisaged were completed. The feasibility studies and TA reports were used as inputs to the formulation of road projects. At least nine PPTA projects for roads resulted in the approval of project loans and one grant project. Yet, analysis of start-up and implementation delays as well as subsequent scope reductions (para. 51) indicate that PPTA projects did not seek to improve project designs over the last decade. The only change was in bringing in advance procurement (para. 54). In view of this, the incremental value addition by the PPTA projects can be improved, especially in the area of project design.

60. **Project preparatory technical assistance for civil aviation.** The objectives of PPTA projects for civil aviation were to update the Civil Aviation Master Plan, provide the framework for sustainable and effective development of the civil aviation sector, upgrade airport designs and facilities, and support tourism and trade through the integration of the Lao PDR in the GMS air traffic network. There were no reports available describing the actual outputs of these TA

projects, except in the case of the Civil Aviation Master Plan. This small-scale TA helped update the civil aviation master plan, formulate suitable arrangements for its implementation, and resulted in the approval of the Airports Improvement Project (Appendix 1).

61. **Advisory technical assistance for roads.** Most ADTA projects for the road subsector were attached to project loans. ADTA projects for roads and highways focused on providing capacity development and institutional support to MPWT for operations and road maintenance, bridge management, and privatization of government-owned road transport organizations. Specific forms of interventions included the conduct of studies; formulation of policy guidelines, legal framework, and investment plans; provision of on-the-job training to officers and staff; and improvement of systems and procedures on planning and budgeting. Some TA projects included the recommendation of mitigation measures to address potential adverse environmental and social impacts of road projects (e.g., TA projects on East–West Economic Corridor Coordination and Strengthening Social and Environmental Management Capacity in the DOR).

62. ADB approved the last ADTA in 2000, pausing ADB's efforts at capacity building in the country. Between 2000 and 2009, ADB has only approved ADTA embedded in the regional development framework for promoting transport and trade facilitation within the GMS. These regional TA projects are aimed at (i) streamlining and strengthening institutional mechanisms for addressing regional transport and trade facilitation initiatives, and (ii) strengthening institutional capacity within GMS countries to undertake initiatives for GMS transport and trade facilitation. Appendix 8 provides a summary of these regional TA projects and shows that although they provided substantial contribution to trade facilitation and regional transport development, there was limited assistance toward areas of domestic transport development such as safeguard implementation, rural road network expansion, and maintenance planning and funding.[33]

63. Following a process of policy dialogue and capacity development assistance that began in the mid-1990s, ADB provided a capacity development program loan to support improved environmental management and social safeguards in the energy and transport sectors. The Environment and Social Program has partly achieved its expected outcome. At the national level, it succeeded in putting in place streamlined procedures for environmental and social safeguards. However, at the subnational level, the achievement was somewhat less, with the program only partly achieving expected improvements in environmental and social management of both energy and transport projects.[34]

64. Overall, the Environment and Social Program was borderline *successful*.[35] Program outputs were generally achieved, with the exception of the Environment Protection Fund. In terms of sector achievements, the energy and transport sectors established the required regulatory framework and institutional mechanism to undertake environmental and social safeguard measures on their own. The program substantially achieved its expected output of strengthening the national policy and regulatory framework for environmental management and social safeguards. It also achieved its expected output of improving the subnational-level (sector and provincial) planning and policy implementation framework. Both the national and

[33] This was stated in the CSP 2007–2011 and continues to be relevant.

[34] With regard to the transport sector, there is evidence to suggest that the environmental management of transport projects has improved since the Environment and Social Program has been implemented; however, the performance depends on the location. Projects in sensitive areas have sometimes led to increased soil erosion during construction and air pollution during implementation. The social benefits from transport projects are not easy to quantify. On the one hand, transport corridors have certainly contributed to enhanced economic growth in the project areas, particularly with regard to improving market access. On the other hand, transport projects have not at times been carried out with due attention to resettled persons and ethnic minorities.

[35] ADB. 2010. *Performance Evaluation Report: Environment and Social Program in the Lao People's Democratic Republic*. Manila.

subnational framework components of the program were *successful.* The sustainable financing mechanisms component, including the Environment Protection Fund, was *partly successful*.

65. Eight ADTA projects were completed, out of which six were assessed by IED's PPERs. Of these, one was *highly successful*, five were *successful,* and one was *partly successful.* The TA on Roads for Rural Development was *highly successful.* Among the five ADTA projects rated *successful* were the TA projects on Feeder Roads Maintenance Training and Management Information System in MCTPC, which were both attached to the Champasack Road Improvement Project. In the case of the TA on Feeder Roads Maintenance Training, the PPER claimed that the effectiveness of the training could not be distinguished from other capacity-building measures implemented by MCTPC. Also rated *successful* were the TA on the Privatization and Management of Road Sector Institutions, Management Information System (Phase II), and East–West Economic Corridor Coordination.[36] Those rated *successful* to *highly successful* contributed in formulating policy guidelines and providing strategic direction to the road subsector in the Lao PDR. The TA on Bridge Management attached to the Fourth Road Improvement Project was rated *partly successful,* as it was found to be ineffective in building capacities or establishing functioning systems required for instituting an effective bridge management system.[37]

66. The main issues from the evaluation of ADTA projects revolve around the lack of funding for road maintenance and inadequate equipment and human resources. Efforts to address these were observed to be slow but progressing. Completion and evaluation reports on these ADTA projects recommended the need to (i) further develop capacity in road maintenance and operations; (ii) sustain the gains obtained through training and actual use of manuals and guidelines; (iii) encourage ownership and accountability to pursue policy reforms, particularly those related to the privatization process; (iv) participate in cross-border commerce; and (v) avoid overlapping donor assistance and ensure efficiency in resource allocation.

67. **Advisory technical assistance for civil aviation.** One ADTA was provided for civil aviation for the Institutional Strengthening of the National Airports Authority and Lao Civil Aviation, attached to the Airports Improvement Project (Appendix 1). The objective of this TA was to formulate long-term business plans for the National Airports Authority and Lao Civil Aviation and transform them into market-oriented organizations. This TA reviewed the operational and financial procedures, established a computerized financial control system and a management information system, and prepared comprehensive manuals on financial accounting in both organizations. The PCR on the Airports Improvement Project found the performance of the TA consultants *satisfactory* and that the government appreciated the effectiveness of the TA.

IV. EVALUATION OF ADB ASSISTANCE

68. Evaluation of the Lao PDR transport sector is based on six evaluation criteria identified by IED's draft Revised Guidelines for the Preparation of Country Assistance Program Evaluations (footnote 2). Overall assessment is based on the cumulative evaluation of strategic

[36] The TA on East–West Economic Corridor Coordination was rated *highly successful* in the 2008 PPER of the GMS East–West Corridor Project (ADB. 2008. *Performance Evaluation Report: Greater Mekong Subregion: East–West Corridor Project in the Lao People's Democratic Republic and Socialist Republic of Viet Nam*. Manila).

[37] ADB. 2001. *Project Performance Audit Report: Fourth and Fifth Road Improvement Projects in the Lao People's Democratic Republic*. Manila. The report found that none of the intended outputs were available or in use. For example, the TA included development of manuals and guidelines for inspection and maintenance of bridges and a centralized computer-based bridge management information system. Such outputs were not tangible at postevaluation.

positioning, relevance, efficiency, effectiveness, sustainability, and development impacts. These criteria are weighted as indicated in para. 164.

A. Strategic Positioning

69. Strategic positioning of the Lao PDR transport sector strategy is *satisfactory,* with room for improvement in certain areas. The CSP 2007–2011 is structured to include transport sector financing under the regional cooperation umbrella, which has a separate ADF allocation and reflected the government's inclination toward regional cooperation. The CSP results framework includes limited market access and limited access to infrastructure as the key constraints identified under the NSEDP 6. To address these constraints, the CSP identifies interventions for ADB funding during 2007–2011. ADB's core competency of funding road improvement has been correctly reflected in its strategic position in the Lao PDR. ADB is the lead development partner for road subsector and effectively co-chairs the infrastructure working group (para. 36). This provides ADB with an opportunity to add value in the development effectiveness process.

70. ADB strategies in the Lao PDR have been consistently focused on road improvements and provision of all-weather access. Issues related to access to remote areas must be addressed, but the current CSP focus on regional roads appears to overshadow this focus (para. 40).

71. Appendix 6 provides an assessment of the implementation of past CSPs. It shows ADB's propensity to fund both road and airport projects. Funding constraints have slowed the overall implementation of these strategies, including that of the current CSP. For example, although ADB intended to assist in securing sustainable maintenance of the road network through the RMF, there has been no incremental assistance from ADB for improving the sustainability of the RMF to prevent overlap with the World Bank's assistance.

72. Currently, ADB provides 100% grants to the Lao PDR based on the ADF X policy.[38] The current CSP is based on the earlier ADF IX policy, which provided up to 50% grants for the country. Although this has helped the Lao PDR in reducing the impact on its budget, actual ADF funding is subject to the performance-based allocation. The ADF allocation for the Lao PDR for 2007 and 2008 was set at $40.2 million in total compared with $45 million–$55 million per year on average as indicated in the CSP 2002–2004. In addition, ADF funding of $40.0 million was programmed for the GMS Program for 2007–2009, or an annual average of about $13.0 million. As per the current program, the Lao PDR has been provided a biennial allocation of $150.56 million for 2009–2010, which includes an adjustment in response to the global economic crisis. These allocations cover all the sectors of ADB assistance, and the relatively small size of the assistance highlights the funding constraints faced by the transport sector.

73. To address this funding constraint, ADB has applied selectivity in its programming. However, there is a disconnect between the assistance (i.e., regional cooperation projects) and the sector road map, which is relatively inward looking. The CSP's pipeline of projects shows that most transport projects will be funded out of the GMS Program, with only one being funded through the country program (i.e., the Southern Transport Network Project is intended for grant approval in 2012). Although the CSP acknowledges investment needs in the transport sector (e.g., road safety and enforcement of social and environmental safeguards), there is no clear strategy to provide funding in these areas. Further, the CSP's transport sector road map comprises sector-wide output indicators (e.g., provinces without all-weather road access, share of paved national highways, paved roads in general, and increase in maintenance funding) that

[38] The ninth replacement of ADF, ADB's major source of concessional financing, covering the period from 2009 to 2012.

are specific and measurable, but the corresponding outcome indicators are difficult to measure. For example, road transport user costs and access in the rainy season need to be measured using a consistent tool before the start of CSP and at completion. The CSP, however, does not provide the source of these data, making it difficult to monitor these outcomes.

74. ADB has appropriately adopted an integrated approach for designing agriculture projects, and often combines rural roads with agriculture sector interventions. Para. 56 details the implementation performance of the rural roads that have been included within the scope of agriculture projects. This integrated approach has enabled complementary investments in the rural roads and agriculture subsectors, which contributed to positive impacts such as diversification of incomes made possible by the road improvement.[39] In view of this, it is prudent for ADB to continue this integrated project design. However, this needs to be planned and implemented, taking into account the following factors:

(i) Ensure that the rural roads are in line with the wider MPWT network rehabilitation program. This will enable sector-wide connectivity and link rural areas with the national economy.
(ii) The Ministry of Agriculture and Forestry and MPWT need to coordinate with each other at programming stage to prioritize road rehabilitation projects. This is crucial to ensure synergies among the subsectors.
(iii) Improve coordination within ADB. Transport and agriculture divisions of the Southeast Asia Department need to coordinate with each other at programming stage to capture the synergies at the country level.
(iv) Ensure sustainability of the rural roads by policy dialogue and improving local capacities (para. 111).
(v) Recognize the limited capacity at the district and provincial levels while designing complex projects.
(vi) Use appropriate road construction technology that will ensure cost-effectiveness and will match the demand in terms of traffic volume and composition.

75. ADB has had limited involvement in the inland waterways sector and even less so in the railways. Taking into consideration the limited funding available through the country program as well as through the regional cooperation window and its core competencies, it is deemed appropriate that ADB focuses its assistance on the road subsector.

B. Relevance

76. The Lao PDR transport sector assistance is *relevant* based on (i) the degree to which ADB assistance was consistent with country needs and ADB strategic priorities, (ii) the quality-at-entry of ADB assistance, and (iii) harmonization with development partners. These subcriteria are closely linked with those for strategic positioning. While relevance is focused on the assistance program of loans, grants, and TA projects, strategic positioning assesses the coherence and the strategic bearing of the subsectors. The rating for the relevance of the transport sector assistance was affected by the quality-at-entry, which is discussed in paras. 80–83.

77. ADB assistance has focused on the road subsector since the early 1990s. ADB projects have been drawn from the list of projects planned by the government as part of its socioeconomic development plans. Transport infrastructure development has long been perceived as the main remedy for the country's economic constraints. ADB has successfully contributed to this need by funding road infrastructure in various parts of the country. ADB

[39] ADB. 2007. *Completion Report: Shifting Cultivation Stabilization Pilot Project in the Lao People's Democratic Republic*. Manila.

assistance has typically been focused on upgrading the national trunk roads to provide cross-country connections to the PRC and Thailand. Such assistance has formed 67% of the loan portfolio. Since 2000, ADB has also provided funding for rural roads in an effort to enhance poverty reduction by providing access to rural areas.

78. Early national road projects were located in both northern as well as southern areas of the country. The focus on regional cooperation and integration created a further geographical dispersion of projects, since the Lao PDR aimed to become the regional hub with connections from all directions. While this has provided a major contribution to developing the national road network, it would be difficult to attribute any specific impact of ADB assistance to any part of the country, as other development agencies have also been funding roads in the same geographical areas. The CSP 2007–2011 mentions that projects have witnessed high transaction costs due to the number of relatively small projects throughout the country causing heavy administrative burdens to the MPWT. This calls for a geographical concentration of the subprojects, especially since the rehabilitation of the national road network has progressed substantially. Moreover, it would be easier for the rural road subsector to have a more focused approach.

79. The Lao PDR's socioeconomic development plans have been consistent in their focus on road development. In 2001, the government identified a basic development strategy up to 2020. One of its main goals was to modernize economic and social basic infrastructure to facilitate regional and international integration (footnote 15). ADB projects have generally been rationalized along the same lines, as they have been aimed at reducing transport constraints and stimulating agriculture development. This rationale has evolved in the last 10 years since the initiation of the Xieng Khouang Road Improvement Project and the East–West Economic Corridor Project. This has coincided with the government's inclination toward regional integration as identified in the goals of the Socioeconomic Development Strategy, 2001–2010, which seeks to "improve and establish the basis for the economy to progress strongly in firm steps …. develop our country to become the central point of transit of the region in the future" (footnote 15).

80. The importance of rural development continues, as reflected in a goal of NSEDP, 2006–2010, which aims "to reduce the disparities between rural areas and urban centers, enhance the transport and communications networks and improve the living conditions of the rural people, especially those in mountainous and remote areas" (footnote 17). In other words, there is a need to balance the investments for regional integration (external links) with those for ensuring all-weather access to remote areas (internal links). ADB assistance has included two projects for rural roads during 2000–2007, and such funding must continue. The inclusion of regional program in the ADB portfolio should not be at the cost of country program, especially that targeted at rural road development.

81. A midterm review of the NSEDP 6 was carried out by the government in November 2008.[40] This review stated that the most disadvantaged areas in terms of access to roads and social services remain the central southern and northern highlands and the northern lowlands. Thus, it advocated higher priority for constructing all-weather roads to Phongsali, Salavan, and Xaibouly provinces. The review also showed a significant variance across areas in term of per capita public investment. In the northern region, which is less developed, the public investment per capita expenditure was KN252,000 per person, compared with KN144,000 per person in the southern region, which is relatively better economically developed. This has been attributed to discrepancy in development funding among the various geographic areas.

[40] Government of the Lao PDR. 2008. *Midterm Review of the Implementation of the Sixth National Socioeconomic* Development Plan, 2006–2010. Vientiane.

82. The quality of the design and monitoring frameworks in the reports and recommendation of the President (RRPs) and PCRs can be improved, especially in relation to the indicators for outcomes and impacts. Efforts have been made by ADB to improve the quality since 2009. Output indicators for all transport assistance have been specific and measurable, typically in terms of length of roads improved. The outcome indicators have varied, with typical ones being economic internal rates of return (EIRRs), traffic, vehicle operating costs, and time savings. In most cases, these indicators have been generally improved. However, several PCRs did not provide specific time-bound indicators for outcomes, which prevent their evaluation. Targeted impacts have been broad, such as improvement in gross domestic product and social indicators. The attribution of the project to these indicators is an issue, and difficulties associated with consistent measurement of indicators remain, e.g., the nature of social indicators varies among different projects.

83. ADB transport sector assistance has generally been harmonized with other development partners, but areas of improvement remain. Recently, ADB has taken the lead in donor coordination efforts by co-chairing the infrastructure sector working group along with MPWT and the Embassy of Japan. This working group, with others, was set up in June 2005 to harmonize development agency efforts. The midterm review of the NSEDP 6 expressed concern over these working groups "losing momentum, lacking a clear mandate and a work plan" (footnote 40). Discussions with the World Bank and Sida indicated that meetings have been held, although no tangible output is visible apart from the harmonization of investment planning, which had been continuing.

84. Some of the lessons from earlier projects have been incorporated into the improvements in the project design and implementation efficiency but there remains room for further improvement. A project performance audit report of the Vientiane Plain Road Improvement Project, completed as early as 1989, recommended that ADB should monitor the executing agency's institutional development.[41] Even today, MPWT continues to face institutional capacity constraints. In 1997, the project performance audit report on the Third Road Improvement Project reiterated a recommendation for institutional reforms, which are now being carried out. All evaluation reports have been unanimous in recommending the need for adequate maintenance. However, this area continues to be strained due to funding constraints (paras. 108–112).

C. Efficiency

85. ADB assistance is *less efficient* based on the portfolio performance and economic viability of the projects. Portfolio performance is based on the assessment of implementation punctuality and cost overruns. Further, EIRRs measure the net economic benefits of ADB assistance and are typically benchmarked against a yardstick opportunity cost of capital of 12% (i.e., projects with EIRRs of more than 12% are considered *efficient* and those with EIRRs of more than 18% are considered *highly efficient).*

86. Based on the EIRR criterion alone, out of the 5 completed ADB road projects between 2000 and 2009, 1 project was found to be *highly efficient*, 3 were *efficient*, and 1 was *less efficient* as reported in previous evaluation reports. Two of these projects were self-evaluated. The efficiency ratings of the first four projects did not consider their implementation performance in the rating although these projects also had implementation issues. A recent evaluation by IED found the Rural Access Roads Project to be *less efficient*, owing to a combination of low economic benefits accrued and implementation efficiency issues. Since ADB assistance has been mainly for

[41] The executing agency comprised a combination of MCPTC (now referred as MPWT) and the Vientiane Provincial Public Works Department (ADB. 1989. *Project Performance Audit Report: Vientiane Plain Road Improvement Project in the Lao People's Democratic Republic*. Manila).

national roads connecting domestic economic centers, earlier projects witnessed higher EIRRs at completion as compared with those expected at appraisal because there has been a faster-than-expected growth in traffic on those roads. On the other hand, national roads connecting international borders, i.e., regional roads that were expected to generate cross-border traffic have witnessed lower-than-expected performance, being constrained by delayed implementation of the cross-border transport agreements (footnote 36). Similarly, rural access roads have seen relatively slower growth in traffic, resulting in lower EIRRs. The overall sector evaluation is based on both the EIRR as well as the portfolio performance.

87. The lower economic viability of rural roads and, to a certain extent, of regional roads is expected. For rural roads, the PPER for Rural Access Roads Project showed that (i) more time is needed for a road project benefits to be captured by residents in rural areas; and (ii) other interventions are essential for rural road improvement benefits to be captured by the people, such as those related to agriculture and alternative livelihood development. Further, road improvement alone is not sufficient to ensure economic benefits. Regarding regional roads, legal and regulatory factors governing cross-border movement need to be addressed before the expected economic benefits can be realized (footnote 36).

88. **Portfolio performance.** Paras. 49–55 analyze the performance of program implementation. The majority of the transport projects have witnessed cost overruns and implementation delays. The cost overruns, which were caused by higher-than-expected bid prices, have typically been accompanied by changes in project scope to accommodate funding constraints. Para. 53 analyzes the causes of implementation delays. Although several of these factors have been addressed, issues remain, such as contractor problems and counterpart funding delays. These are expected to be addressed through close cooperation between the Southeast Asia Department's Transport Division and the resident mission as well as between ADB and various government departments.

89. Overall, the implementation performance of the transport projects has been *less efficient* (para. 50). Because MPWT and ADB are now more familiar with each other's procedures and the use of project-readiness filters, the implementation efficiency could improve for future projects.

90. **Loan savings.** Three projects witnessed loan savings owing to the depreciation of the kip: the Xieng Khouang Road Improvement Project, East–West Economic Corridor Project, and Rural Access Roads Project. In the case of the East–West Economic Corridor Project, instead of the three original rural roads, a total of nine roads were rehabilitated with the extra loan savings. In the Xieng Khouang Road Improvement Project and the Rural Access Roads Project, the loan savings were used to rehabilitate additional feeder roads. In the East–West Economic Corridor Project, the rehabilitation of the Kaysone Phomvihane–Xeno road (additional work) meant that about 32% of the total project cost was outside of the original scope and beyond the economic appraisal before rehabilitation.

91. While including the additional works could have been defensible, ADB did not carry out adequate economic analysis of the additional works at completion to check whether the loan savings had been used efficiently. The inclusion of additional works was subjected to preliminary environmental and social assessments, which were followed up during implementation by the supervision consultants. The approvals for the reallocation of loan proceeds were carried out as per ADB instructions.[42]

[42] ADB. 2003. Reallocating Loan Proceeds. *Project Administration Instructions*. PAI 5.05. Revised August 2005. Manila.

D. Effectiveness

92. The contribution of ADB assistance to the Lao PDR transport sector is *effective,* based on the extent to which the ADB program achieved sector-specific outcomes and institutional development outcomes. Typically, the majority of the outputs from road subsector projects can be summarized in terms of physical accomplishments, such as km of road improved or constructed, numbers of bridges improved or built, and/or km of road maintained. Outcomes of individual road projects, though, are project-specific. The physical accomplishments have resulted in reduction in travel time between key economic centers in the country, as well as between the rural areas and the cities. This has contributed to enabling improvement in trade within the country, as well as externally. It has also led to increased investments in tourism, agriculture, and manufacturing.

93. While these benefits are generic, the demand for transport services in the Lao PDR remains low, since production is yet to develop at the same pace as the development of physical infrastructure (footnote 36). The NSEDP 6 (footnote 17) states that the limited capacity cannot make efficient use of the investments and "results in waste and a reduction of cost-effectiveness of investments." While this reduces the economic viability of the projects, the benefits in terms of all-weather connectivity, reduced travel times, and access to markets and basic productive assets remain important for inclusive development.

94. ADB's policy dialogue has been effective in shaping the RMF, supporting capacity development, mitigating HIV/AIDS linked to transport improvement projects, and promoting regional cooperation. This dialogue has been supported by investment projects and TA. However, room for improvement in capacity development remains, as confirmed by the CSP 2007–2011, which states that ADB's efforts at capacity development in core areas have not been effective in enhancing institutional performance (e.g., safeguard implementation, rural road network expansion, and maintenance planning and funding). This has been confirmed by IED's field assessment, which found that the performance of MPWT and DPWTs continues to be affected due to lack of adequate human resources.

95. All completed ADB projects were *effective* in reducing transport costs and travel time (Appendix 1). In the case of the Sixth Road Improvement Project, one of the objectives was to privatize road construction and road transport units that formerly were owned and operated directly by the central and local governments. This was *partly effective,* since the privatization process has been progressing slowly.

96. The only rural roads assistance (Rural Access Roads Project) that has been completed was *effective* in achieving its targeted outcomes (footnote 3). All subprojects, except one, were *effective* since they were successful in improving the access among farm-based communities, national and provincial roads, and market centers. Transport costs and travel times on all subproject roads declined considerably. The main reason for the *less effective* rating for one component was that traffic on one road was below the forecast levels owing to the dearth of economic activities and investments in the project area. This indicates that road improvement is a necessary, but not sufficient, condition for economic development.

97. ADB assistance has also included periodic maintenance of roads in the Lao PDR. However, postevaluation studies have not been able to ascertain the specific effectiveness of these projects, since ADB funding was fungible and was added to the pool of MPWT resources. Discussions with the RMF secretariat indicated that ADB assistance has been useful in contributing to the road maintenance efforts.

98. The PCRs and selected PPERs have rated all projects *effective*. The Third, Fourth, and Fifth Road Improvement projects were developed in a phased manner to rehabilitate the 500-km road between Vientiane and Louangphrabang. This road, National Road 13, is one of the most important roads in the Lao PDR and provides connectivity between Vientiane and the northern provinces. Similarly, other projects have contributed to all-weather connectivity in southern and western parts of the country. The most recently completed project, the GMS: Northern Economic Corridor Project, links the PRC with Thailand via the Lao PDR's Louang Namtha Province. This project has been *effective* in reducing transport costs and providing all-weather access to an important trade route. However, these benefits have been accompanied by migration and social issues (para. 147).

99. Regarding institutional development outcomes, room for improvement remains. There has been progress in (i) project management within MPWT, (ii) delegation of maintenance activities to provincial levels, (iii) countrywide road data collection, (iv) prioritization of expenditures based on road roughness for national roads, (v) improved development agency coordination, and (vi) improvement in technical and financial management skills in MPWT. Despite this progress, institutional performance needs to be improved, due to inherent capacity problems and sustainability issues (para. 111). Moreover, effectiveness of capacity development assistance is rated on the lower side due to the policy of capacity substitution. A special evaluation study found that the objectives and outcomes of capacity development assistance were not articulated in ways that allowed any focusing of resources and inputs either to attain these goals or to monitor and assess outcomes.[43] This was especially true about ADB assistance in the 1990s, when capacity development was equated with delivering consulting services and training. In the last 10 years, ADB assistance has improved, with value addition in areas such as formulating policy guidelines and training for maintenance planning. However, the absence of any TA in the last 10 years has paused ADB's efforts.

100. ADB provided TA for Strengthening Social and Environmental Management Capacity in the DOR, which was completed in 2005. A postevaluation carried out in 2009 rated the TA *less effective* (footnote 3). The PPER stated that the social side of the MPWT mandate has been diluted since the Environment and Social Division has been moved from DOR to the Public Works and Transport Institute. The division is now called the Environmental Division, implying the lower importance of the social aspect. While the TA included training on social and environmental assessments, the division's social side remained deficient and less effective owing to the lack of human resources. This issue is linked to wider sector-level issues: (i) the local university needs to have a structured program so that basic capacity in social and environmental disciplines is built, and (ii) capacity-building efforts have not led to human resources development and have been relegated to training in implementation of specific safeguard procedures.

101. Local capacity development is typically being done through on-the-job training for environment assessment and environmental management plan implementation, which is imparted by project supervision consultants. Other development partners, including the World Bank and Sida, have supported capacity building in areas such as maintenance planning. The training provided for social and environmental issues has been limited to safeguard documents, limiting the overall institutional development in these areas.

102. The new Environmental Division has eight staff members, out of whom only two have degrees in an environment-related field; four are engineers by training; and two are non-engineers

[43] ADB. 2004. *Special Evaluation Study: Capacity Development Assistance of the Asian Development Bank to the Lao People's Democratic Republic*. Manila.

(though not social scientists). Although the division expects to improve its resources in the short term, the current situation prevents it from adding value to the implementation of projects in the country and results in a continued reliance on external consultants. Overall, the institutional development efforts have been *less effective* in environmental and social areas. This is reflected in the current draft of the transport sector strategy being prepared by MPWT, which states that there is a need for institutional strengthening, including human resources development, mechanisms for effective management, and means of attracting resources from all sources for the development of the sector with a mechanism for checks and balances (footnote 6).

E. Sustainability

103. ADB assistance to the Lao PDR transport sector is *likely* to be sustainable based on an assessment of government financing of the recurrent costs, cost recovery of the projects, institutional arrangements, and past experience of road maintenance in the country that indicates the level of risk. The road subsector has gone through a change in terms of creating awareness for better road maintenance. Currently, the commitment and willingness of MPWT to engage in finding solutions to this problem are high. However, MPWT continues to be constrained by the lack of funding allocations, as well as capacity at the provincial and district levels.

104. The draft transport sector strategy (footnote 6) states that the total need for road funding over 2008–2015 is KN27,103 billion ($3.2 billion), of which KN10,548 billion ($1.2 billion) is for road maintenance, and KN16,555 billion ($2 billion) is for road upgrading and expansion. The strategy admits that these figures are far beyond the funds available, increasing the overall sustainability risk.

105. As stated previously, most ADB assistance has been channeled toward rehabilitating national roads and highways. The maintenance of national roads is funded from the RMF, which allocates 90% of its revenues to national roads. The remaining revenues are allocated for maintenance of provincial, district, and rural roads. The midterm review of the CSP 2007–2011 (footnote 24) stated that the RMF provides just 45% of the requirements for maintaining national roads, but discussions with the RMF secretariat in 2009 indicated that all the current requirements of national road maintenance are fulfilled by the RMF. The RMF depends heavily on development agency funding, which currently forms 37% of the overall funding. Sources of RMF revenues comprise fuel levy, bridge tolls, heavy vehicle surcharges, overweight fines, and international transit fees. The fuel levy forms the bulk of these revenues. MPWT intends to gradually increase the fuel levy from the current KN300 per liter, as it is estimated that the RMF will be self-sufficient only if the fuel levy is increased by at least KN50 per liter every year. As such, the government has increased the fuel levy at the rate of KN50 per liter consistently over the last 5 years. MPWT has provided assurances for a continued rise of this levy in the future until the RMF becomes self-sufficient. These assurances are backed by an expansion in the sources of RMF revenues to include contributions from hydropower and mining projects.

106. MPWT's draft transport sector strategy states that the government's first priority will be to preserve the existing operational roads by providing sufficient funds to maintain satisfactory road conditions, particularly for national roads (footnote 6). Thus, it can be inferred that the government intends to allocate sufficient funds for maintenance before further expanding the network.

107. Appendix 9 provides a review of the literature surrounding the RMF. A World Bank Independent Evaluation Group study on road funding strategies of various countries assessed the RMF *especially successful* in that fund collections were efficiently allocated to road

maintenance.[44] The RMF has steadily improved its efficiency and effectiveness since 2001, but cannot yet be declared a complete success. The RMF follows the general principles of the second-generation type of road funds established under the broader context of road management reforms and limited resources. Its creation provides the mechanism by which user charges are pooled to a dedicated fund with priority given to road maintenance. A decree, which established the RMF advisory board, included members representing both the public and private sectors. All of these aspects point to a good fund structure. However, for this structure to succeed, it needs to receive adequate revenue. Moreover, institutional issues within the RMF need to be addressed in terms of further improvements in human resources, financial management, and maintenance procedures.

108. Taking into account the above analysis, the RMF appears to be improving and could ensure the sustainability of the national roads. Moreover, the demand for national roads will always be higher as compared with other roads. This will enable the national roads to obtain a larger share of government allocations for maintenance, which could, however, take place at the cost of the provincial and rural roads.

109. The likelihood of sustainability of rural roads is lower as compared to that of national roads. Rural road maintenance depends on allocations from provincial governments and voluntary work carried out by village maintenance committees. These committees comprise groups of local residents who have been nominated to carry out routine maintenance of rural roads. However, in most cases, they do not get any funding from the provincial or district governments. As a result, this work is carried out on a voluntary basis. This results in a lack of consistent routine maintenance, affecting road condition.

110. Thus, as stated previously, the actual funds allocation for provincial, district, and rural roads continues to be short of the requirements. This has increased the risk of deterioration of recently rehabilitated roads. With the low traffic, maintenance of those roads also remains low in the order of funding priority. This increases the risk of sustainability of continued funding.

111. In addition, the institutional capacity of MPWT and the DPWTs continues to be constrained by the lack of adequate resources. The dependence on consultants for project preparation and implementation continues. Although MPWT has awarded maintenance contracts for national roads, no such contracts are being discussed for rural roads. With the recent policy of decentralization, the DPWTs are expected to become centers for planning and budgeting activities for the districts' socioeconomic plans, requiring a definitive building of technical and administrative capacities at the district and provincial levels. Planning and implementing maintenance programs at the district level will require additional manpower and funding resources, both of which are currently falling short.

112. Finally, the government's commitment and willingness to maintain transport assets are strong. One of the goals of the NSEDP 6 is to "ensure the maintenance of existing infrastructure; establish additional infrastructure specifically to support the socioeconomic development activities aiming to promote trade, investment, and tourism" (footnote 17). This requires substantial investments backed up by sustained maintenance, which is currently a matter of concern for rural roads.

[44] H. Levy and P. Freeman. 2007. Evaluation of Bank Support for Road Funds. Background paper for *A Decade of Action in Transport: Evaluation of World Bank Assistance to the Transport Sector, 1995–2005.* Washington, DC: World Bank Independent Evaluation Group.

113. In view of the above, rural road assistance is *less likely* to be sustainable, but national road assistance is *likely* to be sustainable. Overall, since the majority of the sector assistance comprises national roads, ADB assistance is *likely* to be sustainable.

F. Impact

114. ADB's contributions to development impacts specific to the transport sector are *substantial*. This assessment measures the extent to which ADB's cumulative interventions contributed to the Lao PDR's long-term development results. Although it is difficult to disaggregate the specific impact of ADB assistance in the development context, the impact assessment analyzes the sector-wide positive and negative impacts linked to road improvement in the Lao PDR. These impacts are assessed across ADB's transport portfolio in the following key thematic areas: poverty reduction, trade and tourism, health, vehicle overloading and safety, agricultural development, environmental impact, and impact on indigenous peoples. Appendix 10 provides a summary of the impact of each completed project.

115. **Poverty reduction.** Poverty in the Lao PDR is defined by a poverty line based on the level of per capita household consumption considered necessary to meet minimum dietary needs, such as the level of per capita food consumption needed to purchase a typical food basket. ADB assistance for the funding of national road improvement did not have a direct rationale of poverty reduction, since these projects were justified more along the lines of connectivity and support to agricultural development. Poverty reduction had been an indirect impact targeted by these projects, until ADB ventured into the rural road subsector. The Rural Access Roads Project was the first project that aimed to reduce poverty by providing access to market, education, and health facilities.

116. The link between road improvement and poverty reduction falls into two basic schools of thought. The first states that significant poverty reduction has been achieved in the Lao PDR, and a proportion of this can be statistically attributed to improvement in rural transport access. The second argues that road improvement has led to economic growth but not necessarily to poverty reduction.

117. Several studies have indicated that road improvement has contributed to poverty reduction.[45] Most studies have analyzed the link between improved access and poverty reduction. Access is typically measured in terms of travel time, effort involved, and cost of travel. A key point is that people with capital were most able to benefit from the new opportunities created by rural infrastructure.[46]

118. In 2005, Warr concluded that between 1997–1998 and 2002–2003, rural poverty incidence in the Lao PDR declined by 9.5%, despite some macroeconomic conditions mitigating the interests of rural people.[47] It estimated that about 13.0% of this decline can be attributed to improved road access alone. Another factor included public investment in irrigation facilities. Warr found that by providing rural areas with dry season road access, rural poverty incidence could be reduced by 3.0%. A further reduction of 2.0% could be obtained by providing all rural households with all-weather road access.

---

[45] ADB, National Statistical Centre of the Committee for Planning and Investment, Sida, and the World Bank. 2006. *Lao PDR Poverty Assessment Report: From Valleys to Hilltops—15 Years of Poverty Reduction*. Washington, DC.

[46] S. Nakhavong. 2006. *Impact of the Rural Access Road Network on Poverty Alleviation in the Lao PDR.* Vientiane: United Nations Development Programme (UNDP).

[47] P. Warr. 2005. Road Development and Poverty Reduction: The Case of Lao PDR. *ADB Institute Discussion Paper No. 25*. Tokyo: ADB Institute.

119. An Institute of Development Economics study by Oraboune linked rural road improvement with poverty reduction in Attapeu, Houaphan, Louangphrabang, Savannakhet, and Xiangkhouang provinces, all of which have benefited from ADB assistance.[48] The study concluded that there is a close link between villages connected by roads and poverty reduction through increased income opportunities to rural people. However, it stated that the provision of roads alone is not sufficient to ensure these impacts. Other requirements include providing agriculture extension works, ensuring agricultural market information, and creating awareness of the benefits that they could gain from improved roads.

120. The Lao PDR has witnessed considerable improvement of its national roads as well. The development of National Road 13 between Vientiane and Louangphrabang contributed to the poverty reduction efforts in northern Lao PDR. With the provision of connectivity between Vientiane and the northern provinces, there has been a major contribution to economic development in these areas. Similar results were found by a survey carried out as part of the PPER for the Champasack Road Improvement Project in southern Lao PDR, which indicated an improvement in income levels and job opportunities.[49]

121. Breaking away from the above studies, another school of thought differentiates economic development from poverty reduction, arguing that road improvement might not necessarily lead to poverty reduction. Evidence from the Rural Access Roads Project provides the case for this argument. First, poverty needs to be defined correctly and consistently. Relying strictly on statistical definitions could introduce a bias from the originating institution. On the other hand, qualitative studies could be influenced by prevailing themes, which could change over time. Thus, a balance of quantitative and qualitative techniques is required that adopt a consistent methodology over several years. Moreover, poverty needs to be defined at household, village, or community levels and needs to be consistent with the national definition.

122. In the case of the Rural Access Roads Project, villages in the project area, mostly populated by various ethnic minority groups, witnessed poverty reduction, albeit on a differential basis. A socioeconomic assessment carried out by IED found that some of these groups (e.g., Hmong groups) were able to take advantage of the road improvement. However, the Khmu and Bahnar groups had been the recipients of limited incremental economic benefits.

123. Two conclusions emerged from the impact assessment: (i) more time is needed for project benefits to be captured by residents in rural areas; and (ii) other interventions are essential for economic benefits to be captured by the people, such as improvement in policies for land allocation, village consolidation, opium cultivation eradication, and eradication of swidden cultivation; agriculture development in terms of improvement of quantity, quality, and diversity of crops; encouragement of crop substitution; and provision of health and education services.

124. **Impact on trade and tourism.** ADB assistance included two regional cooperation projects involving cross-border roads. The East–West Economic Corridor Project, connecting the Thai border with the Vietnamese border across southern Lao PDR, was substantially completed in 2005. A PPER was carried out in 2008 (footnote 36) to measure the impact of the

[48] S. Oraboune. 2008. Infrastructure (Rural Road) Development and Poverty Alleviation in Lao PDR. *IDE Discussion Paper No. 151*. Chiba, Japan: Institute of Development Economics.

[49] ADB. 2005. *Performance Evaluation Report: Champasack Road Improvement Project in the Lao People's Democratic Republic*. Manila.

project. The GMS: Northern Economic Corridor Project was completed in 2009, but the PCR has yet to be prepared.

125. On the East–West Economic Corridor Project, the impact of the improved Road No. 9 on trade has been *modest* to *substantial*, partly because of restrictions on vehicle movements. The average trade value through the Lao Bao crossing improved from $93 million per year during 1998−2000 (before the project) to $100 million per year during 2004−2007 (after the project). During the last decade, the trade value peaked at $148 million in 2007 compared with the previous high of $129 million in 1999.

126. The PPER for the East–West Economic Corridor Project (footnote 36) describes the relative significance of trade passing through Dansavanh (on the Lao PDR–Viet Nam border) to the total trade nationwide. Following the drop in trade value due to construction, the share of trade through Dansavan to the Lao PDR's total trade has gradually increased from about 2% from 2002 to around 5% in 2007. It decreased briefly in 2008 due to the global economic crisis before recovering again in 2009. Being landlocked, the Lao PDR has been the most dependent of the GMS countries on intra-GMS trade and has benefited from the development of the regional roads. Regional cooperation in the Lao PDR's transport sector has led to externalities that benefit neighboring countries in the form of alternative trade routes. It is important for the Lao PDR to receive a share of these benefits, which could be in the form of transit charges. Such charges are being negotiated and could contribute to the national economy in the future.

127. The East–West Economic Corridor Project resulted in enhanced connectivity, helping form areas of production. A number of factories in the Lao PDR are using Road No. 9 to transport goods to Viet Nam, resulting in improved livelihoods (e.g., diversification of production to other crops) and living standards (with increased production more than consumption) of local residents. East−West transport facilitation (Lao PDR−Thailand−Viet Nam) further opened up markets and enabled consumer choices through cheaper prices, and product availability and diversity. Goods passing through Road No. 9 are mainly from bilateral trade (Lao PDR–Thailand and Lao PDR–Viet Nam), as the Lao PDR and Viet Nam have a bilateral agreement to allow residents of border villages to cross the borders freely to trade. This has enabled Dansavan villagers to go night shopping at the Lao Bao market or opt to use a Viet Nam hospital for more serious illnesses.

128. Tourism accounts for a major part of the increased traffic between Thailand and the Lao PDR, which has more than doubled since the completion of the East–West Economic Corridor Project. For the Lao PDR, the question for the future is how to encourage more of these tourists to stay longer and spend more in the country.[50] This indicates that the project has contributed to substantial changes in tourism. In summary, regional cooperation projects contribute substantially to the macroeconomy.

129. **Impact on health.** The construction of roads as well as their subsequent use has been linked to increase in the population's vulnerability to sexually transmitted infections, such as HIV/AIDS.[51] One study has found a link among economic development in rural areas, mobility,

[50] As part of Japan's efforts to develop and/or promote the corridor, JICA provided a $1.5 million grant for a tourism project in Kaysone Phomvihane. It aims to address poverty through development of a one village−one product program (for regional development), along with a one-stop service center near the second Mekong Friendship Bridge.

[51] S. Chantavanich, A. Beesey, and S. Paul. 2000. *Mobility and HIV/AIDS in the Greater Mekong Subregion*. Bangkok: Asian Research Center for Migration, Institute of Asian Studies, Chulalongkorn University, in consortium with World Vision Australia and Macfarlane Burnet Centre for Medical Research.

and HIV/AIDS along the East–West Economic Corridor.[52] The improvement of cross-border transport corridors is known to have the potential to contribute to the spread of HIV/AIDS and drug addiction because of increased mobility and the influx of large numbers of construction workers. ADB has carried out case study reviews of four transport projects in the GMS (including the East–West Economic Corridor Project) to provide key lessons and recommendations for tackling the issue.[53] These recommendations need to be implemented by the government in close coordination with other development partners.

130. The initial information from the GMS: Northern Economic Corridor Project indicated a much worse scenario in terms of sexually transmitted infections. The construction work for Route No. 3 required a large number of skilled and unskilled laborers from the PRC, the Lao PDR, and Thailand—mostly men with disposable incomes who work away from their families and traditional social norms for several years. This increased the vulnerability to sexually transmitted infections and drug addiction in the construction camps. Even before the project was complete, the number of people using the road had grown substantially to cross border between the PRC and the Lao PDR, resulting in a distinct increase in the risk of sexually transmitted infections on both sides of the border.

131. The issue of whether HIV/AIDS mitigation measures should be included in project designs of road improvement projects has yet to be resolved. Although the project loan agreements for East–West Economic Corridor Project and the GMS: Northern Economic Corridor Project included covenants requiring contractors to carry out HIV/AIDS prevention activities, no funding was earmarked specifically for such activities. In addition, the supervision consultants and implementing agencies had limited technical capacity to design and implement these prevention activities adequately. The ongoing Roads for Rural Development Project includes a component on awareness and prevention of HIV/AIDS, sexually transmitted infections, and drug use that has been designed and implemented through the National Committee for Control of AIDS and the provincial committees for AIDS control. The effectiveness of this component will be assessed upon project completion.

132. To specifically address HIV mitigation, ADB funded the HIV/AIDS and sexually transmitted infections, Drug and People Trafficking Awareness and Prevention Education Program, which was designed as a standalone project to address the potential spread of HIV/AIDS and sexually transmitted infections, as well as drug and human trafficking, through comprehensive prevention activities supporting risk-reduction behavior. The program comprised awareness raising among villagers, construction workers, and service workers as well as capacity building, while more activities specifically focused on prevention targeted construction workers, local communities, and mobile service workers (footnote 53). This program is ongoing.

133. **Vehicle overloading and road safety.** Improvement of roads has also led to deterioration of road safety due to increased vehicle overloading and traffic accidents. Vehicle overloading results in a decrease in the design life of the road pavement and increases the risk of accidents. PPERs have noted a continual incidence of axle loads in excess of the maximum legal axle load limit.[54] It is recognized that (i) MPWT faces constraints in terms of the number of weigh bridges; and (ii) on the roads where weigh bridges do exist, there is no strict enforcement.

---

[52] Handicap International. 2006. *Development, Mobility, and HIV in South East Asia: A Preliminary Study for the Implementation of a Development-Based HIV Prevention Programme along the East–West Corridor/Highway 9 in Laos and Vietnam.* Paris.

[53] ADB. 2007. *HIV and Infrastructure: ADB Experience in the Greater Mekong Subregion ADB Synthesis Paper*. Manila.

[54] Footnote 50 and ADB. 1997. *Project Performance Audit Report: Third Road Improvement Project in the Lao People's Democratic Republic*. Manila.

These issues need to be addressed comprehensively to ensure that the economic value of the road pavement is sustained. The Roads for Rural Development Project includes a component for axle load control equipment. However, MPWT has not used this funding.

134. Road improvements typically result in higher speeds for vehicles, to which have been attributed increased traffic accidents and fatalities. With increasing populations living along roads, this issue has been exacerbated. The main causes of these accidents are (i) lack of enforcement of posted speed limits and lack of appreciation by drivers of the rationale for speed limits; (ii) increasing pedestrian traffic, both crossing and along the roadway; (iii) lack of adequate shoulder width for vehicular stops and parking; and (iv) continued breakdown of the edges of shoulders.

135. Road accident statistics from MPWT show that motorcycles account for highest accident rates followed by cars, pickups, and others.[55] From 2000 to 2008, the average number of fatalities per 10,000 vehicles was 9–15 persons per year. Most of the victims were 19–31 years of age, with the highest rate between 25 and 30 years old. The intensity of accidents has increased in the recent years, with the fatalities per accident increasing from 0.08 in 2002 to 0.10 in 2007, and the injuries per accident increasing from 1.36 in 2002 to 1.45 in 2007.

136. The observed trend in road traffic safety in the Lao PDR generally mirrors the experiences of its neighboring countries as a result of improved road surfaces. Poor road safety and high numbers of accidents, injuries, and fatalities are also serious, growing problems in Cambodia and Viet Nam. For the two neighbors, traffic accidents are usually caused by speeding, misuse of drugs and breach of traffic regulations, poor traffic management, and/or the mix of high- and low-speed vehicles on the same road. Among the three neighbors, Cambodia reported the highest fatality rate in 2009.[56] The fatality per 100,000 inhabitants for the Lao PDR of 12.4 was only slightly better than for Cambodia and Viet Nam. In terms of fatality rate per 10,000 vehicles in 2009, the ratio of 8.6 for the Lao PDR was higher than Viet Nam but lower than Cambodia. These figures have been worsening over the last few years.

137. Value addition by ADB in terms of road safety needs to go beyond the provision of traditional hardware like traffic signs and signals, street lights, road markings, center lines and barriers, and speed reduction strips. In addition to road shoulder widening, more needs to be done in the areas of driver education, vehicle inspection, licensing, and traffic regulation enforcement. On the latter, inefficient law enforcement has been a root cause of the traffic safety problem for Cambodia, the Lao PDR, and Viet Nam. Project experiences indicate that the effectiveness of ADB assistance can be enhanced if it is able to build on a vigorous regime of law enforcement by local authorities.

138. **Agricultural development.** Road improvement has contributed to an increase in crop diversification as well as a general rise in agricultural production. In the area around the Champasack Road Improvement Project, before the project, farmers used to grow one rice crop per year and could manage their livelihoods with it. After road improvement, with better access to markets, farmers have been attempting to produce two rice crops per year. This has been hampered, however, by the lack of irrigation and by the high cost of installing irrigation systems. In other cases, farmers have diversified into growing cash crops, such as tobacco, with high profit margins. An unexpected benefit of the project has been that the traders have now

[55] Office of Roads and Bridges, Department of Public Works and Transport. Lao PDR.
[56] Cambodia Ministry of Interior, Ministry of Public Works and Transport, and Handicap International of Belgium. 2009. *Cambodia Road Crash and Victim Information*. Phnom Penh (September).

organized a transport service wherein their trucks pick up agricultural produce directly from the farms. A similar situation exists on the Community-Managed Irrigation Sector Project.[57] After project completion, rice was no longer grown on steep slopes, and there is a growing trend to grow cash crops where new roads have improved access to markets. While these cash crops do provide income for farmers, the potential for ecological damage remains high.[58] Moreover, the importance of rural transport is underlined by the fact that improvement in this subsector facilitates temporary labor migration from rural areas, allowing farm families to remain partly engaged in agriculture activities simultaneously with wage and nonfarm employment.

139. The 2008 World Development Report stated that inadequate transport infrastructure and services in rural areas tend to push up marketing costs, undermining local markets and exports.[59] However, it also stated that benefits of road improvement depend heavily on interactions with other infrastructure and geographical, community, and household characteristics. It could take 4–6 years after road rehabilitation for the road transport services to respond in areas where markets were already established and natural disasters were relatively infrequent. This indicates that road rehabilitation planning must consider whether the absence of connectivity is critical enough before embarking on road rehabilitation. This needs to be accompanied by assessment of what other policy initiatives and investments are necessary to make it successful.

140. **Environmental impact.** Unless road improvement projects implement a sound environmental impact mitigation plan, they could create negative impacts on biodiversity in the form of habitat loss and fragmentation, and invasion of nonindigenous species.[60] Even with good implementation, there are several unavoidable impacts due to the increase in accessibility to forested areas. In the Lao PDR, the threat to biodiversity is likely to increase as the population grows and also due to the access to forested areas provided by the roads. In addition, transport infrastructure development has indirect impacts such as water pollution, air pollution during construction and operation, and waste disposal during construction.

141. The preparation of projects at ex-ante stage can be improved by paying attention to the limited resources devoted by MPWT and the complex nature of the ecology. For the Rural Access Roads Project, the environmental management plan was found to be lacking in detail, since it only provided a general framework for environmental protection without specifying measures (footnote 3). This resulted in less-than-adequate implementation of environmental mitigating measures during construction. Unless an environment management plan is detailed, civil works contractors cannot implement it properly. A detailed plan needs to be backed up by bidding documents containing project-specific contract clauses for environmental protection and management. With the mainstreaming of ADB's Safeguards Policy Statement of 2009, future environmental management plans will require closer coordination with the agencies at national and local levels, including management boards of national biodiversity conservation areas, Ministry of Agriculture and Forestry, and nongovernment organizations.

---

[57] ADB. 1996. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Lao People's Democratic Republic for the Community-Managed Irrigation Sector Project*. Manila (Loan 1488-LAO[SF], for $14.7 million, approved on 21 November).

[58] ADB. 2006. *Completion Report: Community-Managed Irrigation Sector Project in the Lao People's Democratic Republic*. Manila.

[59] World Bank. 2008. Agriculture for Development. *World Development Report.* Washington, DC.

[60] These are species that ecologically alter the habitats that they invade, such as the unintentional introduction of forest pest species that will ultimately change forest ecology. This problem becomes more serious for roads cutting through protected areas. The problem may not be noticeable during its initial stages, but could become prominent in the long term.

142. The Champasack Road Improvement Project, as well as other projects, has witnessed encroachment by villagers on forest areas. While community participation programs are helpful in reducing the impact of this problem, they cannot solve it completely. The Rural Access Roads Project is equally challenging, since it included a road linking Xam Tai to Xam Nua and bisecting the Nam Xan National Biodiversity Conservation Area in Houaphan Province. While from a conservation perspective, this road should not have passed through the conservation area, the idea is in conflict with the socioeconomic needs of Xam Tai since this is the only link to the main highway. This district has been in existence long before the conservation area was declared a protected area.

143. Upgrading roads in rural areas has been known to facilitate illegal logging in the Lao PDR.[61] The government has established specific regulations to control logging, such as the number of logs that can be cut annually in each province. These logs are then auctioned by the government to obtain the best prices, and some are also exported to Viet Nam. Discussions with forest officials and a timber mill owner indicated that government regulations were being followed and that logs are cut from the production forests only. However, discussions with nongovernment organizations indicated that there have been instances of illegal logging, especially in southern Lao PDR. This indicates that although there is an appropriate policy in place for controlling logging, it is not being enforced strictly.

144. With road improvement, the traditional swidden or slash-and-burn agriculture or shifting agriculture has become an environmental issue. It has been a successful and dominant farming system in the northern Lao PDR for several generations. In recent years, the average fallow periods have decreased from an average of 4–5 years to 2–3 years as a result of a combination of population pressure, government restrictions on forest clearing, competing land-use objectives, and migration of people to areas adjacent to roads. With the improved access to remote areas, this issue is likely to worsen. In 2006, an environmental performance assessment report systematically documented a nationwide assessment of ADB's environmental concerns and how the Lao PDR is addressing them.[62] The report applied a pressure-state-response model. It identified the government's efforts and investments in road and irrigation infrastructure to induce farmers to change from shifting cultivation to more sustainable production systems.

145. The Lao PDR has also seen a growth in industrial tree plantations. The NSEDP 6 cited the conversion of some 72,870 hectares of swidden fields into industrial tree plantations in 2005.[63] This represented 61% of the areas used in 2001 for slash-and-burn cultivation. In effect, swidden areas have become the prime catalyst for land-use change by first clearing the forest for subsistence farming, then ultimately converting the land into industrial tree plantations. These land conversions are facilitated by the presence of roads, since the harvesting of industrial trees requires good access.

146. **Impact on ethnic people.**[64] The GMS: Northern Economic Corridor Project affected 76 villages flanking Road No. 3, comprising about 37,000 people. More than 90% of these residents belong to ethnic groups distinct from the lowland Lao PDR peoples. Similarly, the Rural Access Road Project was involved in areas with ethnic minority communities. Most often,

[61] ADB. 2004. *Country Gender Strategy on Lao PDR*. Manila.
[62] ADB and United Nations Environment Programme. 2007. *Lao PDR National Environmental Performance Assessment Report*. Bangkok.
[63] The Fourth and Fifth Road Improvement projects led to the establishment of teak tree and bamboo plantations (footnote 37).
[64] The term ethnic people are used here to describe the indigenous peoples as defined in ADB's Safeguards Policy Statement.

the social assessment carried out at appraisal has two methodological issues: (i) inappropriate classification of the ethnic minority groups, and (ii) incomplete surveys and oversimplification of livelihood descriptions. The PPER for the Rural Access Roads Project provided details of these issues (footnote 3), indicating that the quality of the assessment leading up to the project could have been better. The indirect consequence is that all the ethnic communities were grouped into a single category that did not differentiate relative economic status and the ability to capture the benefits of road improvement.

147. All ADB projects carry out a social analysis or an initial poverty and social impact assessment during the preparatory phase. In principle, these analytical studies include assessing the needs of impacted villagers defined as affected peoples for compensation for loss of land or houses and could trigger ADB social safeguard policies on involuntary resettlement and indigenous peoples. In the Lao PDR transport sector, involuntary resettlement has not involved large-scale relocation of villages such as might be required in hydropower projects. Typically, road projects have involved compensation for the appropriation of small amounts of land to meet right-of-way standards. However, the socioeconomic analysis carried out by this SAPE shows various unanticipated impacts that could have eluded with earlier social analyses. Given below are generic observations from various parts of the Lao PDR.

(i) A road improvement project could cause strategic problems for ethnic minority groups when a road passes through their ancestral territory, inducing them to relocate to the roadside to prevent migrants from doing so, a self-protective move not motivated by economics. However, these aspects have not been studied during social analysis and, hence, tend to be overlooked in the initial poverty and social impact assessment.

(ii) Road improvement could lead to a change in the social and economic balance in local communities. It could exacerbate a dormant inferiority complex on the part of Mon–Khmer people when they are consolidated into villages of Lao–Tai or Hmong–Mien groups, or when relocated to roadsides where they must compete for resources with these groups.[65] Relative strengths and weaknesses of individual ethnic groups in the face of development may not be revealed in social analysis, and interethnic relationships are usually not described. In addition, where villages are ethnically mixed, socioeconomic studies frequently aggregate data by village and miss ethnic distinctions or characterize these villages as "integrated." This point brings out the differential impacts among the ethnic groups that need to be recognized. A socioeconomic assessment carried out by IED for the Rural Access Roads Project found that some of these groups (e.g., Hmong–Mien groups) were able to take advantage of the road improvement (footnote 3). However, other groups such as the Khmu and Bahnar groups had limited incremental economic benefits. In particular, the Mon–Khmer segment remained poor before and after road improvement.

(iii) An initial poverty and social impact assessment sometimes does not consider indirect impacts, thereby compromising the quality of the appraisal process. Although a road improvement project might not require the relocation of villages, there could be a parallel intervention linked to regional planning or policy-motivated social engineering. To enable villages to capture the economic benefits of the road improvement, they are usually relocated to areas adjacent to roads. Most districts have relocation plans; thus, information on which villages

[65] UNDP and Government of the Lao PDR, Ministry of Planning and Investment. 2009. *National Human Development Report—Employment and Livelihoods Lao PDR 2009*. Vientiane.

and ethnicities are to be relocated is readily available. However, this is not used by the initial poverty and social impact assessments.

148. The above points have been identified to contribute to the improvement of future project appraisals. The link of the first two points ([i] and [ii]) with ADB safeguard policies is clear and undeniable. It is important for ADB to recognize these issues and identify mitigation measures to address them during project implementation. The third point has an indirect link to road improvement projects. However, this places ADB in a position where it could be seen as contributing to the government's relocation policies. This requires a more detailed indigenous peoples impact assessment, which is currently outside the scope of this SAPE. However, ADB needs to be aware of this risk and plan mitigation measures to address it.

G. ADB Performance

149. ADB's performance in the Lao PDR transport sector is *satisfactory*. ADB has been one of the lead development agencies in this sector, assisting the government in planning and implementing projects. Discussions with MPWT indicated general satisfaction with the quality of the responsiveness and value addition by ADB. Capacity building by ADB has been effective in (i) direct TA for training of MPWT staff and for specific thematic areas such as road safety, regional cooperation, and safeguard assessment; and (ii) indirect capacity development for MPWT project managers and other staff members who work on ADB projects.

150. ADB's main value addition has been in providing inputs for capital investment projects and capacity development in selected areas. Although this continues to be consistent with the needs of the country, there exist areas of interventions that ADB needs to improve upon (para. 94). This includes improving the sustainability of projects, which continues to be an area of concern for the transport sector in the Lao PDR. In the past, the World Bank has focused on this aspect, and ADB has chosen to avoid duplication.[66] While this is seen as appropriate harmonization, ADB needs to continue to work in conjunction with the World Bank in this area.

151. An analysis of ADB performance in implementing IED recommendations can also be improved (Appendix 11). The main issues that have yet to be comprehensively acted upon cover capacity development, road maintenance, and private sector development. Although these are sector-wide problems requiring multidonor interventions, ADB needs to take a lead in sustaining the efforts in these areas. ADB could further improve its value addition by acting as a catalyst for these sector-wide issues. In the short term, ADB needs to restart TA to the Lao PDR's transport sector targeting the above issues.

152. ADB has delegated four projects to the resident mission. Out of these, three have been completed. Currently, the resident mission is administering the Roads for Rural Development Project and intends to administer another one in the next 6 months. The current capacity of the resident mission is sufficient for this scale of operation. ADB's effectiveness and efficiency could be improved in the future if further projects are delegated to the resident mission.[67] If and when this delegation is stepped up, it will need to be accompanied by a corresponding capacity enhancement in the resident mission. In the third quarter of 2010, the Northern GMS Transport Network Improvement Project will be delegated to the resident mission as well.

[66] In the Xieng Khouang Road Project, ADB agreed to cancel the road maintenance capacity building component to avoid duplication of work under a program financed by the World Bank (ADB. 2006. *Completion Report: Xieng Khouang Road Improvement Project in the Lao People's Democratic Republic*. Manila).

[67] ADB. 2007. *Evaluation Study: Resident Mission Policy and Related Operations: Delivering Services to Clients*. Manila.

H. Development Agency Coordination

153. ADB has been at the forefront of participating in sector working groups to coordinate transport investments in the Lao PDR. Other agencies participating in the provision of funding and TA are AusAID, government of Thailand, JICA, Sida, and the World Bank. Further bilateral aid has been provided by other countries including the PRC, Republic of Korea, and Viet Nam, albeit on a smaller scale. Figures 4 and 5 provide a summary of the relative size of the assistance for road rehabilitation in the Lao PDR.

Figure 4: Length of Roads Rehabilitated by Source of Funding, 1998–2010
(kilometers)

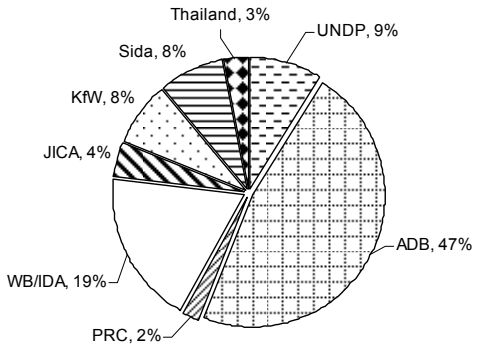
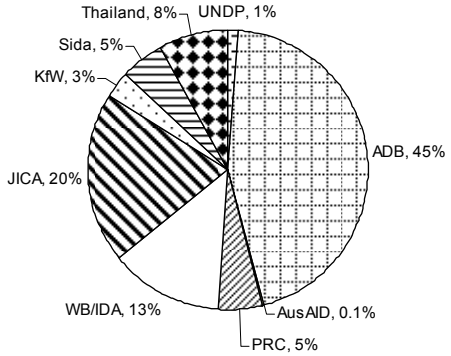


Figure 5: Cost of Road Rehabilitation by Funding Source, 1998–2010
(%)



ADB = Asian Development Bank, AusAID = Australian Agency for International Development, PRC = People's Republic of China, IDA = International Development Association, JICA = Japan International Cooperation Agency, Sida = Swedish International Development Cooperation Agency, UNDP = United Nations Development Programme, WB = World Bank.
Source: Data provided by the Government of the Lao People's Democratic Republic, Ministry of Public Works and Transport.

154. With various development agencies participating in the development of the Lao PDR transport sector, issues of coordination and harmonization remain. MPWT has been the main coordinating agency, and carried out this duty effectively until the late 1990s. With the increase in the number of development agencies and the amount of external assistance, the need for agency coordination is now greater.

155. Since the 1980s, the United Nations Development Programme (UNDP) organized roundtable meetings to serve as a forum for development dialogue between the Government of the Lao PDR and the donor community. These were initially held in Geneva. But since 1999, these have been conducted in Vientiane. The government has taken the lead in managing this process. ADB chairs the infrastructure working group within the roundtable meeting process. An evaluation by the United Nations Evaluation Office in 2007 found that the roundtable meeting was effective in improving dialogue among the development agencies and has led to more effective information sharing and complementary efforts.[68] The evaluation recommended that UNDP continue its role in coordinating aid through the roundtable meeting process.

156. The government has set up another infrastructure sector working group to coordinate and harmonize investment planning among development agencies. Para. 83 indicates needed improvements in the functioning of this working group. In addition, a memorandum of understanding on collaboration was signed among ADB, Sida, and the World Bank. Discussions

[68] UNDP. 2007. *Assessment of Development Results, Evaluation of UNDP's Contribution to the Lao PDR*. New York.

within ADB, as well as other development partners, indicate that this remains mainly on paper and has not been mainstreamed. Finally, the Coordination Framework Agreement was signed in 2006, which outlined the Lao Transport Development Partnership. This framework needs to be reviewed since its immediate next steps had been "to jointly develop detailed physical, procedural, sector and organizational efficiency, and capacity indicators for some of the core areas of the Lao PDR transport sector to provide a uniform basis for achievement of development objectives of the sector."[69] Discussions with development agencies indicated that not much progress has been achieved on this agreement.

157. Two areas require development agency coordination. The Lao PDR has the benefit of various studies by different agencies. This knowledge needs to be shared and disseminated among development agencies needs, followed by application of this knowledge to new projects. For example, slope stabilization techniques and low-cost pavement technologies, which have been identified by recent studies funded by bilateral development agencies, can be mainstreamed into ADB and World Bank projects. This requires streamlined harmonization not only at the planning stage but also at project implementation stage. The second area requiring coordination is project implementation monitoring. Contractor problems are faced by almost all externally-funded projects in the Lao PDR. Similarly, most implementation issues are common among these projects. This requires an annual multipartite meeting between the Ministry of Finance, the Ministry of Planning and Investment, MPWT, and all development agencies to identify the implementation problems and find solutions for all ongoing projects. This concept has been applied in other countries, such as India, and has been successful.

I. Government Performance

158. The government's performance has improved over the years, with increased familiarization of ADB procedures and awareness of international good practices. In all cases, the executing agency has been MPWT. Although the majority of projects faced implementation issues (paras. 50–54) causing implementation delays and, in some cases, cost overruns, the intensity of these issues has been reduced in recent years with the growing maturity of MPWT and appropriate measures from ADB. For example, in 2000, MPWT replaced all the project implementation units with a single project management division in DOR, which streamlined the project management functions and enabled better coordination, ownership, and transparency.

159. The financing of the road subsector continues to tarnish the performance of MPWT. Lack of funding for road rehabilitation as well as maintenance has constrained economic growth in remote areas. Delays in counterpart funding have contributed to overall implementation delays. Four out of the 10 completed projects faced counterpart funding delays. This issue has been tackled in recent projects by lowering the government’s share of funding. It needs to be addressed as a fiscal issue, rather than an institutional problem, with MPWT.

160. The low effectiveness and sustainability of the capacity building assistance also continues to be an issue for MPWT. The reliance on consultants to manage projects has been reduced but not completely eliminated. Issues such as safeguard implementation still receive low priority, resulting in low-quality assessment and implementation (para. 147). As a strategic move, MPWT intends to adopt a catalyst role wherein various aspects of a project are outsourced. However, unless gaps in capacity development are fixed, it would be difficult for MPWT to play the catalytic role effectively. Appendix 12 analyzes MPWT performance in

[69] Memorandum of Understanding signed on 3 May 2006 by MCTPC (now called MPWT), Embassy of Sweden, International Development Association (World Bank), and ADB.

safeguard implementation. It indicates that although there is commitment from the government in implementing these social and environmental safeguards, lack of adequate institutional capacity has constrained its overall performance.

161. MPWT's capacity constraints could be reduced by the use of external monitors. Lessons from the Rural Access Roads Project indicated that external monitors for environmental safeguard implementation were useful in ensuring appropriate implementation of mitigation measures. Other projects, such as the GMS: Northern Economic Corridor Project, have external monitors but could have benefited from stronger support from MPWT. For the ongoing Northern GMS Transport Network Improvement Project, MPWT has yet to appoint external monitors for resettlement although this was agreed to in 2007, as part of the project design. It is noted that the procurement process for these monitors is currently under way. It is apparent that given the capacity constraints faced by MPWT in the areas of social and environmental safeguard implementation, the use of external monitors could add value in bridging the gap in the short term as well as capacity development in the long term. From January 2010, ADB safeguard policy requires external monitors for sensitive projects with significant impacts and risks. For this requirement to be triggered, the assessment at appraisal needs to be sufficiently rigorous, which is currently lacking (para. 147).

162. The current ADB safeguard policy requires that "for projects that are deemed by ADB to be highly complex and sensitive, ADB will require the borrower/client to engage an independent advisory panel during project preparation and implementation."[70] Taking into account the potential impacts of future projects (paras. 140–148), this requirement could be triggered by projects located in remote areas. The need for a careful assessment of the potential impacts at the ex-ante stage is crucial in the context of the Lao PDR.

163. MPWT has also taken initial steps toward developing an environmental and social operational manual, which aims to establish a countrywide system acceptable to all development partners (footnote 6). The manual includes (i) the development and implementation of a harmonized approach to environmental and social management, initially starting with the road subsector; (ii) a consolidation of the environmental and social management technical capacity within MPWT; and (iii) provision of appropriate technical support and resources for implementation and compliance monitoring. However, the effectiveness and success of safeguard implementation will be seen in the mainstreaming of this manual and the level of its use.

J. Overall Assessment

164. The overall rating of ADB's program is *successful* based on the six criteria listed in Table 3. This rating is an outcome of several factors. First, ADB's contribution to the Lao PDR transport sector has been tangible and consistent with the country's needs. Second, the assistance has been effective in enabling positive outcomes at the local, country, and regional levels. Third, it has contributed to agricultural development. Other areas should be improved, however, such as implementation performance, low utilization of project benefits, institutional development, sustainability, strategic positioning, and differential impacts among ethnic people.

[70] ADB. 2009. *Safeguards Policy Statement*. Manila.

Table 3: Evaluation of ADB Assistance for the Transport Sector in the Lao People's Democratic Republic

		Transport Sector Rating		
Evaluation Criteria	**Criteria Weight**	**Rating** (0–3)	**Weighted Average Score**	**Rating Description**
Relevance	0.1	2	0.2	Relevant
Efficiency	0.2	1	0.2	Less efficient
Effectiveness	0.2	2	0.4	Effective
Sustainability	0.2	2	0.4	Likely
Development Impact	0.2	2	0.4	Substantial
Strategic Positioning	0.1	2	0.2	Satisfactory
All Criteria Combined[a]	**1.0**		**1.8**	**Successful**

ADB = Asian Development Bank.

[a] The evaluation scoring system rates the overall sector performance based on the following criteria: (i) if the overall weighted average score for criteria combined is greater than or equal to 2.7, then the overall performance is *highly successful*; (ii) if it is less than 2.7 but greater than or equal to 1.6, then the overall performance is *successful*; (iii) if it is less than 1.6 but greater than or equal to 0.8, then the overall performance is *partly successful*; and (iv) if it is less than 0.8, then the overall performance is *unsuccessful*.

Source: Independent Evaluation Department.

V. CONCLUSIONS, LESSONS, AND RECOMMENDATIONS

165. ADB has been a longstanding development partner in the Lao PDR transport sector. ADB assistance, as well as the sector itself, has undergone changes over the years. Although the basic objective of providing connectivity remains, regional cooperation has emerged as an area for investment. This requires an appropriate balance between domestic needs and international aspirations. Besides contributing to this balanced development, ADB's value addition is closely linked to the institutional development efforts in the country.

166. Economic activities in the Lao PDR take a longer time to stimulate as compared with other countries such as India and Thailand. As a result, an integrated approach that enables complementarities with other interventions such as agriculture, trade, and tourism is needed. Similarly, the need for the maintenance of road projects has gained awareness within the government. However, it remains to be seen whether the government can deploy adequate resources to ensure sustainability. Moreover, this needs to be supported appropriately by ADB, which has yet to define a clear strategy for addressing sustainability concerns in the Lao PDR.

167. ADB has adopted an integrated approach to rehabilitate rural roads by combining them with agriculture interventions. This is seen as prudent, and ADB should continue this approach, taking into account the factors mentioned in para. 74 for planning and implementing such projects. While all factors mentioned are important, the two that stand out relate to better coordination between MPWT and Ministry of Agriculture and Forestry, and among the transport and agriculture divisions within ADB's Southeast Asia Department.

168. ADB exited from the civil aviation subsector and has stayed away from the inland waterways and railways subsectors. This is considered prudent in light of funding limitations. Support to urban transport could be scaled up, given the potential demand for funds in this subsector. However, this needs to be considered within the broader constraint of funds availability.

A. Lessons for Future Assistance

169. **Continued and scaled up assistance for provincial and rural roads.** ADB's transport sector assistance in the Lao PDR has evolved in the recent years to focus on GMS regional

projects that fund improvement of national roads and highways connecting international borders. Higher development effectiveness could be achieved by improving access to remote areas in the Lao PDR (para. 118). This indicates the need for increased attention to funding provincial and rural roads in the future country program. The development of GMS regional roads has benefited the Lao PDR by providing connectivity through alternative trade routes. But they have also provided benefits to neighboring countries. It would be beneficial for the Lao PDR's economy if these benefits of the externalities are internalized in the form of transit fees. Efforts toward such internalization are being made and could be supported by ADB in the future.

170. **Geographical focus of projects.** ADB road projects are in different parts of the country. Even within a given project, the subprojects are located in various parts, straining MPWT's resources and reducing synergies. By ensuring a geographical focus on certain areas or provinces within the Lao PDR, project management and development effectiveness could be improved. A corollary effect would possibly lead to better coordination with development partners agreeing to focus on different provinces.

171. **Quality of sector and project design frameworks.** The CSP 2007–2011 includes a transport sector road map that is similar to that for Cambodia. Both road maps contain outcome indicators that are difficult to measure, such as road transport costs. Moreover, the road map does not state the source of these data. This is also an area of improvement for the project design and monitoring frameworks, which have broad indicators that are unquantifiable and not time-bound. Although the quality of the frameworks has improved in the last year for new projects, efforts need to be made to improve the quality of the sector road map in the subsequent country partnership strategy.

172. **Transfer of knowledge.** Capacity development is an area for improvement in the Lao PDR. ADB has the potential to contribute to this by bringing in good practice models and lessons from other countries. This is done indirectly as part of the project management exercise wherein MPWT's project managers build their awareness through working with international consultants and contractors. However, a systematic process is needed for the transfer of good practices to the Lao PDR.

173. **Performance of contractors.** The issue of contractor performance has been affecting project implementation. Attempts to use local contractors are seen as appropriate for local capacity development but have resulted in poor project performance. ADB needs to ensure that the procurement process includes rigorous due diligence so that poorly qualified contractors are not selected. This will be important in the context of the 100% grants being provided by ADB for future projects.

174. **Road maintenance.** Appropriate allocation for rural road maintenance continues to be an issue in the Lao PDR. There is no easy solution to address this issue. Sector-wide solutions will ensure consistent sustainability of new rehabilitated roads, but these need to be developed in conjunction with the government and all development partners.

175. **Safeguard assessment and monitoring.** Roads are likely to create inequality among ethnic minority groups, since benefits do not accrue equally to all groups. Such impacts can be addressed only if the assessment at appraisal is carried out in a comprehensive manner. Most often, all ethnic minority communities are grouped into one category. This negates any differential interventions to resolve inequality among them. In other words, there is a need to ensure that assessment of social groupings are carried out correctly, so that propensities for differential economic development are identified correctly at the feasibility stage.

176. Suitable due diligence at appraisal is crucial. For sensitive projects, the use of external monitors needs to be enforced consistently. Such monitors have been used on transport projects in the past and have demonstrated value addition. Continuing such external monitoring will increase the chances of improvement in the quality of the social and environmental mitigation plans, and will ensure that the plans are implemented effectively. It will also contribute to the building of local capacities in these areas.

B. Recommendations

177. The 2006 country assistance program evaluation for the Lao PDR recommended that ADB should continue to support road maintenance and road safety (para. 7). Taking into account the sector performance stated in paras. 109–113 and paras. 133–137, the recommendations continue to be valid. In addition, given below are specific recommendations from this SAPE for consideration in formulating the next country partnership strategy. Their impacts can be measured after 5 years to evaluate their effectiveness.

178. **Capacity development.** Support the government in the development of integrated capacity-building programs (instead of one-off TA) in specific areas such as project management at provincial levels; economic, social, and environmental impact assessment; procurement; indigenous peoples impact assessment, monitoring, and identification of mitigation measures; rural road network expansion; and maintenance funding. With government decentralizing several activities to the provincial level, it becomes crucial that capacity in the provincial administration is improved in these areas.

179. **Project-readiness filters.** Improve implementation performance of ADB transport projects by mainstreaming project-readiness filters to assess the institutional preparedness within the government for implementing a new project. Such filters can be used to check if the executing and implementing agencies are ready to implement the project so that start-up delays can be avoided (para. 54). One option is to include directions for applying these filters in the subsequent country partnership strategy to enable mainstreaming.

180. **Coordination of assistance.** Work in conjunction with the government to improve development agency coordination in the areas of knowledge management and implementation monitoring. The Lao PDR has witnessed a major increase in the number of multilateral and bilateral development agencies working in various sectors. Specifically in transport sector, efforts have been made to coordinate the planning and implementation of national assistance, but these efforts are quite often running parallel or overlapping with each other. By bringing together these efforts, it should be possible to develop synergies in terms of time and resources currently being spent. ADB, as the lead multilateral development partner in the transport sector, needs to facilitate these synergies in conjunction with MPWT. In the short term, it is recommended that development agency coordination be targeted at two areas.

181. The first is knowledge sharing. ADB needs to work in conjunction with other development agencies to create a framework for identification, storage, dissemination, and application of knowledge of the transport sector (para. 157). The second area is project implementation monitoring. ADB needs to initiate the concept of an annual multipartite meeting between the Ministry of Finance, Ministry of Planning and Investment, MPWT, and all agencies to identify implementation problems and find solutions on a sector-wide basis.

ADB ASSISTANCE FOR THE TRANSPORT SECTOR IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

1. Tables A1.1 and A1.2 provide a summary of the overall Asian Development Bank assistance to the Lao People's Democratic Republic. This sector assistance program evaluation evaluates the assistance between 2000 and 2009 only.

Table A1.1: ADB Loans to the Transport Sector, 1983–2009

Loan No.	Project Name	Fund	Subsector	Approved Amount ($ million)	Date Approved	Date Closed	Project Performance			
							Year	PCR	Year	PPER
1266	Airports Improvement	ADF	Civil aviation	15.0	18 Nov 93	18 Jan 02	2001	S		
1970	GMS: Mekong Tourism Development	ADF	Industry and trade	10.9	12 Dec 02	18 Aug 08				
643	Vientiane Plain Road Improvement	ADF	Roads and highways	8.0	11 Oct 83	11 Apr 90	1989	NR	1989	GS
788	Second Road Improvement	ADF	Roads and highways	12.0	16 Sep 86	9 Apr 96	1996	GS		
866	Third Road Improvement	ADF	Roads and highways	19.0	24 Nov 87	7 Mar 95	1995	GS	1997	HS
1009	Fourth Road Improvement	ADF	Roads and highways	39.0	21 Dec 89	4 Jul 97	1998	GS	2001	HS
1108	Fifth Road Improvement	ADF	Roads and highways	34.0	29 Oct 91	14 Jan 98	1998	GS	2001	HS
1234	Sixth Road Improvement	ADF	Roads and highways	26.0	1 Jun 93	22 Jan 03	2003	S		
1369	Champasack Road Improvement	ADF	Roads and highways	48.0	31 Aug 95	26 Jul 01	2001	S	2005	HS
1533	Xieng Khouang Road Improvement	ADF	Roads and highways	46.0	9 Sep 97	28 Apr 06	2006	S		
1727	GMS: East–West Corridor (Regional)	ADF	Roads and highways	32.0	20 Dec 99	22 Feb 08	2008	S	2008	S
1795	Rural Access Roads	ADF	Roads and highways	25.0	7 Dec 00	9 Apr 08	2008	S	2009	PS
1989	GMS: Northern Economic Corridor	ADF	Roads and highways	30.0	20 Dec 02	30 Jun 09				
2085	Roads for Rural Development	ADF	Roads and highways	17.7	28 Jun 04					
	Total			**362.6**						

Grant No.	Project Name	Fund	Subsector	Special Funds ($ million)	Date Approved	Others ($ million)
0082	Northern GMS Transport Network Improvement	ADF	Road transport	27.0[a]	27 Sep 07	14.5 (Australia)

ADB = Asian Development Bank, ADF = Asian Development Fund, GMS = Greater Mekong Subregion, GS = generally successful, HS = highly successful, JFPR = Japan Fund for Poverty Reduction, NR = no rating, PCR = project completion report, PPER = project performance evaluation report, PS = partly successful, S = successful.

[a] Additional grant financing of $27 million from ADF resources approved on 26 April 2010.

Source: Asian Development Bank database.

Table A1.2: Technical Assistance for the Transport Sector, 1979–2009

Technical Assistance No.		Technical Assistance Name	Date Approved	Type	Approved Amount ($'000)	TCR Year	TCR Rating	TPER Year	TPER Rating
A.	**Civil Aviation**								
1.	1747	Civil Aviation Master Plan (SSTA)	18 Aug 92	PP	100	2001	S		
2.	1899	Pavement Evaluation Study at Vientiane Airport and Preparation of Base Plans for Domestic Airports (SSTA)	2 Jun 93	PP	100	No TCR			
3.	1986	Institutional Strengthening of the National Airports Authority and Lao Civil Aviation	18 Nov 93	AD	475	No TCR			
4.	3968	Northern Airports Improvement	4 Nov 02	PP	500	No TCR			
5.	4913	Greater Mekong Subregion Louangphrabang Airport Improvement	8 Dec 06	PP	600				
		Subtotal (A)			**1,775**				
B.	**Roads and Highways**								
1.	295	Vientiane Plain Road Improvement	7 Jun 79	PP	150	1989	NR	1989	GS
2.	621	Second Road Improvement	29 Aug 84	PP	250	1995	GS	1997	HS
3.	656	Vientiane Plain Road Improvement	21 Dec 84	AD	490	No TCR			
4.	796	Road Maintenance Study	16 Sep 86	AD	285	No TCR			
5.	797	Implementation of Second Road Improvement	16 Sep 86	AD	1,200	No TCR			
	797	Implementation of Second Road Improvement (Supplementary)	8 Mar 91	AD	250	No TCR			
6.	873	Southern Roads Improvement	13 May 87	PP	330	No TCR			
7.	923	Road Maintenance Training	24 Nov 87	AD	225	No TCR			
8.	924	Implementation of Third Road Improvement	24 Nov 87	AD	1,000	No TCR			
9.	1019	Northern Roads Improvement	19 Jul 88	PP	350	1998	GS	2001	HS
10.	1255	Bridge Management	21 Dec 89	AD	300	No TCR			
11.	1494	Road Maintenance and Equipment Training	13 Mar 91	AD	600	No TCR			
	1494	Road Maintenance and Equipment Training (Supplementary)	2 Mar 93	AD	400				
12.	1495	Prestressed Concrete Bridge Training	13 Mar 91	AD	570	No TCR			
13.	1639	Preparation of the Sixth Road Improvement (SSTA)	2 Jan 92	PP	100	2003	S		
14.	1896	Seventh Road Improvement	1 Jun 93	PP	500	No TCR			
15.	1897	Privatization and Management of Road Sector Institutions	1 Jun 93	AD	950	No TCR		2003	S
16.	2242	Xieng Khouang Road Improvement	14 Dec 94	PP	530	No TCR			
17.	2388	Feeder Roads Maintenance Training	31 Aug 95	AD	350	No TCR			
18.	2389	Management Information System in the Ministry of Communications, Transport, Post, and Construction	31 Aug 95	AD	350	No TCR			
19.	2862	Management Information System (Phase II)	9 Sep 97	AD	700	2006	GS		
	2862	Management Information System (Phase II) (Supplementary)	14 Mar 00	AD	280				
20.	2889	Rural Access Roads Improvement	7 Oct 97	PP	600	No TCR			
21.	3070	Road Infrastructure for Rural Development	17 Sep 98	AD	720	2002	HS		
22.	3348	GMS: East–West Corridor Project Coordination	20 Dec 99	AD	690	2008	S	2008	S

Technical Assistance No.		Technical Assistance Name	Date Approved	Type	Approved Amount ($'000)	TCR		TPER	
						Year	Rating	Year	Rating
23.	3557	Strengthening Social and Environmental Management Capacity in the Department of Roads	7 Dec 00	AD	200	2006	GS		
24.	3756	Roads for Rural Development	30 Oct 01	PP	400	No TCR			
25.	3817	GMS: Northern Economic Corridor	19 Dec 01	PP	600	No TCR			
26.	4742	Northern GMS Transport Network Improvement	19 Dec 05	PP	800	No TCR			
		Subtotal (B)			**14,170**				
C.	**Transport Management and Policies**								
1.	3396	Assessing a Concession Agreement for the Lao PDR Component of the Chiang Rai to Kunming Highway	2 Feb 00	AD	150	No TCR			
		Total			**16,095**				

AD = advisory, GMS = Greater Mekong Subregion, GS = generally successful, HS = highly successful, NR = no rating, PP = project preparatory, S = successful, SSTA = small-scale technical assistance, TCR = technical assistance completion report, TPER = technical assistance performance evaluation report.
Source: Asian Development Bank database.

2. Table A1.3 shows the Asian Development Bank assistance for rural roads within the agriculture and rural development sector portfolio.

Table A1.3: ADB Assistance for Rural Roads within the Agriculture and Rural Development Sector Portfolio

Loan No.	Year of Approval	Project	Length of Roads (km)	Road Component of Total Project Cost (%)
1488	1996	Community-Managed Irrigation Sector	388.6[a]	20.3
1688	1999	Shifting Cultivation Stabilization	132.7[b]	18.7
1949	2002	Smallholder Development	160.0[c]	34.5
2086	2004	Northern Community Managed Irrigation Sector	30.0	12.7
9117 (JFPR)	2008	Alternative Livelihood for Upland Ethnic Groups in Houaphan Province	85.0[d]	12.9
	Total		**796.3**	**21.7**

ADB = Asian Development Bank, JFPR = Japan Fund for Poverty Reduction, km = kilometer.

[a] The project ended up constructing or rehabilitating 342.6 kilometers (km) of access roads ($6,294 per km) and 46 km of district feeder roads.

[b] Includes 76.9 km of village tracks.

[c] Rural infrastructure component.

[d] Village track works only.

Source: ADB database.

EVALUATION FRAMEWORK FOR THE SECTOR ASSESSMENT

Evaluation Criteria	Areas of Evaluation and Subcriteria	Major Indicators and Areas of Consideration	Sources of Information	Evaluation Process
Relevance	Were ADB strategies in the transport sector relevant in terms of evolving circumstances in the Lao PDR? Did the road subsector strategy in the CSPs change with these circumstances?	Economic reform milestones Progress in implementation of reforms Assessment of policies and financial management of the transport sector Changes in ADB strategy	Economic sector reports Country economic reports CSPs Government reports Thematic reports Discussions with stakeholders (e.g., ADB, government, and other aid agencies)	**Applicable to all areas for evaluation:** Desk review of relevant documents Interviews with ADB staff Interviews with government officials and other stakeholders Focus group discussions
	Did ADB strategies respond to the transport needs as perceived by the government, as well as by other development partners?	Transport sector priorities—government and ADB ADB institutional development initiatives Consistency with stakeholders' objectives Appropriateness of TA projects	As mentioned above	As mentioned above
	Did ADB harmonize its development strategy with those of other development partners?	Coordination of activities and strategies of other development partners Appropriate project and/or program designs	ADB reports including RRPs, CSPs, CSP updates Development partners and government discussions and reports	Discussions with development partners and government staff
Effectiveness	What is the likelihood that ADB's project designs will achieve the intended outcomes in light of the perceived effectiveness of the projects?	Fulfillment of stated objectives for completed projects Feasibility of achievement of objectives, based on current progress	Findings of PPERs ADB status reports, back-to-office reports, and other such reports	Desk review of relevant documents IEM's field observations Key informant interviews with government staff, observers, development partners, and other stakeholders

Evaluation Criteria	Areas of Evaluation and Subcriteria	Major Indicators and Areas of Consideration	Sources of Information	Evaluation Process
Efficiency	Were/are ADB operations in the transport sector efficient in terms of (i) effectively working with the government in implementing the projects, (ii) ensuring procurement processes have been carried out efficiently, and (iii) ensuring implementation efficiency?	Economic analyses of completed projects Timeliness and adequacy of counterpart funding Cost effectiveness in generating outputs Procurement and implementation issues	PPERs and PCRs Government agencies discussions and reports	Desk review of relevant documents IEM and field observations
Sustainability	What is the likelihood that the completed and planned outputs will be sustained?	Institutional capacity in terms of adequate availability of funding and resources Performance of the Road Maintenance Fund and adequacy of funds available Government ownership and commitment to projects and reforms	Data from government, ADB, and development partners Progress reports	Discussions with the government
Impact	What was the cumulative impact (intended and unintended) of ADB interventions in the transport sector?	Socioeconomic impacts Health impacts Environmental impacts Impacts on indigenous peoples	Literature reviews PPERs and the included surveys Data from government, ADB, and other development partners	Desk review of relevant documents IEM and field observations
Strategic Positioning	What is the extent to which the CSPs' strategic objectives and priorities were consistent with the needs of the country and with ADB policy? Was the selectivity of the subsectors appropriately based on comparative advantages and internal coherence?	Evolution of the Lao PDR's development plans Evolution of ADB strategies and assistance	Data on evolving needs within the transport sector Validation of the findings of RRPs and PCRs	Desk review of relevant documents Discussions with ADB staff and government officials
ADB Performance	Has ADB been effective in discharging its responsibilities as a	Sensitivity and responsiveness to client needs	Feedback from government and development partners	Discussions with government and ADB staff

Evaluation Criteria	Areas of Evaluation and Subcriteria	Major Indicators and Areas of Consideration	Sources of Information	Evaluation Process
	development partner?	Meeting capacity building objectives of client	Data on evolving capacity and resources within the government	

ADB = Asian Development Bank, CSP = country strategy and program, IEM = independent evaluation mission, Lao PDR = Lao People's Democratic Republic, PCR = project completion report, PPER = project performance evaluation report, RRP = report and recommendation of the President, TA = technical assistance.
Source: Independent Evaluation Department.

PROFILE OF THE TRANSPORT SECTOR IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

A. Sector Context

1. The Lao People's Democratic Republic (Lao PDR) is a landlocked nation in Southeast Asia bordered by Cambodia, the People's Republic of China (PRC), Myanmar, Thailand, and Viet Nam. It had a 2007 population of 5.9 million, which was growing at 2.1% per year. It consists of 236,800 square kilometers (km) of land and has a low population density of 25 people per square km. The share of urban population is low at 21% (2006), and per capita gross domestic product was estimated at KN6,696 thousand in 2007. Vientiane, the capital, has the largest urban concentration.[1]

2. Over the years, the Lao PDR has been in the process of transforming to a market-oriented economy. The government has introduced a package of reforms focusing on infrastructure improvement, privatization of industry, and development of legal framework to enhance economic activities. In recent years, macroeconomic growth (7.5% in 2007) has improved significantly, but the situation remains fragile, and further efforts are necessary to maintain stability. Agriculture remains a major sector, contributing 32.8% to the economy, employing about 2 million of the labor force. Industry contributes 25.2% to the economy, and services, which include transport and communications, have grown steadily to 40.0% (Table A3.1).[2]

Table A3.1: Sector Contribution to Gross Domestic Product
(current producer's prices, %)

Item	1990	1995	2000	2005	2006
Agriculture	61.2	55.0	52.6	44.8	42.6
Industry	14.5	19.0	22.9	29.5	31.8
Services	24.3	26.0	24.6	25.7	25.6

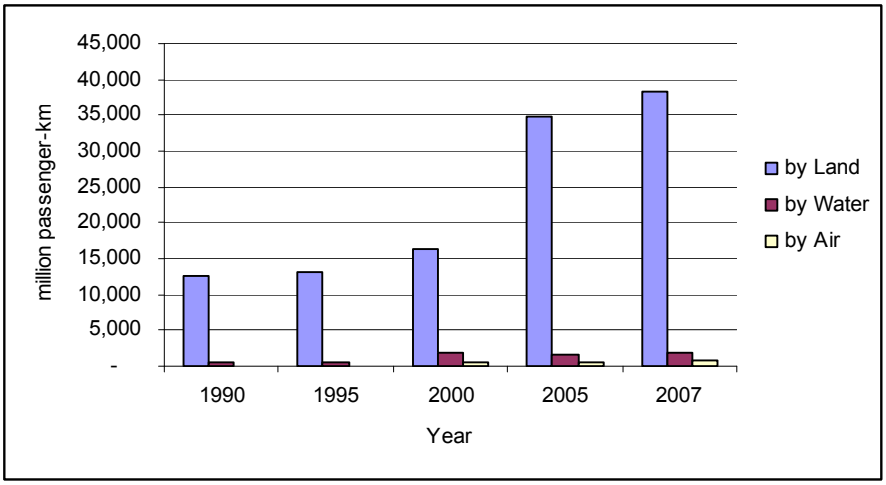
Source: Asian Development Bank. 2008. *Key Indicators for Asia and the Pacific*. Manila.

B. Transport Sector

3. The Lao PDR depends heavily on road transport and, to a lesser extent, river and air transport. Transport demand has been growing over the years, but transport of passengers and goods is constrained by an inadequate network exacerbated by poor physical conditions. In 2007, the road network accounted for 93% of passengers per km of travel and 85% of freight traffic (i.e., tons per km). The remaining passenger and freight traffic are carried through waterways and aviation. Air transport serves 2% of passenger demand and plays an important role in linking main urban centers, tourist destinations, and inaccessible parts of the country. The volume of airfreight, however, is negligible (Figures A3.1–A3.4).[3]

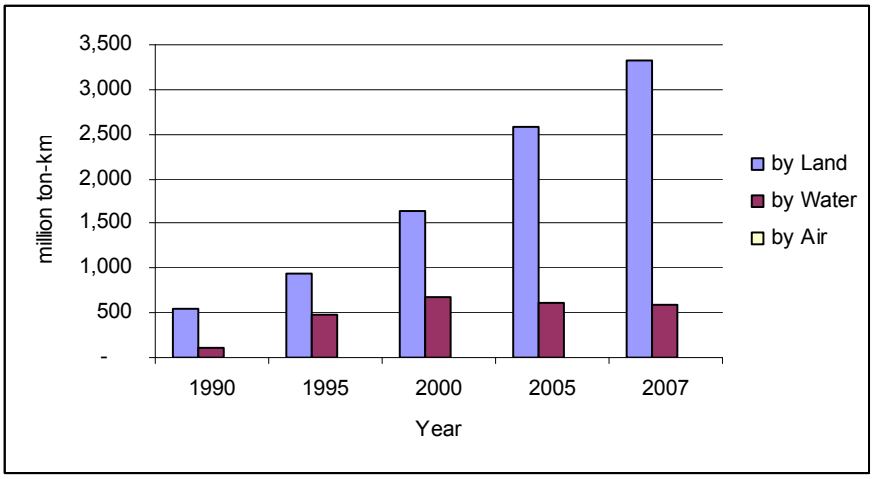
[1] Asian Development Bank (ADB). 2008. *Key Indicators for Asia and the Pacific*. Manila.
[2] Footnote 1 and ADB. 2006. *Country Strategy and Program: Lao People's Democratic Republic, 2007–2011*. Manila.
[3] Government of the Lao PDR, Ministry of Public Works and Transport (MPWT). 2008. *Strategic Plan for Transport Sector Development: Guiding the Sector-Wide Approach*. Vientiane. Draft.

Figure A3.1: Passenger–Kilometer Evolution



Source: Lao People's Democratic Republic National Statistical Center. http://www.nsc.gov.la/Statistics

Figure A3.2: Ton–Kilometer Evolution



Source: Lao People's Democratic Republic National Statistical Center. http://www.nsc.gov.la/Statistics

Figure A3.3: Passenger–Kilometer, 2007

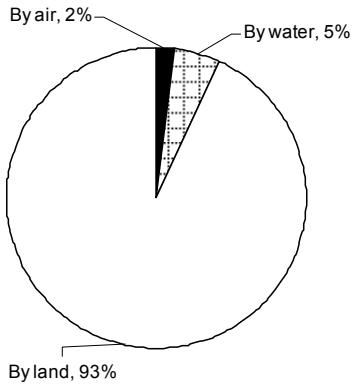
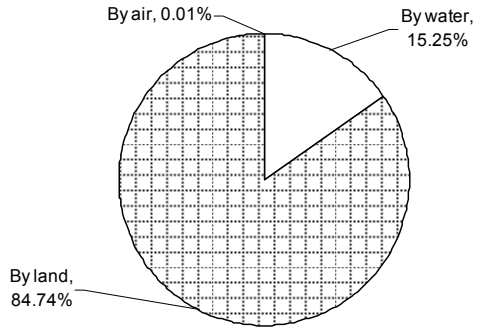


Figure A3.4: Million Ton–Kilometer, 2007



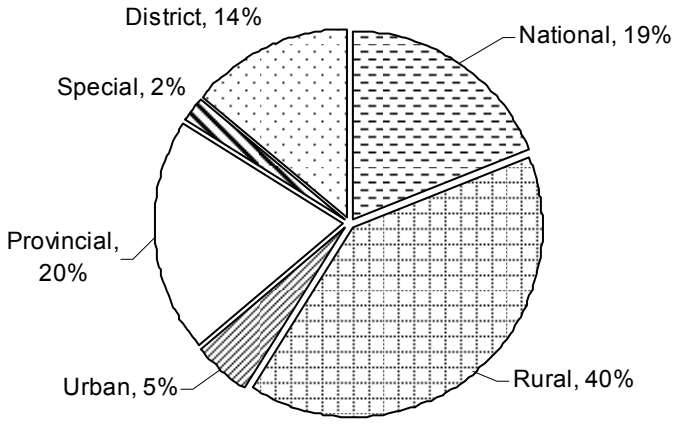
Source: Lao People's Democratic Republic National Statistical Center. http://www.nsc.gov.la/Statistics

4. The transport network of the Lao PDR is linked to that of the Greater Mekong Subregion (GMS) and associated GMS economic corridors. The GMS transport sector strategy defines the key transport corridors of the Northern Corridor, connecting Thailand and the PRC (comprising National Road 3 in the Lao PDR); the Central Corridor (National Road 13 in the Lao PDR), linking Cambodia and the PRC; the East–West Corridor (Road 9) between Thailand and Viet Nam, crossing the Mekong River at Savannakhet; and the new Northeastern Corridor, connecting northern Viet Nam and Thailand along a new road (in the long-term parallel roads 6 and 7 within the Lao PDR) to Louangphrabang and Road 4 to Thailand.[4]

1. Road Transport

1. **Classification.** The public road network is divided into (i) national, (ii) provincial, (iii) district, (iv) urban, (v) rural, and (vi) special.[5] Each class is formally defined in the Road Law of 1999 (Table A3.2).[6] Based on mid-2008 estimates, there are about 35,557 km of public roads in the country. Of this, national and provincial roads each account for close to 20%. Urban roads comprise 5% and special roads 2% (Figure A3.5).[7]

Figure A3.5: Classification of Roads, 2008



Source: Government of the Lao People's Democratic Republic, Ministry of Public Works and Transport. 2008. *Strategic Plan for Transport Sector Development: Guiding the Sector-Wide Approach*. Vientiane. Draft.

2. In mid-2008, only 13.6% of the total length of roads was paved (i.e., with bitumen, asphalt, or concrete); 33.7% was gravel; and 52.7% was earth construction. Paved roads formed 56% of the national roads and 3% of local roads. The other roads had gravel (33.7%) or earth surfaces (52.3%). Thus, seasonal closures are frequent due to poor pavement and deficient cross-drainage. The Ministry of Public Works and Transport (MPWT) reported in its 2008 strategy paper that many of these sections are impassable during the rainy season (Table A3.2).

[4] ADB. 2007. *GMS Transport Strategy 2006–2015: Coast to Coast and Mountain to Sea—Toward Integrated Mekong Transport Systems*. Manila.

[5] Special roads serve specific needs, such as tourism, environmental, and water source protection.

[6] ADB. 2000. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the Lao People's Democratic Republic for the Rural Access Roads Project*. Manila (Loan 1795-LAO[SF], for $25 million, approved on 7 December).

[7] The Ministry of Public Works and Transport estimated this as of mid-2008.

Table A3.2: Basic Road Statistics
(estimate at mid-2008 in kilometers)

Road Class	Paved	Gravel	Earth	Total	Maintainable as at Mid-2008	Unmaintainable Estimate at Mid-2008	
						Gravel	Earth
National	3,896	2,078	930	6,904	6,904		
Provincial	287	3,575	3,086	6,948	5,548	350.0	1,050.0
District	77	2,381	2,409	4,867	3,117	700.0	1,050.0
Urban	469	901	477	1,847	1,847		
Rural	36	2,716	11,525	14,277	4,727		9,550.0
Special	81	329	304	714	714		
Total Length (kilometer)	**4,846**	**11,980**	**18,731**	**35,557**	**22,857**	**1,050.0**	**11,650.0**
Percent	**13.63**	**33.69**	**52.68**	**100.00**			

Source: Government of the Lao People's Democratic Republic, Ministry of Public Works and Transport. 2008. *Strategic Plan for Transport Sector Development: Guiding the Sector-Wide Approach*. Vientiane. Draft.

3. **Vehicle fleet.** According to data by the MPWT (formerly called the Ministry of Communications, Transport, Post, and Construction [MCTPC]),[8] the vehicle base in the Lao PDR increased from 59,781 in 1985 to 568,290 in 2005, with the highest growth occurring from 2000 to 2005 at almost 197%. Motorcycles, which account for almost 80% of total, are used primarily for short travel, and their numbers have been increasing in recent years. Longer distance traffic comprises a mix of trucks, buses, and light vehicles. The truck fleet includes 4-axle, 12-wheel rigid vehicles; truck–trailer combinations; 10-wheel general purpose trucks; and many mid-sized 2-axle 6-wheelers. There are a limited number of regular long-distance bus services using modern purpose-built vehicles. Local passengers services are operated by converted trucks, pickups, or *tuk-tuks*.[9] Small trucks and light vehicles dominate the provincial and local road networks. The vehicle fleet for 1985–2005 appears in Table A3.3 and Figures A3.6–A3.7.

Table A3.3: Vehicle Fleet

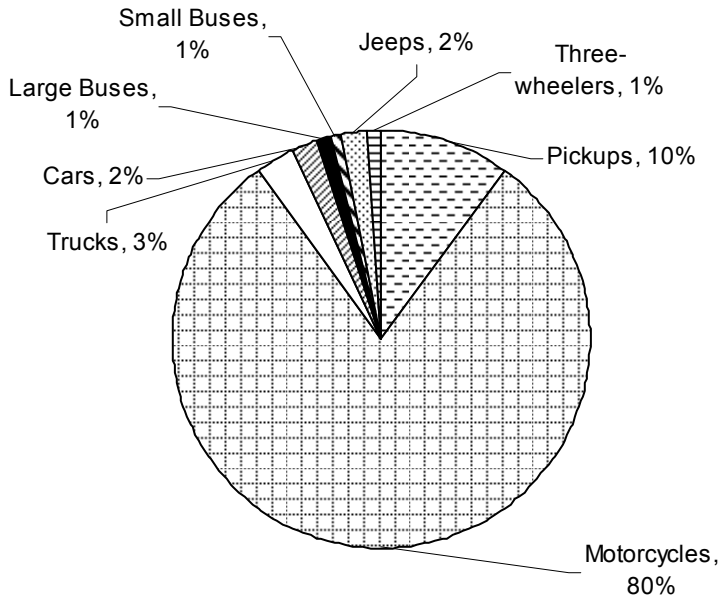
	Registered Vehicles								
Year	Motorcycles	Three-Wheelers	Cars	Pickups	Jeeps	Small Buses	Large Buses	Trucks	Total
1985	40,701	832	5,153	5,422	957	423	1,498	4,795	59,781
1990	57,878	897	5,730	5,983	1,090	473	1,625	6,236	79,912
1995	104,879	3,833	7,588	9,855	2,103	962	1,673	7,714	138,607
2000	146,507	4,235	8,789	14,294	3,980	1,863	1,790	9,982	191,440
2005	453,158	8,441	12,939	59,519	8,668	7,236	3,033	15,296	568,290

Source: Government of Lao People's Democratic Republic, Ministry of Communications, Transport, Post, and Construction cited in ADB. 2007. *Proposed Asian Development Fund Grant to the Lao People's Democratic Republic for the Northern Greater Mekong Subregion Transport Network Improvement Project*. Manila (Grant 0082-REG, for $27 million, approved on 27 September).

[8] ADB. 2007. *Proposed Asian Development Fund Grant to the Lao People's Democratic Republic for the Northern Greater Mekong Subregion Transport Network Improvement Project*. Manila (Grant 0082-REG, for $27 million, approved on 27 September).

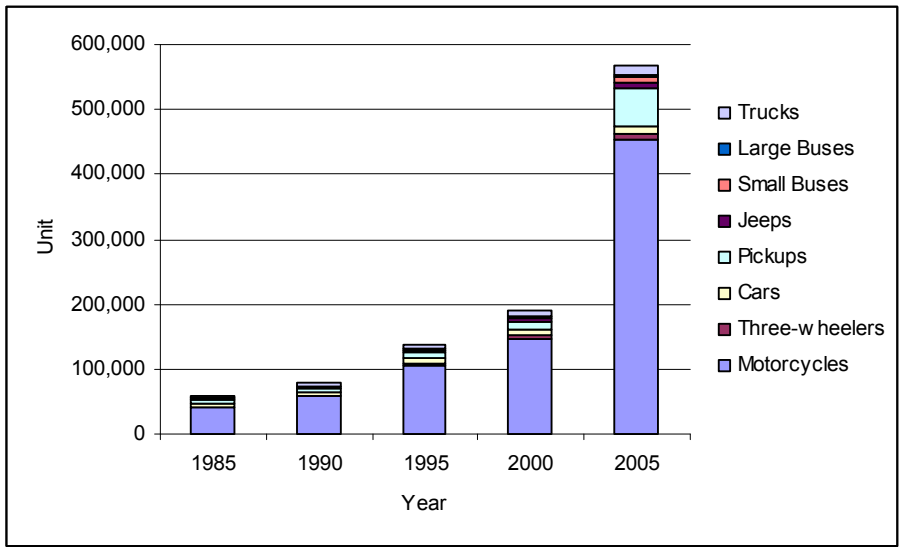
[9] A tuk-tuk is an auto rickshaw or three-wheeler motor vehicle for private use and vehicle for hire.

Figure A3.6: Registered Vehicles



Source: Government of the Lao People's Democratic Republic, Ministry of Communications, Transport, Post, and Construction.

Figure A3.7: Vehicle Fleet



Source: Government of the Lao People's Democratic Republic, Ministry of Communications, Transport, Post, and Construction.

4. **Traffic volume.** There is a generally low level of traffic on national and provincial roads throughout the Lao PDR. In all areas except those around Vientiane and Savannakhet, traffic levels on the national networks are below 1,000 average annual daily traffic (AADT) and below 500 AADT on most sections (footnote 7). On provincial roads, traffic levels are typically below 100 AADT. Road densities estimated in 2004 are shown in Table A3.4.

Table A3.4: Road Densities, 2004

Province	Road Length (km) National	Provincial	Other	Total	Area (km^2)	Population (2005 est.)	Km of Road per 1,000 km^2	Km of Road per 1,000 People
Vientiane Municipality	243	400	1,361	2,004	3,920	641,533	511	3.1
Phongsali	597	85	579	1,261	16,270	186,667	78	6.8
Louang Namtha	301	373	587	1,261	9,325	140,536	135	9.0
Oudomxai	316	287	816	1,419	15,370	257,471	92	5.5
Bokeo	94	323	585	1,002	6,169	139,464	162	7.2
Louangphrabang	578	507	657	1,742	16,875	446,284	103	3.9
Houaphan	438	588	1,097	2,123	16,500	299,310	129	7.1
Xaignabouri	566	572	590	1,728	16,389	357,241	105	4.8
Xieng Khouang	495	581	852	1,928	15,880	245,670	121	7.8
Vientiane	387	636	1,192	2,215	15,927	350,805	139	6.3
Borikhamxai	507	521	746	1,774	14,863	200,613	119	8.8
Khammouane	412	956	1,745	3,113	16,315	333,640	191	9.3
Savannakhet	606	836	3,558	5,000	21,774	821,762	230	6.1
Salavan	450	681	651	1,782	10,691	313,257	167	5.7
Sekong	201	54	467	722	7,665	78,314	94	9.2
Champasack	456	878	1,587	2,921	15,415	613,640	189	4.8
Attapeu	345	238	461	1,044	10,320	107,280	101	9.7
Xaisomboun	240	438	205	883	7,105	66,513	124	13.3
Total	**7,232**	**8,954**	**17,736**	**33,922**	**236,773**	**5,600,000**	**143**	**6.1**

km = kilometer, km^2 = square kilometer.

Source: Government of the Lao People's Democratic Republic, Ministry of Communications, Transport, Post, and Construction cited in Asian Development Bank. 2007. *Proposed Asian Development Fund Grant to the Lao People's Democratic Republic for the Northern Greater Mekong Subregion Transport Network Improvement Project*. Manila (Grant 0082-REG, for $27 million, approved on 27 September).

5. **Road expenditures.** Annual road expenditures for construction, operation, and maintenance have been increasing in recent years and have always constituted the largest share of expenditures (Table A3.5).[10]

Table A3.5: Expenditure of the Ministry of Communications, Transport, Post, and Construction (KN million)

Fiscal Year	Road	Transport	Housing and Urban Planning	Civil Aviation	Railway	Entire Ministry
2000–01	268,730	50	29,014	16,820	60	325,610
2001–02	460,826	40	64,637	579	66	572,735
2002–03	478,441	65	81,132	277	9	584,573
2003–04	1,018,867	…	37,522	39,305	10	1,143,722
2004–05	777,489	…	9,778	55,339	40	892,229

… = data not available.

Note: Expenditure from domestic and foreign sources.

Source: Government of the Lao People's Democratic Republic, Ministry of Communications, Transport, Post, and Construction and Japan International Cooperation Agency. 2008. *The Study of Master Plan on Comprehensive Urban Transport in Vientiane in Lao PDR*. Vientiane.

6. On 15 January 2001, the government established the Road Maintenance Fund (RMF) through Prime Ministerial Decree No. 9.[11] Collections to the RMF began in February 2002 and

[10] Government of the Lao PDR, MCTPC. 2008. *The Study of Master Plan on Comprehensive Urban Transport in Vientiane in Lao PDR*. Vientiane.

[11] ADB. 2003. *Completion Report: Sixth Road Improvement Project in the Lao People's Democratic Republic*. Manila; and ADB. 2003. *Road Funds and Road Maintenance: An Asian Perspective*. Manila.

consist of a fuel levy, bridge tolls, heavy vehicle surcharges, overweight fines, and international transit fees. The RMF was aimed at financing routine maintenance, emergency and periodic maintenance works, administration-renewal works, road safety projects, and other administrative costs. Most of the RMF is spent on national roads, other roads (about 10%), and road safety (5%). However, according to existing studies,[12] the RMF was found to have met only 40%–45% of road maintenance needs. Estimated annual costs to maintain and preserve the existing road system in the Lao PDR is shown in Table A3.6.

Table A3.6: Annual Cost to Maintain and Preserve Existing Road System, 2008–2020

Item	Annual Cost ($ million constant prices)	%
National (Core and Rest)	22.4	39.4
Provincial	12.4	21.8
District	5.2	9.2
Other (Local)	16.8	29.6
Total	**56.8**	**100.0**

Source: Government of the Lao People's Democratic Republic, Ministry of Public Works and Transport. 2008. *Strategic Plan for Transport Sector Development: Guiding the Sector-Wide Approach*. Vientiane. Draft.

7. **Traffic safety.** The highest number of traffic accidents—3,080—occurred in 2003. Although the number dropped to 1,643 in 2004, it has since increased again, reaching 2,091 in 2006. The highest numbers of injuries and fatalities were in 2003, with 3,228 injuries and 147 fatalities. In 2004, the number of injuries went down to 2,827 and fatalities to 140. However, injuries and fatalities numbered 3,572 and 119, respectively, in 2006 (Table A3.7) (footnote 10).

Table A3.7: Number of Accidents, Injuries, and Fatalities

Year	No. of Accidents	Injuries			Total Injuries	Fatalities
		Minor	Medium	Serious		
2001	2,540	2,963	873	77	3,913	112
2002	2,205	1,846	847	52	2,745	126
2003	3,080	1,901	1,100	227	3,228	147
2004	1,643	1,513	1,123	191	2,827	140
2005	1,838	1,579	1,397	203	3,179	119
2006	2,091	2,065	1,268	239	3,572	119

Source: Government of the Lao People's Democratic Republic, Ministry of Communications, Transport, Post, and Construction and Japan International Cooperation Agency. 2008. *The Study of Master Plan on Comprehensive Urban Transport in Vientiane in Lao PDR*. Vientiane.

8. **Axle load control.** Under government regulations, the maximum axle load set by MCTPC is 8.2 tons. However, under its commitment to the Association of Southeast Asian Nations (ASEAN), the government has set maximum gross vehicle weights at about a 9.1-ton axle load equivalent, with optional lower limits to be declared officially. The government, through MCTPC, is reviewing existing regulations, providing equipment (e.g., weigh scales), setting up weigh stations, and conducting training and public information campaigns under the World Bank-funded Road Maintenance Program. The program is also being complemented by Asian Development Bank (ADB) support (footnote 8).

[12] H. Levy and P. Freeman. 2007. Evaluation of Bank Support for Road Funds. Background paper for *A Decade of Action in Transport Evaluation of World Bank Assistance to the Transport Sector, 1995–2005*. Washington, DC: World Bank Independent Evaluation Group; ADB. 2001. *Paving the Way to Poverty Reduction through Better Roads*. Manila; and Government of the Lao PDR, MPWT, and the Japan International Cooperation Agency. 2008. *The Study of Master Plan on Comprehensive Urban Transport in Vientiane in Lao PDR*. Vientiane.

2. Air Transport

9. The two regional airports at Louangphrabang and Pakxe and the Wattay Airport at Vientiane cover international traffic and associated services. Vientiane is the main international gateway, while Louangphrabang and Pakxe accept regional traffic and provide customs, immigration, and quarantine services. Another significant provincial airport is Savannakhet. MPWT reported that all airports were recently upgraded. Wattay International Airport at Vientiane is capable of assisting the largest jets, and Louangphrabang and Pakxe can handle regional jets and turbo props. There are also 10 minor airports in provincial capitals and 39 other airstrips (footnote 3).

10. Several international airlines such as Air Asia, Bangkok Airways, China Eastern Airlines, Lao Airlines, Thai Airways, and Vietnam Airlines provide international services. Direct connections are also available to Bangkok, Chiang Mai, and Ha Noi from Louangphrabang, and to Bangkok and Siem Reap from Pakxe. Scheduled domestic services are operated on main routes[13] by Lao Airlines with regular daily services, and additional flights are made in the rainy season to selected locations. The state-owned airline, Lao Air, flies 10-seat Cessna aircrafts on a regular basis to three remote provinces—Houaphan, Phongsali, and Xayabury. Domestic and international services are provided primarily for tourist traffic.[14]

3. Railway Transit

11. MPWT reported that a direct railway link from Thailand to Thanaleng was completed in July 2008 (footnote 3). The initial railway infrastructure into the Lao PDR comprises a 3.5 km link from the Thai railway system in Nong Khai across the Friendship Bridge to Thanaleng on the outskirts of Vientiane. A passenger station at Thanaleng with plans for a future freight terminal and logistics center is under way.

4. Inland Waterways

12. Over 2,000 km of the Mekong River and its tributaries are located in the Lao PDR. During the dry season, the navigable length is reduced to 1,300 km. The river forms the border between the Lao PDR and Myanmar, and the remaining length defines the border with Thailand. The northern sector of the river is used for international trade among the PRC, Lao PDR, and Thailand. Trade on the river has been increasing in recent years.

13. MPWT reported recent improvements that allow 100–150 ships to navigate year-round between the PRC and Houayxai (footnote 3). The river between Louangphrabang and Vientiane is navigable all year, although there are difficult sections, with Vientiane–Thakhek–Savannakhet as the best section. Navigation is also easy in the Pakxe–Don Deth section along the border with Cambodia.

14. There are 21 river port facilities on the side of the river. Lakse Port in Vientiane is the main port, with 20,000–30,000 tons per year going through it. Houayxai, Louangphrabang, and Pakbeng each handle 10,000 tons of traffic. Vessels of 300 deadweight tons or greater capacity carry mainly industrial and agricultural products such as sand, rocks, wood products, food

[13] Includes Houayxai, Louangnamtha, Louangphrabang, Oudomxai, Pakxe, Savannakhet, and Xiengkhouang.
[14] ADB. 2002. *Technical Assistance to the Lao People's Democratic Republic for Preparing the Northern Airports Improvement Project*. Manila (TA 3968-LAO, for $500,000, approved on 4 November).

grains, steel products, and logs. Traffic is mainly domestic, although international traffic is present in the upper section among the PRC, the Lao PDR, Myanmar, and Thailand.

15. The key benefits of inland waterways transport are
    (i) lower financial costs relative to roads and railways, and high economic benefits in terms of movement of bulk goods, which can cover a wide community (i.e., local, regional, and national economies);
    (ii) reduced travel time owing to negligible congestion associated with road transport; and
    (iii) reduced external costs linked to air and noise pollution, and accidents, which impact indirectly on the wider community. The diversion of traffic from one transport mode to another will also have various impacts on costs indirectly borne by the community, such as a reduction in the costs of infrastructure provision and maintenance.

16. These indicate the potential for the Lao PDR to develop its inland waterways transport system.

5. Urban Transport

17. A study on the Master Plan on Comprehensive Urban Transport (footnote 10) reported that transport in Vientiane has improved and has been upgraded to cope with growing traffic demand. In recent years, Vientiane has concentrated on construction and rehabilitation of asphalt, earth, and feeder roads in its districts; road links between district and rural areas; and inner and outer ring roads. In addition, bridges were constructed or repaired in Sangthong District and Xaisettha District. A summary of transport in Vientiane is shown in Table A3.8.

Table A3.8: Transport in Vientiane, 2001–2005

Category	Land	Water	Total
Goods transport (ton)	1,159,443	25,629	1,185,072
Passenger transport (person)	71,793,988	109,761	71,903,749
Goods circulation (ton x km)	65,675,875	445,370	66,121,245
Passenger circulation (person x km)	2,187,207,600	2,931,608	2,190,139,208

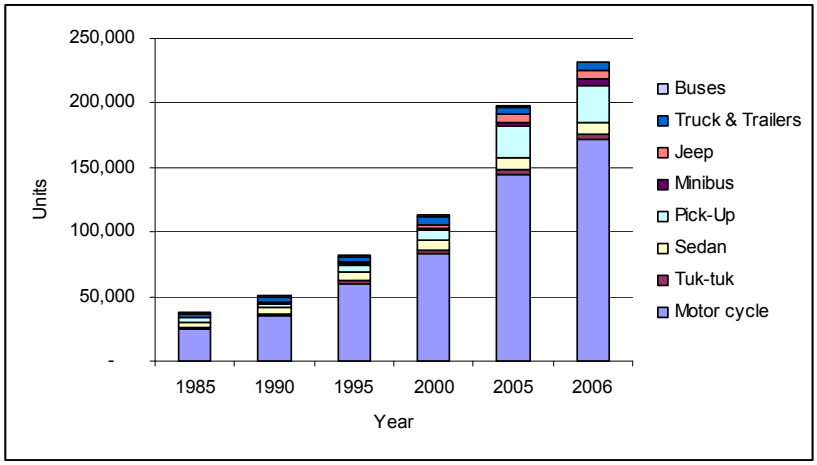
km = kilometer.

Source: Sixth Five-Year Social Economic Development Plan (2006–1010) cited in the Government of the Lao People's Democratic Republic, Ministry of Communications, Transport, Post, and Construction and Japan International Cooperation Agency. 2008. *The Study of Master Plan on Comprehensive Urban Transport in Vientiane in Lao PDR*. Vientiane.

18. According to the 2008 study on urban transport (footnote 10), the number of registered vehicles sharply increased after 2000, primarily due to the increase in low-priced motorcycles from the PRC. In 2006, more than 200,000 vehicles were registered. A traffic survey conducted in the study area[15] showed that there is usually high traffic in major roads, with the highest traffic volume observed in front of the Pohphano Temple along Kaysone Road. This road section witnesses 58,470 vehicles per day for both directions, including motorcycles (Figure A3.8). This indicates a potential issue of congestion that is likely to become more visible in the future across Vientiane City.

[15] Includes the whole areas of districts of Chanthabouly and Sisattanak and inner parts of districts of Hatxayfong, Sikhottabong, Xaisettha, and Xaithany. The study area covered 38,190 hectares, occupying 9.7% of Vientiane.

Figure A3.8: Registered Vehicles in Vientiane



Source: Government of the Lao People's Democratic Republic, Ministry of Communications, Transport, Post, and Construction and Japan International Cooperation Agency. 2008. *The Study of Master Plan on Comprehensive Urban Transport in Vientiane in Lao PDR*. Vientiane.

C. Institutional Arrangements

19. MPWT is the national government agency primarily in charge of transport. It is responsible for developing national and provincial roads, civil aviation, urban transport systems, river wharves, and river and road transport. It consists of six departments: the Department of Civil Aviation, Department of Housing and Urban Planning, Department of Inland Water, Department of Planning and Cooperation, Department of Roads, and Department of Transport. Based on 5-year transport plans, the provinces submit annual implementation plans for transport projects to MPWT, which submits them to the Committee for Planning and Cooperation of the Prime Minister's Office for approval. The Department of Planning and Cooperation handles the accounting and financial matters of MPWT.

20. The institutional structure for transport administration provides a delegated, decentralized system of coordination and implementation.[16] MPWT has overall responsibility but delegates tasks and responsibilities to divisions of public works and transport (DPWTs) in each province through subsidiary offices in districts. Similarly, DPWTs delegate other tasks and responsibilities to offices of public works and transport, which are headed by DPWT staff. DPWTs report to the provincial governor, although MPWT is responsible for establishing national technical standards (footnote 3). An average of 75 DPWT staff members operate in each province.

1. Road Transport

21. Within MPWT, the Department of Roads has the responsibility for the overall management of the entire road network. Its senior management sets goals, objectives, and standards; decides on systems and procedures; approves plans; allocates funds; and monitors the implementation of projects. The department consists of two divisions: (i) the Road Administration Division, which deals with national road construction and maintenance; and (ii) the Local Roads Division, which assists DPWTs and offices of public works and transport

[16] K. Gwilliam. 2007. *Capacity Development in Lao PDR's Transport Sector*. Vientiane.

with provincial, district, and rural roads. The Road Administration Division assumes responsibility for national road maintenance, but the provinces, on MPWT's behalf, arrange the actual works. DPWTs take care of road maintenance within the provinces. The Local Roads Division sets out the directions and priorities for provincial maintenance programs and monitors and evaluates the results.[17]

22. With decentralization, provinces are now responsible for local roads, although DPWTs manage the overall road network. Expenditure on local roads comes under the provincial budget agreed with the government. Offices of public works and transport are responsible for planning and supervising the maintenance of district and rural roads under the supervision, technical guidance, and assistance provided by DPWTs.

23. The RMF was created within the organizational structure of MCTPC (now known as MPWT). It is supervised and directed by an advisory board, which consists of representatives from the public and private sectors, appointed by the Prime Minister, from the Ministry of Finance, MPWT, provincial authorities, Chamber of Commerce and Industry, road and passenger transport operators, and the general public. The chair is nominated by MPWT. The advisory board, together with the MPWT minister, decides on fund allocations and use. It also recommends charges based on maintenance requirements.[18] The Road Administration Division, under MPWT, coordinates with the RMF regarding financial support for national road maintenance, and with the Local Roads Division regarding local roads.

2. Air Transport

24. Within MPWT, the Department of Civil Aviation is responsible for policy and planning in civil aviation and for regulatory oversight of technical and safety matters pertaining to Lao Aviation and the Lao Airports Authority. The department has eight divisions plus the Lao Airports Authority.[19] The civil aviation sector is governed by the department as designated by a Prime Minister's decree. The Lao Airports Authority has eight sections and is responsible for the operation and maintenance of Vientiane's international airport, two regional airports (at Louangphrabang and Pakxe), and two provincial airports (at Louang Namtha and Savannakhet). All other provincial small airports are the responsibility of provincial governments with the department's technical consultation. The Vientiane international terminal has been operated by a joint venture, the Lao–Japan Airport Terminal Services, since June 1999.

25. The Department of Civil Aviation is currently finalizing a comprehensive master plan for air transport that addresses the future development of civil aviation in the Lao PDR. The master plan identifies and specifies the regulatory, safety, administrative, and capital investment requirement that will be progressively introduced and implemented.

D. Government Strategy

26. Table A3.9 gives a summary of the government's strategies for the transport sector as outlined in the Sixth National Socioeconomic Development Plan, 2006–2010.

---

[17] Government of the Lao PDR, MCTPC. 2007. *Rural Transport Infrastructure Policy*. Vientiane; and K. Vaidya and P. Tusanasorn. 2004. *Review of Rural Road Maintenance in Lao PDR: Current Status, Issues, and Options*. Vientiane: International Labour Organization.

[18] Vaidya and Tusanasorn 2004 (footnote 17).

[19] Even though the Lao Airports Authority is essentially an operating division, it is not independent of the Department of Civil Aviation.

Table A3.9: Subsector Strategies under the Sixth National Socioeconomic Development Plan, 2006–2010

Subsector	Priority Areas
Roads and Bridges	
National roads	• Strengthen the maintenance and preservation of existing roads. • Construct subregional roads that have secured funding. • Mobilize domestic and assistance funds for financing other subregional roads.
Provincial roads	• Strengthen the maintenance and preservation of existing roads. • Pave at least 800 km of provincial roads connecting to district centers to cover 60% of district centers. • Use all-weather provincial roads to connect district centers. • Improve provincial and district roads connecting to focal areas as well as groups of developing villages to paved standards that are at least trafficable in one season.
Rural roads	• Coordinate with provinces and districts to develop the rural road management system using a participatory approach. • Construct rural feeder roads and Department of Public Works and Transport district offices.
Bridges	• Mobilize funds to construct bridges across the Mekong River. • Complete the construction of three bridges crossing the Mekong River at international borders. • Build other bridges with donor assistance.
Air transport	• Construct airports to accommodate up to 2.0–2.5 million passengers per year, particularly Wattay International Airport to accommodate and serve about 1.0–1.5 million passengers per year. • Upgrade airports at Louangphrabang, Pakxe, and Savannakhet to subregional airports to ensure air transport between the Lao PDR and other GMS countries. • Construct new airport at Louang Namtha. • Implement an airport management system. • Modernize the flight communication system throughout the country. • Strengthen international cooperation in aviation. • Improve state-owned Lao Air.
Domestic waterways	• Improve several river routes and main river port systems. • Modernize domestic waterways. • Upgrade river ports through quality standards of service along the ports. • Research the international waterway transport systems on the Mekong River. • Explore the construction of a deep river port. • Replace some loading and lifting equipment.
Railway transport	• Construct and extend the railway line 14 km, stretching from the Friendship Bridge to Ban Kham Sa Vat using mobilized funds. • Complete the Friendship Bridge–Thanaleng Station section. • Procure and construct locomotives, coaches, stations, warehouses, and other facilities. • Survey and construct the 9-km Thanaleng–Ban Sok Kham section. • Survey other candidate rail links.
Urban Development	• Develop a land fund through various forms of resources. *Under the Transport Development Plan (2010) in Vientiane:* • Improve city public transport, including public bus services and stations. • Establish bus routes. • Construct provincial and international public transport stations in suburban areas. • Construct new truck terminals, city public parking, and truck weigh stations.

GMS = Greater Mekong Subregion, km = kilometer, Lao PDR = Lao People's Democratic Republic.
Source: Government of the Lao PDR, Lao PDR Committee for Planning and Investment. 2006. *National Socioeconomic Development Plan, 2006–2010.* Vientiane.

E. Key Challenges

27. The current situation on the Lao PDR transport sector raised the following key challenges.

(i) **Rural accessibility.** The majority of the country's road network consists of rural roads that are mostly unpaved and remain impassable during the rainy season. Many people live in remote areas and have no access to utilities and basic services. Road design standards and construction practices must be developed to improve rural roads (e.g., by using labor-based construction methods and adopting greater community participation).

(ii) **Funding and maintenance.** Huge investments in infrastructure must be maintained to sustain economic growth. The RMF has been established and began operations in 2002; however, its expected revenues may not be sufficient. Hence, the country remains heavily dependent on external support in the form of grants or soft loans. The RMF mostly finances national roads and provides very limited budgetary allocations for remaining roads at the provincial and local levels. Even funding for the routine maintenance of provincial and local roads remains a problem.

(iii) **Distribution of demand.** There is an unbalanced transport demand toward road transport and against railways and air services. The potential of other transport modes, such as railways, waterways, or by air, need to be maximized.

(iv) **Road safety.** Recent trends showed that accident rates have been increasing, and correspondingly, so have injuries and fatalities. The government has put in place the National Road Safety Strategy and Action Plan, which aims to strengthen the road accident data system, provide safe planning of roads, and conduct road safety education and an information campaign. The government hopes to reduce the rate of fatalities to 8 persons per 10,000 vehicles by 2010 and 5 persons per 10,000 vehicles by 2015. The government is also focusing on improving enforcement, the technical environment, coordination, and research and evaluation (footnotes 3 and 7).

(v) **Overloading.** Overloading has been identified as one of the reasons for road deterioration, particularly in international traffic. The government has recently improved enforcement on load limits in line with its ASEAN commitments. A review of existing regulations is also underway.

(vi) **Institutional development.** Decentralization has placed provincial- and district-level officials at the forefront of infrastructure service delivery, although the central government retains regulations and oversight. With the demand to improve performance, the provincial and local authorities should have adequate skills and training on road planning, operations, and management. There is also a need to provide transparency and accountability in the award of contracts.

(vii) **Regional trade.** The Lao PDR's current potential in promoting trade through regional integration has been identified as a priority. There have been efforts to develop and/or improve transport links that connect the country with neighboring countries. As such, policy dialogue harmonizing government regulations, particularly on customs procedures, must be an important concern to facilitate the movement of goods.

28. The major issues relating to urban transport include the following.

(i) There is high demand to improve road planning in Vientiane. A 2008 study on urban transport observed that the current road system failed to consider future developments, such as accessing the new railway and town development (footnote 11). Also, the rapid increase of vehicles is expected to result in traffic congestion and accidents, which the current road system may not address.

(ii) Traffic management issues identified include mixing passengers, cars, trucks, buses, motorcycles, tuk-tuks, bicycles, and pedestrians on the road; improper

installation of traffic signals, signs, and road markings; insufficient and/or illegal parking of vehicles in commercial zones and market areas; and limited facilities and capacities in enforcing traffic safety. Countermeasures on traffic management, road safety programs, and a review of transport policies are required (footnote 11).

(iii) Financing arrangements for urban development are constrained given the government's limited capacity to generate revenue. Given that the national budget is the main source of financing for urban development and operation and maintenance of roads throughout the country, local governments need to mobilize their own financial resources to meet local needs. In Vientiane, additional funds for transport development are sourced from user charges for solid waste management services and land taxes. In line with financial decentralization and delegation of budget controls, a suitable framework to provide for sustained funding for operation and maintenance should be in place considering direct and indirect cost-recovery principles (e.g., funds from vehicle user charges and property taxes) (footnote 10).

ADB TRANSPORT SECTOR STRATEGY IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

A. Evolution of the Sector Strategy

1. The 1991 operational strategy for the Lao People's Democratic Republic (Lao PDR) was the first formal strategic basis for Asian Development Bank (ADB) assistance.[1] It was developed when the Lao PDR was undergoing a transition from a command to a market-oriented economy. It was aligned with the government's new economic mechanism;[2] the Second Five-Year Plan, 1986–1990; and the government's medium-term development strategy, which was then being prepared. The 1991 operational strategy was aimed at (i) putting into place an enabling policy and institutional reforms necessary for the development of competitive markets and private sector investments, and (ii) providing for direct investment interventions such as essential physical infrastructure to support private sector activities. Against this broad strategic focus, ADB saw the transport sector as an area in which the government could attract the private sector by linking the Lao PDR to neighboring countries such as the People's Republic of China and Viet Nam. Adopting government priorities during the medium term, the 1991 operational strategy emphasized national and provincial road networks, river ports, and airport facilities. ADB also prioritized the negotiation of transit rights through neighboring countries and the introduction of a regulatory framework, which included user charges.

2. The 1996 country operational strategy also placed a high priority on economic growth to sustain the process of economic transition.[3] Policy reforms, social services, and human resources development were expected to enhance the economic environment and incentive framework. The 1996 country operational strategy was in line with the government's medium-term development strategy (until 2000). Similar to the 1991 operational strategy, assistance for transport was focused on the development of link roads with other countries and secondary and feeder roads.

3. The 2000 country assistance plan emphasized the need to pursue more balanced economic growth due to increasing disparities in incomes.[4] Thus, there was a great need to deepen reforms in public expenditure management. The 2000 country assistance plan saw transport infrastructure as critical to providing increased access to markets and economic opportunities. ADB also recommended strengthening capacities in the maintenance of assets, providing adequate funding and staffing, and establishing a system for sustainable operation and maintenance of the roads network. During the preparation of this plan, ADB provided assistance for both rural access roads and strategic corridors with subregional links.

4. The strategic focus of the country strategy and program (CSP) 2002–2004 was poverty reduction supported by three pillars: (i) sustainable economic growth, (ii) inclusive social development, and (iii) good governance through policy and institutional development.[5] Though developing economic corridors with subregional links remained a priority, the CSP 2002–2004 emphasized rural access roads and small airports to improve transport links in small towns and urban areas and to facilitate rural development and market links.

---

[1] ADB. 1991. *The Bank's Operational Strategy in Lao PDR: Development Assistance in a Transition Economy*. Manila.

[2] This refers to a package of market-oriented reforms pursued by the government since 1986. Under these proposed reforms, the government intended to shift its direct role from production and distribution to a supporting role in the development of agriculture and industry.

[3] ADB. 1996. *Country Operational Strategy: Lao People's Democratic Republic*. Manila.

[4] ADB. 2000. *Country Assistance Plan: Lao People's Democratic Republic, 2001–2003*. Manila.

[5] ADB. 2001. *Country Strategy and Program: Lao People's Democratic Republic, 2002–2004*. Manila.

5. Like the CSP 2002–2004, the CSP 2003–2005[6] was also focused on poverty reduction. It was consistent with the government's policy on poverty eradication; the Poverty Reduction Partnership Agreement, which was signed by the government and ADB in September 2000; and the Millennium Development Goals. The Poverty Reduction Partnership Agreement identified road transport as a priority sector with agriculture, rural development, education, and health. Rural access roads, subregional roads, and airport improvement were among the specific areas of intervention.

6. The strategic focus of the CSP 2003–2005 remained valid under the CSP updates 2004–2005, 2005–2006, and 2006–2008.[7] Then, in 2003, the government prepared an interim poverty reduction strategy paper and the draft National Poverty Eradication Programme, which was also in line with the Poverty Reduction Partnership Agreement. This program focused on the transport, agriculture, and social sectors. The CSP updates 2004–2005, 2005–2006, and 2006–2008 (footnote 7) also emphasized private sector development and its important role in hydropower, mining, forestry, agriculture, and tourism. Transport development was increasingly highlighted by the CSPs as a priority in border development and subregional integration, with a focus on the transformation of the transport corridor into a full-fledged economic corridor. Improvement of Greater Mekong Subregion (GMS) roads and northern airports were mentioned as possible areas of assistance for project loans. Technical assistance was lined up for the preparation of a transport sector strategy for the next 10 years.

7. The CSP 2007–2011,[8] which is the current country strategy for the Lao PDR, also focuses on poverty reduction. The CSP 2007–2011 is anchored on the government's Sixth Five-Year National Socioeconomic Development Plan, 2006–2010 and is in line with ADB's overarching goal of poverty reduction.[9] It seeks to harmonize poverty reduction and economic growth through three strategic pillars: (i) promoting pro-poor and sustainable growth, (ii) fostering inclusive social development, and (iii) good governance. ADB assistance remains focused on the management of the road network and expansion of access roads to the main road network. Specific intervention areas include sector regulations, sustainable maintenance of the road network through the Road Maintenance Fund, improvement of transport logistics, management of social and environmental impacts, and implementation of a national road safety strategy and action plan. With the issuance of the GMS regional strategy (of which the Lao PDR plays an integral role), economic growth will be accelerated by extending main transport corridors (north–south and east–west), facilitating trade and tourism, and implementing the Cross-Border Transport Agreement.[10] Further, under the GMS transport strategy, 2006–2015,[11] ADB is concentrating on the completion and expansion of strategic transport corridors, improvement of the transport network in northwestern Lao PDR, and the connection of the border crossing with Thailand. Assistance is under way on improving the airport in Louangphrabang and the Northern Transport Corridor to promote tourism.

8. Table A4.1 provides an analysis of this evolution for specific thematic areas.

---

[6] ADB. 2002. *Country Strategy and Program: Lao People's Democratic Republic, 2003–2005*. Manila.

[7] ADB. 2003. *Country Strategy and Program Update: Lao People's Democratic Republic, 2004–2005*. Manila; ADB. 2004. *Country Strategy and Program Update: Lao People's Democratic Republic, 2005–2006*. Manila; and ADB. 2005. *Country Strategy and Program Update: Lao People's Democratic Republic, 2006–2008*. Manila.

[8] ADB. 2006. *Country Strategy and Program: Lao People's Democratic Republic, 2007–2011*. Manila.

[9] ADB. 1999. *Fighting Poverty in Asia and the Pacific: The Poverty Reduction Strategy*. Manila.

[10] ADB. 2008. *Sector Assistance Program Evaluation: Transport and Trade Facilitation in the Greater Mekong Subregion—Time to Shift Gears*. Manila.

[11] ADB. 2007. *GMS Transport Strategy 2006–2015: Coast to Coast and Mountain to Sea: Toward Integrated Mekong Transport Systems*. Manila.

Table A4: Evolution of ADB Strategy for the Transport Sector in the Lao People's Democratic Republic

Item	1991 1991 Operational Strategy	1996 1996 Country Operational Strategy Study	2000 Country Assistance Plan, 2001–2003	2001 Country Strategy and Program, 2002–2004
Strategic Thrust	The objective was to assist the government in the transition to a market economy through (i) policy analysis and institutional reforms to provide the economic environment necessary for the development of competitive markets and for private sector investment, and (ii) direct investment interventions in support of private sector activities particularly in the development of essential physical infrastructure. There were two macroeconomic considerations: (i) to mobilize domestic resources and expand exports, and (ii) to provide for basic needs and support social services.	This highlighted four strategic considerations: (i) enhance economic growth, and broaden its impact; (ii) continue to move forward with the transition to a market-oriented economy to ensure its sustainability; (iii) progressively address human resources and institutional capacity constraints to ensure capacity to foster development and to enable equitable distribution of benefits; and (iv) develop economic policy in the context of growing subregional integration. High priority was placed on sustainable economic growth, and policy reform, social services, and human development was emphasized to enhance the economic environment and incentive framework.	This continued to emphasize economic growth in physical infrastructure as well as the need to pursue more balanced growth to address income disparities. It highlighted the government's thrust to deepen reforms, particularly on public expenditure management.	Poverty reduction by broadening community participation and opportunities was the unifying principle of ADB interventions in the Lao PDR over the next 5 years. The CSP was aimed at helping the government substantially reduce poverty through three pillars: (i) sustainable economic growth, (ii) inclusive social development with poverty and equity as goals, and (iii) good governance through policy and institutional development.
Program Focus Areas	It aided the transition to a market-oriented economy through public administration strengthening and reform, planning and policy analysis, creation of an institutional and legal framework for private sector investment, commercialization and/or privatization of state-owned enterprises, resource mobilization, and financial sector development. It focused on diversification and expansion of the production and export base through physical infrastructure, hydropower and	ADB prioritized investing in economic growth projects in infrastructure as well as sustainable growth by promoting partnerships with the private sector for these projects and focusing on ensuring that these investments provided, in addition to export potential, appropriate budget support that could be used to raise domestic capacity and improve social service delivery. It also helped develop a policy framework to further transition to a market economy. It focused on human resources development and capacity building.	The CAP focused on (i) structural reforms and enhanced governance, (ii) rural development, (iii) human resources development, (iv) sustainable natural resources management, (v) geographical and integrated planning focus of project interventions, and (vi) community participation in the selection and design of ADB projects.	Rural development and market links (i.e., urban–rural links, rural infrastructure development, agriculture productivity) and developing transport and information links with small towns, urban areas, and larger markets were in line with efforts of promoting rural employment and broadening market access. With community participation, ADB supported the development of transport (especially rural access roads), electricity and water supply, and other rural physical infrastructure to encourage investment in agriculture and other rural businesses. Development (including education, health care, water supply and

Item	1991 1991 Operational Strategy	1996 1996 Country Operational Strategy Study	2000 Country Assistance Plan, 2001–2003	2001 Country Strategy and Program, 2002–2004
	other natural resources, strengthening regional economic links, and environmental safeguards and sustainable development. It also addressed basic needs through basic education and technical skills training, health services, and water supply.	It also promoted subregional cooperation.		sanitation, and urban utilities) was also emphasized, as was sustainable environmental management (including social and environment management and community-based initiatives). Private sector development (regarding infrastructure, business environment, and catalytic investment) was highlighted. There was a geographical focus on the northern region and the East–West Economic Corridor.
ADB Transport Strategy	The 1991 operational strategy recognized that the transport sector has important regional significance. It was seen as one of the areas where the government could support private sector activity by improving the viability of investments and linking neighboring countries. ADB adopted the government's priorities for the transport sector as follows: • completion of the national road network, including road links with the PRC and Viet Nam and bridge links with Thailand; • greater emphasis on the provincial road network; • negotiation of improved transit rights through neighboring countries; • improvement of river port and airport facilities and the establishment of new international air routes; and	There was no separate transport sector strategy under the 1996 COS for the Lao PDR. Rather, strengthening transport (with communications and power) was included under • supporting sustainable growth, through development of link roads with other countries and secondary and feeder roads; and • rural development, as transport problems were seen as part of developing the agriculture sector since low growth or productivity was linked to government policies on poor infrastructure. Expansion of the surface transport system was identified as a determinant of rural development. As such, the systematic expansion of priority access roads construction was an important objective of ADB loan and technical assistance programs.	The CAP saw transport infrastructure as critical to providing increased access to markets and economic opportunities. Given the high priority accorded to road development, particularly national roads, the need to strengthen capacity in the maintenance of assets, efficient management, and service delivery was emphasized. Specifically, the CAP highlighted the need to plan financial arrangements for subregional projects and the early integration of social and environmental concerns in road planning and development. Further, rural access roads had to be provided with adequate funding, staffing, and systems for sustainable operation and maintenance. Community participation in the construction and maintenance of rural access roads was also	ADB continued to support transport development to reduce poverty, develop the private sector, and integrate the national and regional economies. ADB focused on (i) developing economic corridors with subregional links, and (ii) improving rural access roads to facilitate market links. The transport sector strategy emphasized social and environmental concerns and integrating these in the early stages of the transport planning process. Road safety was also a priority.

Item	1991 1991 Operational Strategy	1996 1996 Country Operational Strategy Study	2000 Country Assistance Plan, 2001–2003	2001 Country Strategy and Program, 2002–2004
	• introduction of a rationale system of user charges, increased private sector involvement in the transport sector, and regulatory framework consistent with efficient transport operations.		emphasized.	
Specific Areas of ADB Transport Intervention	Same as above. No specific mention of pipeline products.	Rural access roads and developing the road network in the GMS	Rural access roads and development of the Northern Economic Corridor Development of strategic corridors with subregional links, especially links between national networks and rural roads to assist poverty reduction efforts	Rural access roads network development, civil aviation services, service delivery, and market links Pipeline of lending products included small airports improvement (2002) and northern rural access roads improvement (2004), which was aimed at the construction of access, national, and provincial roads in the north.
Development Partners		The World Bank and the governments of Japan and Sweden were involved in developing major national roads. Assistance from the Government of Australia was for the Friendship Bridge across the Mekong River, which established the first road link between the Lao PDR and Thailand.	The World Bank was a major partner in the establishment of the Road Maintenance Program. The governments of Australia and Japan have been involved in road and road bridge construction. The governments of Germany and Sweden, UNDP, and the United Nations Office on Drugs and Crime have assisted with rural roads development.	The World Bank and the Government of Sweden have supported the Road Maintenance Program, which included the development of sustainable mechanisms for maintaining existing roads. The governments of Australia, Germany, Japan, and Sweden also served as the significant sources of bilateral aid for the roads subsector.

Item	2002 Country Strategy and Program, 2003–2005	2003 Country Strategy and Program Update, 2004–2006	2004 Country Strategy and Program Update, 2005–2006	2005 Country Strategy and Program Update, 2006–2008	2006 Country Strategy and Program, 2007–2011
Strategic Thrust	The government's policy was focused on national poverty eradication. The government and ADB signed the Poverty Reduction Partnership Agreement, which laid out the vision to reduce poverty in accordance with the Millennium Development Goals. The agreement identified road transport as one of the priority sectors. Others include agriculture and rural development, education, and health.	The government prepared an interim poverty reduction strategy paper and the draft National Poverty Eradication Programme, which was to serve as the full poverty reduction strategy paper. This is consistent with the poverty reduction partnership agreement signed between ADB and the Lao PDR. The program, which was presented at the September 2003 donor roundtable meeting, proposed agriculture, education, health, and transport as priority sectors for poverty reduction.	The National Growth and Poverty Eradication Strategy proposed agriculture, education, health, and transport as priority sectors for poverty reduction.	Same as 2004.	The strategic focus was poverty reduction in line with ADB's overarching goal and the government's Sixth Five-Year National Socioeconomic Development Plan, 2006–2010. The plan's strategies include (i) restructuring the economy to reduce poverty and to deepen regional integration; (ii) improving service delivery, gender equality, and environmental protection to foster social and cultural development; and (iii) providing for sound financial management, rule of law, popular participation, and better service delivery for good governance.
Program Focus Areas	The CSP focused on rural development and market links, with a focus on rural infrastructure, research and extension, and productivity through small towns development. It also highlighted human resources development with a focus on primary education; sustainable environmental management with a focus on integrating environmental and social safeguards in the development process (i.e., transport and energy); private sector development with a focus on hydropower, mining,	Attention was paid to implementation of the program through focusing on its priority sectors (i.e., agriculture, transport, and social sectors) and private sector development.	The importance of the private sector in such areas as hydropower, mining, forestry, agriculture, and tourism increased. Border development and subregional integration was increasingly emphasized in the country's development plans and processes. Third-party monitoring was introduced in transport projects. With a focus on the transformation of the	Focus was directed on area of governance and capacity building. Further emphasis was given to public financial management in view of the implementation of the revenue arrangement for the Nam Theun 2 Hydroelectric Project. Implementation of trade and transport facilitation measures within the GMS was highlighted, which will be key to transforming transport	The strategic pillars include (i) promoting pro-poor and sustainable growth, (ii) fostering inclusive social development, and (iii) good governance. Thematic initiatives are on capacity development, gender, private sector development, environment, and regional cooperation. Under the GMS Program, economic growth will be accelerated by (i) extending the main transport corridors (north–south and east–west) and further transforming these

Item	2002 Country Strategy and Program, 2003–2005	2003 Country Strategy and Program Update, 2004–2006	2004 Country Strategy and Program Update, 2005–2006	2005 Country Strategy and Program Update, 2006–2008	2006 Country Strategy and Program, 2007–2011
	agriculture, forestry, and tourism; and government and capacity building. There was a geographical focus on the GMS, primarily on the development of the northern provinces, which are among the poorest in the country, and subregional cooperation among Cambodia, Lao PDR, and Viet Nam.		transport corridor into a full-fledged economic corridor, significant development activities were envisaged.	corridors into economic corridors. The government has also adopted a policy of transforming the Lao PDR from a landlocked to a landlinked country. The government aims to exploit the country's geographical position—on the east–west crossroads between Thailand and Viet Nam, and the PRC and Cambodia in the north–south direction—by becoming a central hub for GMS trade and transport.	into economic corridors; (ii) building capacity to maintain the main transport network for safe and reliable use; (iii) expanding access to reliable power supplies in the north and increasing opportunities for power trade along the north–south corridor; and (iv) facilitating trade and implementing the Cross-Border Transport Agreement. Agriculture, health, education, and infrastructure continue to be the priority sectors for the government.
ADB Transport Strategy	Not mentioned.	Rural access roads, GMS roads, and northern airport improvement	Rural access roads, GMS roads, and northern airport improvement	Same as 2004	ADB assistance is focused on the management of the road network and expansion of access roads to the main road network. As support to the GMS Program, ADB assistance focuses on the completion and expansion of strategic transport corridors. The CSP includes a road map for the transport sector identifying sector outcomes, outputs, and issues (attached as an appendix to the CSP document).

Item	2002 Country Strategy and Program, 2003–2005	2003 Country Strategy and Program Update, 2004–2006	2004 Country Strategy and Program Update, 2005–2006	2005 Country Strategy and Program Update, 2006–2008	2006 Country Strategy and Program, 2007–2011
ADB Specific Areas of Intervention on Transport	Rural access roads, subregional roads, and airport improvement The pipeline of lending products included (i) a project on roads for rural development aimed at developing community access roads in the poorest districts to open up remote areas; and (ii) rural access roads improvement in the northern provinces, which was aimed at the construction of access, national, and provincial roads. A project on small airports improvement was also proposed.	The Northern Transport Network Improvement Project was included in the pipeline of projects. The project was aimed at inducing economic development and thereby reducing poverty through the connection of centers of economic activity across the northern GMS.	A northern airports improvement project and Northern Economic Corridor bridge were included for lending. The pipeline of nonlending products included assistance on transport logistics system, which was aimed at assisting in the development of a transport sector strategy for the next 10 years.	Lending and nonlending products include assistance in airport improvement and transport network improvement.	ADB specific areas of interventions include (i) rehabilitating selected parts of the road network, (ii) reforming sector regulations, (iii) assisting in securing sustainable maintenance of the road network through the Road Maintenance Fund, (iv) building capacity to strengthen road network logistics and management, (v) supporting implementation of the Rural Transport Infrastructure Policy, (vi) mitigating potential negative social impacts arising from road development such as trafficking of drugs and humans and transmission of HIV/AIDS and other sexually transmitted infections, and (vii) supporting the implementation of the National Road Safety Strategy and Action Plan. Under the GMS Program, ADB supports (i) completion and expansion of strategic transport corridors, (ii) improvement of the transport network in northwestern Lao PDR, and (iii) connection of the border crossing with Thailand near Kenthao with the GMS corridors (National Road 4) that converge in Louangphrabang. ADB also included assistance for the Louangphrabang airport and the Northern Transport Corridor to improve tourism.

Item	2002 Country Strategy and Program, 2003–2005	2003 Country Strategy and Program Update, 2004–2006	2004 Country Strategy and Program Update, 2005–2006	2005 Country Strategy and Program Update, 2006–2008	2006 Country Strategy and Program, 2007–2011
Development Partners	The main partners included United Nations Office on Drugs and Crime and the World Bank, which focused on feeder roads, national roads, and Road Maintenance Fund. The governments of Japan and Sweden focused on bridges, roads, and rural roads.	The World Bank focused on national roads and the Road Maintenance Fund; the Government of Sweden on rural roads; the Government of Japan on bridges, roads, and GMS roads; the OPEC Fund on rural access roads and small airports; and the United Nations Office on Drugs and Crime on rural access roads and rural development.	Same as 2003. The Government of Thailand was focusing on roads, railway, and airports.	No specific mention	The World Bank and Sida support the establishment of a road fund financed from increased user charges. OPEC, the governments of Japan and the PRC, and Sida provide technical and financial support for the development roads, bridges, and rural market access.

ADB = Asian Development Bank, CAP = country assistance plan, COS = country operational strategy, CSP = country strategy and program, Lao PDR = Lao People's Democratic Republic, OPEC = Organization of the Petroleum Exporting Countries, PRC = People's Republic of China, Sida = Swedish International Development Cooperation Agency, UNDP = United Nations Development Programme.
Source: ADB country strategy and program documents on Lao PDR (1991–2006).

COMPARISON OF PLANNED AND ACTUAL IMPLEMENTATION OF ADB ASSISTANCE IN THE TRANSPORT SECTOR OF THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

Below is a comparison of planned assistance per the strategy of the Asian Development Bank as well as the implementation status.

ADB Country Strategy and Program	Planned Assistance	Implementation Status as of Date
1991 Bank Operational Strategy	Adoption of the following government priorities:	
	• Completion of the national road network, including road links with the PRC and Viet Nam and bridge links with Thailand	• Loans approved. The Fifth Road Improvement Project (approved 1991) and the Champasack Road Improvement Project (1995) provided assistance in the development of the national road network.
	• Greater emphasis on the provincial road network	• Completed. The Sixth Road Improvement Project (1993) focused on the development of provincial roads.
	• Negotiation of improved transit rights through neighboring countries	• Work in progress. The government is considering the proposed transit fees. A study on proposed transit fees was also included in advisory TA on GMS: East–West Corridor Project Coordination (1999).
	• Improvement of river port and airport facilities and the establishment of new international air routes	• Loan and TA projects on civil aviation approved. ADB provided the Airports Improvement Project (1992) and TA on the improvement of airport facilities, such as the preparation of the civil aviation master plan (1992) and the institutional strengthening of the National Airport Authority and Lao Civil Aviation.
	• Introduction of a rationale system of user charges, increased private sector involvement in the transport sector, and a regulatory framework consistent with more efficient transport operations	• Work in progress. ADB has conducted previous TA (Second Road Improvement) in 1984), which looked into road user charges and road expenditures as part of a road transport study. ADB also supported increased private sector involvement in many of its loans (e.g., Airports Improvement, GMS: East–West Corridor, Sixth Road Improvement, and Loan Xieng Khouang Road Improvement) and TA projects (e.g., Privatization and Management of Road Sector Institutions, GMS: East–West Corridor Project Coordination).
1996 Country Operational Strategy Study	• Rural access roads	• Completed. PPTA on Access Roads Improvement (1997) resulted in the approval of the Rural Access Roads Project (2000). The objective of the project was to provide rural communities with all-weather access roads to agricultural markets. The project components included road improvements in Attapeu–Senamnoy, Thong Khoun–Long Xan, Houay Hung–Xam Tai, and Na Sack–Khock Khao Do; feeder road improvements; periodic maintenance; and an environmental management action plan.

ADB Country Strategy and Program	Planned Assistance	Implementation Status as of Date
	• Developing the road network in GMS countries.	• Loan approved. The GMS East–West Corridor Project (1999) involved the rehabilitation of 105.8 km in the Lao PDR and the improvement of 83 km in Viet Nam.
2000 Country Assistance Plan (2001–2003)	• Rural Access Roads 2 (2003)	• No loan approved.
	• The GMS Northern Economic Corridor Project (2002)	• Loan approved. PPTA on the GMS: Northern Economic Corridor (2001) resulted in the approval of the project, which established a direct link between the PRC and Thailand via the Lao PDR to reduce transport costs within the regional influence area and to increase efficiency of the movement of vehicles, goods, and passengers.
	• Nonlending assistance for the implementation of the road strategy	• No TA approved.
2001 Country Strategy and Program (2002–2004)	• The GMS Northern Economic Corridor (2002–2003), which was aimed at linking Kunming and Chiang Rai through northern Lao PDR areas	• The loan was approved and is being implemented.
	• The Rural Access Roads 2 Project (2003), which was aimed at providing market access roads in rural areas to support agriculture and rural development	• No loan approved.
	• Small airports improvement, which was aimed at facilitating economic integration by improving civil aviation safety following the Airports Improvement Project (2004)	• No loan approved. PPTA on Northern Airports Improvement (2002) was to prepare a feasibility study for improving the small airports in the country.
	• PPTA on northern rural access roads improvement (2004) would have included priority selection of road project areas; a feasibility study including economic analysis, benefits distribution analysis, and poverty impact ratio for the selected roads; and proposed poverty reduction and economic development interventions to be included in the project. The PPTA would also assess capacity of local government and local contractors and propose strategies and actions for improvement.	• No TA approved.
CSP 2003–2005 including CSP Update 2004–2006; CSP Update 2005–2006; and CSP Update 2006–2008	• The GMS: Northern Economic Corridor Project (2002)	• Loan approved.
	• The Roads for Rural Development Project hopes to develop community access roads in the poorest districts to open up remote areas (2003)	• The loan was approved and is being implemented owing to the PPTA on Roads for Rural Development (2001). The project aims to increase access to year-round road transport that is adequate, reliable, affordable, and safe in remote rural regions.

ADB Country Strategy and Program	Planned Assistance	Implementation Status as of Date
	• The Small Airports Improvement Project aimed to undertake improvement of 10 minor airports in the Lao PDR (2004–2005).	• No loan approved. PPTA on Northern Airports Improvement was approved in 2002.
	• Nonlending assistance on transport logistics system aimed to assist in the development of a transport sector strategy for the next 10 years (2005)	• No TA approved.
	• The Northern GMS Transport Network Improvement Project (2007) aimed to construct access, national, and provincial roads in the north.	• The grant project was approved after PPTA on the Northern GMS Transport Network Improvement (2005).
	• The GMS Louangphrabang Airport Improvement Project (2008)	• No loan was approved. PPTA on the GMS Louangphrabang Airport (2006) included technical assessments on the possible arrangements for the project, various forms of private sector involvement, preferred option for meeting traffic forecasts, etc. The objective of the TA was to enhance tourism-based economic development.
CSP 2007–2011	• Rehabilitating selected parts of the network	• Work in progress.
	• Reforming sector regulations and supporting private sector investments along the GMS road corridors	• No specific strategy approved by government.
	• Assisting in securing sustainable maintenance of the road network through the RMF	• The RMF is not yet self-sufficient. ADB provided support for the establishment of the RMF under the Rural Access Roads Project (2000–2008).
	• Building capacity to strengthen road network management skills	• Work in progress.
	• Supporting implementation of the rural transport infrastructure policy	• Policy not yet approved. The government is finalizing its formulation.
	• Supporting the implementation of the National Road Safety Strategy and Action Plan	• Work in progress. ADB approved Roads for Rural Development (2004), which provides support for the implementation of road safety program action plan.
	Under the GMS Program: • Completion and expansion of strategic transport corridors	• Work in progress.
	• Improvement of the transport network in northwestern Lao PDR	• No loan approved.
	• Connection of the border crossing with Thailand near Kenthao with the GMS corridors (National Road 4) that converge in Louangphrabang	• Work in progress. The Northern GMS Transport Network Improvement Project (2007) aims to facilitate regional cooperation and increase economic growth in the GMS by improving the national highway linking the Louangphrabang area with the Thailand border.

ADB Country Strategy and Program	Planned Assistance	Implementation Status as of Date
	• Improvement of the Louangphrabang Airport and the Northern Transport Corridor to improve tourism	• PPTA on the GMS Louangphrabang Airport was approved in 2006, but no loan was approved. • The Northern Transport Corridor Project is being addressed in the Northern GMS Transport Network Improvement Project.

ADB = Asian Development Bank, CSP = country strategy and program, GMS = Greater Mekong Subregion, km = kilometer, Lao PDR = Lao People's Democratic Republic, PPTA = project preparatory technical assistance, PRC = People's Republic of China, RMF = Road Maintenance Fund, TA = technical assistance.

Sources: ADB databases, CSPs and updates, project completion reports, project performance evaluation reports, TA completion reports, and reports and recommendations from the President.

IMPLEMENTATION PERFORMANCE

1. Table A6.1 provides a summary of the implementation issues comparing the performance of projects before and after the introduction of advance procurement.

Table A6.1: Implementation Issues

Project Name	Findings and/or Issues
Projects Using Advanced Procurement	
Sixth Road Improvement	Advance action was approved for the recruitment of the consultants for detailed engineering and construction supervision. However, there was still a 6-month delay, as the consultants were in place only in December 1993 compared with July 1993 as envisaged. Prequalification of contractors also took longer than envisaged at appraisal. Issues included (i) lengthy discussions between MCTPC and ADB with respect to the recommended shortlist of contractors to be invited to tender; (ii) late completion of tendering due to concerns about the availability of loan funds (i.e., detailed design that the cost of construction would be higher than expected); and (iii) contractors' lack of resources, cash flow problems, lack of skilled labor, and lack of qualified engineers and supervisors.
Champasack Road Improvement	Pre-selection of consultants was approved by ADB at the management review meeting on 29 March 1995. There was no delay in the recruitment of consultants, which was actually done earlier than envisaged. The services of the supervision consultants were extended due to delays in the completion of the additional civil works (contract C) after identifying quality defects.
Xieng Khouang Road Improvement	ADB approved advance procurement action in December 1996. The prequalification of the civil works contractors was carried out between January and June 1997. Delay in project implementation was attributed to the start of the civil works contracts, particularly (i) the late arrival of the contractors' equipment; (ii) slow preparation of works; (iii) contractors' substandard organization, planning, and communication; (iv) unfavorable weather conditions; and (v) unexplored ordnance clearing.
GMS East–West Corridor (Regional)	Advanced procurement action was approved, and it proceeded ahead of loan effectiveness. The prequalification process for the National Road 9 contract proceeded rapidly, and ADB approved 13 applicants in December 1999, 2 weeks before loan approval. Five top-ranked firms were invited to submit tenders, and the selection was made on the basis of price. The contract was signed as soon as the loan became effective. There was, however, a slow start in Viet Nam, which also delayed the Lao PDR component. Delays in the completion of the civil works contracts were a result of unforeseen technical difficulties (e.g., insufficient initial survey work necessitating some redesign, deeply buried unexploded ordnance discoveries in the Lao PDR after areas had been declared clear, and material supply difficulties).
Airports Improvement	The desired early implementation did not materialize because it took longer than expected for the executing agency to take the necessary preparatory steps for project implementation. Specifically, although the Capital Works Implementation Unit was already formed in June 1993, it was only early in 1994 that the project office and tender committee were set up. This contributed to the delay in implementation.

Project Name	Findings and/or Issues
	Delays in the appointment of consultants were attributed to (i) inexperience of the executing agency, (ii) delays in the tendering process, and (iii) slow mobilization and/or preparation of tender documents and documents in the prequalification phase.
Projects without Advance Procurement	
Vientiane Plain Road Improvement	There was an 8-month delay in the delivery of workshop equipment, which prevented construction activities from starting.
Second Road Improvement	Project implementation was behind schedule because of (i) late engagement of consultants, which affected the commencement of detailed engineering; (ii) the completion survey for Road B as well as the design changes caused the overall design activity to be completed in 37 months instead of 7 months as appraised; (iii) a prolonged procurement process for construction equipment and the reorganization of the executing agency; and (iv) problems with local funding.
Third Road Improvement	Actual start and completion dates were slightly delayed because of the slow mobilization of equipment. The problems that contributed to the late completion included (i) delayed installation and start of production of pipe culverts from the pipe-making plant; (ii) lack of prompt supply of cement, steel reinforcement bars, and equipment spare parts, resulting in inordinate delays to plant operations; (iii) delays of up to 6 months in payments for labor; and (iv) operational problems within the Road and Bridge Construction Enterprise, which reduced production, particularly at the crushing plant and the workshop.
Fourth Road Improvement	There was a delay in the completion of detailed engineering and subsequently in the procurement and contract award. Construction delays were caused by (i) numerous massive landslides that occurred on the project road; and (ii) tedious government procedures for approval of bids for construction materials, equipment, spare parts, and other materials.
Fifth Road Improvement	The following were observed: (i) difficulty in recruiting labor in the remote project area, and (ii) additional work that resulted from the relocation of the bridge over the Nam Khan River.
Rural Access Roads	Delays in the completion of civil works were due to (i) the late mobilization of the contractors' equipment and contractors' substandard organization; (ii) joint venture problems; (iii) award of the contractors during the rainy season; (iv) lack of financial resources and/or delays in the raising of counterpart funds; and (v) changes in design and additional work, such as increased roadway excavation.

ADB = Asian Development Bank; GMS = Greater Mekong Subregion, MCTPC = Ministry of Communications, Transport, Post, and Construction; Lao PDR= Lao People's Democratic Republic.
Source: Project completion reports.

2. Table A6.2 provides a summary of the increase in costs on projects completed between 2000 and 2009.

Table A6.2: Status of Increase in Costs for ADB-Financed Completed Road Projects in the Lao PDR

Loan Number	Project	Increase in Costs or Cost Overrun of Civil Works or Road Improvement Component (%)	Change in Project Scope
1234	Sixth Road Improvement	17	The cost overrun in road improvement components resulted in a reduction in the actual length of provincial roads improved and in the number of minor bridge works. This overrun, along with fund requirements to help complete the Second Road Improvement Project, were mainly covered by existing contingency allocations.
1369	Champasack Road Improvement	2	Civil work construction costs grew with the inclusion of additional activities that increased the actual length of roads improved.
1533	Xieng Khouang Road Improvement	10	Although the project benefited from loan savings from currency movements, the civil works component had cost overruns. The loan savings supported design changes and achievement of the full project scope at appraisal.
1727	GMS: East–West Economic Corridor	15	Loan savings from lower than expected bids financed additional works including expansion in the scope of rural roads under the rural community access infrastructure component. In other words, the project achieved more outputs.
1795	Rural Access Roads	21	Loan savings from currency movements and lower than expected bids were used to finance variations and additional works under the road improvement and feeder road components. Despite overall loan savings benefiting the project, the civil works component had an increase in costs due to an increase in the length of roads improved.

GMS = Greater Mekong Subregion.
Note: Cost overrun has been measured as the ratio of the difference in civil works cost at completion and at appraisal, and the estimated civil works cost at appraisal.
Source: Asian Development Bank project completion reports and project performance evaluation reports.

3. Table A6.3 provides a summary of the implementation delays for projects completed between 2000 and 2009.

Table A6.3: Implementation Delays for ADB-Financed Road Projects in the Lao PDR

Loan No.	Project Name	Planned Date of Project Closure	Actual Date of Project Closure	Implementation Delay (months)
1234	Sixth Road Improvement	30 Jun 1999	22 Jan 2003	43
1369	Champasack Road Improvement	30 Jun 2000	26 Jul 2001	13
1533	Xieng Khouang Road Improvement	30 Jun 2002	28 Apr 2006	47
1727	GMS: East–West Economic Corridor	31 Dec 2004	22 Feb 2008	38
1795	Rural Access Roads	30 Apr 2005	9 Apr 2008	36
	Average			**35**

ADB = Asian Development Bank, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic.
Source: Asian Development Bank database.

TECHNICAL ASSISTANCE FOR THE TRANSPORT SECTOR IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

Table A7.1: Project Preparatory Technical Assistance in the Transport Sector of the Lao People's Democratic Republic

(as of 31 December 2009)

No.	Technical Assistance Name	Date Approved	Amount ($'000)	Resulting Loan
A. Civil Aviation				
1. 1747	Civil Aviation Master Plan (SSTA)	18 Aug 92	100	Airports Improvement Project
2. 1899	Pavement Evaluation Study at Vientiane Airport and Preparation of Base Plans for Domestic Airports (SSTA)	2 Jun 93	100	
3. 3968	Northern Airports Improvement	4 Nov 02	500	
4. 4913	GMS Louangphrabang Airport Improvement	8 Dec 06	600	
B. Roads and Highways				
5. 0295	Vientiane Plain Road Improvement	7 Jun 79	150	Vientiane Plain Road Improvement Project
6. 0621	Second Road Improvement	29 Aug 84	250	Second Road Improvement Project
7. 0873	Southern Roads Improvement	13 May 87	330	
8. 1019	Northern Roads Improvement	19 Jul 88	350	Fourth and Fifth Road Improvement Projects
9. 1639	Preparation of the Sixth Road Improvement (SSTA)	2 Jan 92	100	Sixth Road Improvement Project
10. 1896	Seventh Road Improvement	1 Jun 93	500	Champasack Road Improvement Project
11. 2242	Xieng Khouang Road Improvement	14 Dec 94	530	Xieng Khouang Road Improvement Project
12. 2889	Rural Access Roads Improvement	7 Oct 97	600	Rural Access Roads Project
13. 3756	Roads for Rural Development	30 Oct 01	400	Roads for Rural Development Project
14. 3817	Northern Economic Corridor	19 Dec 01	600	GMS Northern Economic Corridor Project
15. 4742	Northern GMS Transport Network Improvement	19 Dec 05	800	Grant: Northern Greater Mekong Subregion Transport Network Improvement
Total			**5,910**	

GMS = Greater Mekong Subregion, SSTA = small-scale technical assistance.
Source: Asian Development Bank database.

Table A7.2: Advisory Technical Assistance in the Transport Sector of the Lao People's Democratic Republic

No.		Technical Assistance Name	Date Approved	Amount ($'000)
A.	**Civil Aviation**			
	1. 1986	Institutional Strengthening of the National Airports Authority and Lao Civil Aviation	18 Nov 93	475
B.	**Roads and Highways**			
	2. 0656	Vientiane Plain Road Improvement	21 Dec 84	490
	3. 0796	Road Maintenance Study	16 Sep 86	285
	4. 0797	Implementation of Second Road Improvement	16 Sep 86	1,200
		Implementation of Second Road Improvement (Supplementary)	8 Mar 91	250
	5. 0923	Road Maintenance Training	24 Nov 87	225
	6. 0924	Implementation of Third Road Improvement	24 Nov 87	1,000
	7. 1255	Bridge Management	21 Dec 89	300
	8. 1494	Road Maintenance and Equipment Training	13 Mar 91	600
		Road Maintenance and Equipment Training (Supplementary)	2 Mar 93	400
	9. 1495	Prestressed Concrete Bridge Training	13 Mar 91	570
	10. 1897	Privatization and Management of Road Sector Institutions	1 Jun 93	950
	11. 2388	Feeder Roads Maintenance Training	31 Aug 95	350
	12. 2389	Management Information System in the Ministry of Communication, Transport, Post, and Construction	31 Aug 95	350
	13. 2862	Management Information System (Phase II)	9 Sep 97	700
		Management Information System (Phase II) (Supplementary)	14 Mar 00	280
	14. 3070	Road Infrastructure for Rural Development	17 Sep 98	720
	15. 3348	East–West Corridor Coordination	20 Dec 99	690
	16. 3557	Strengthening Social and Environmental Management Capacity in the Department of Roads	7 Dec 00	200
		Total		**10,035**

Source: Asian Development Bank database.

Table A7.3: Available Assessment Ratings of Advisory Technical Assistance Activities for the Transport Sector in the Lao People's Democratic Republic

Technical Assistance	Source Report and Year	Relevance	Efficiency	Effectiveness	Sustainability	Overall Rating
1. Bridge Management	PCR of Loan 1009 (1998)					PS
2. Privatization and Management of Road Sector Institutions	PCR of Loan 1234 (2003)					S
	TPAR (2003)	R	E	E	Likely	S
3. Feeder Roads Maintenance Training	PCR of Loan 1369 (2001)					HS
4. Management Information system in the Ministry of Communications, Transport, Post, and Construction	PCR of Loan 1369 (2001)					HS
5. Management Information System (Phase II)	TCR (2006)					S
6. Road Infrastructure for Rural Development	TCR (2002)					HS
7. East–West Corridor Coordination	TCR (2002)					S
	PPER of Loan 1727 (2008)	HR	HE	E	Likely to most likely	HS
8. Strengthening Social and Environmental Management Capacity in the Department of Roads	TCR (2006)	HS	PS	E	S	S

ADTA = advisory technical assistance; E = efficient, effective, or efficacious; GS = generally satisfactory; HE = highly efficient; HS = highly satisfactory or highly successful; PCR = project completion report; PPER = project preparatory evaluation report; PS = partly satisfactory or partly successful; R = relevant; S = successful or satisfactory; TA = technical assistance; TCR = technical assistance completion report.
Note: The ADTA assessment ratings are based on self-evaluation.
Source: Asian Development Bank database.

ADVISORY TECHNICAL ASSISTANCE TO THE LAO PEOPLE'S DEMOCRATIC REPUBLIC WITHIN THE GREATER MEKONG SUBREGION FRAMEWORK FOR TRANSPORT AND TRADE FACILITATION, 2001–2008

Technical Assistance	Specific Assistance to the Lao PDR	Capacity Development	Relevant Achievements
Implementing the Agreement for Facilitation of the Cross-Border Transport of Goods and People in the GMS, Phase 1 Location: GMS	Border crossing at Lao Bao and Dansavan between Viet Nam and the Lao PDR	Complement the CBTA and strengthen trade facilitation Conduct workshops, seminars, and other training activities on cross-border transport facilitation Prepare guidelines and manuals to implement critical cross-border transport facilitation measures	Assisted the GMS governments in (i) negotiations and signature of a set of critical annexes and protocols to the CBTA, and (ii) implementation of critical cross-border transport facilitation measures at border crossings. It contributed significantly (i) to the finalization of the 20 annexes and protocols to the CBTA; (ii) in providing initial capacity building for GMS officials in preparation for the implementation of the CBTA; and (iii) in laying the groundwork for the full implementation of the CBTA at key border crossing points. In particular, it assisted in preparation of an operations manual for the implementation of the CBTA at the border crossing at Lao Bao and Dansavan.
GMS Infrastructure Connections in Northern Lao PDR (SSTA) Location: Northern Lao PDR	Northern Lao PDR	No specific capacity development. The TA output was a study.	Assisted the government in implementing the Northern Region Infrastructure Development Strategy. The study identified investment projects, which will develop transport and power networks that address the poor state of basic infrastructure and connections between the countries of the northern GMS.
GMS Transport Sector Strategy Study Location: GMS	None specified	Strategy and policy development	An agreed GMS transport sector strategy has been adopted by the governments by individual letters to ADB, and the GMS transport sector strategy study document was finally endorsed at the 14th GMS Ministerial Meeting held in Manila on 19–21 June 2007. Implementation and monitoring of the GMS transport sector strategy is undertaken by the GMS Subregional Transport Forum.
Implementation of the GMS Cross-Border Transport Agreement Location: GMS	Pilot implementation of CBTA at the Lao PDR–Thailand and Lao PDR–Viet Nam border crossing points	Complement the CBTA and strengthen trade facilitation	CBTA implementation at key border crossings Arrangements for CBTA implementation at a second set of border crossings Effective and sustainable implementation of the CBTA
Facilitating Cross-Border Trade and Investment for Small and Medium Enterprise Development in the GMS Location: GMS	Legal registration of GMS-BF as an NGO in the Lao PDR Agreement on first stage implementation of single-stop customs inspection at the Lao PDR–Viet	Support to complement the CBTA and strengthen trade facilitation in GMS through the GMS-BF	Developed the (i) constitution that allowed for the legal registration of the GMS-BF as an NGO in the Lao PDR, (ii) GMS-BF corporate governance handbook and related procedures for the board of directors, (iii) implementation schedule of GMS-BF fee-based thematic conferences to support ADB's GMS Program, (iv) training of GMS-BF staff on implementation of thematic conferences for ADB and other sponsoring organizations including corporations, and (v) development of a budget projection for review by the GMS-BF board of

Technical Assistance	Specific Assistance to the Lao PDR	Capacity Development	Relevant Achievements
	Nam border site		directors on a periodic basis to highlight the focus on revenue generation to ensure GMS-BF operational sustainability. Conducted workshops and created 10 implementation manuals on modalities to operationalize single-stop customs inspection at four GMS cross-border checkpoints. The workshops and manuals focused on documentation, procedures, as well as institutional and legal modalities. These manuals highlighted CBTA ratification and implementation. The workshops and manuals allowed for Viet Nam and the Lao PDR to agree on implementation of single-stop customs inspection at the border point of Lao Bao–Dansavan, with consideration by Viet Nam and Cambodia on implementation at Bavet–Moc Bai.
Facilitating Cross-Border Trade and Investment in the GMS Location: GMS	Several conferences on the East–West Economic Corridor Mining conference held in the Lao PDR	Transform transport corridors to sustainable economic corridors Complement the CBTA and strengthen trade facilitation in GMS through the GMS-BF	Aimed at improving cross-border trade and investment facilitation and a visible and credible regional institution, the GMS-BF. Under advisory assistance TA, the GMS-BF held six major conferences: (i) the East–West Economic Corridor Conferences —Trade and Investment Opportunities, in Thailand; (ii) SME Finance in the GMS—Building a Common Strategy, in Thailand; (iii) Second East–West Economic Corridor Conference, in Viet Nam; (iv) Mining Opportunities in the GMS, in the Lao PDR; (v) International Accounting Standards and Reporting Method Workshop, in Thailand; and (vi) Adding Value to Agricultural Products in the GMS, in Thailand. These conferences were sponsored by major corporations active in the region, including TNT Logistics and Oxiana/Lane Xang Minerals, which became full corporate members of the GMS-BF.
SSTA to Support Development of an Action Plan on Trade and Investment Facilitation in the GMS Location: GMS	None specified	Strategy and policy development	Assisted GMS countries in formulating an action plan on trade and investment facilitation that would strengthen the competitiveness of the GMS, complement trade liberalization initiatives (including ASEAN free trade agreement and the ASEAN–PRC free trade agreement), and promote the GMS as an integrated production base.
Support to Trade Facilitation and Capacity Building in the GMS Location: GMS	Ministry of Commerce as the trade facilitation focal point for the Lao PDR in the GMS. Like other GMS focal points, it will play a critical role in the strategic framework for	Identify trade facilitation training and capacity needs Deliver key training and capacity-building programs to GMS trade facilitation focal points and core teams on gap and needs analysis.	Assisted GMS countries in improving their capacity for trade facilitation and trade policy formation. Part 1 of the TA helped GMS countries in implementing the framework for action on trade facilitation and investment. Part 2 on capacity building for trade worked to deliver (i) institutional strengthening of ITD; (ii) development of materials and training modules; (iii) training of regional trainers; (iv) support for the development of networks, information systems, and information dissemination to

Technical Assistance	Specific Assistance to the Lao PDR	Capacity Development	Relevant Achievements
	action on trade facilitation and investment implementation, for which its capacity will need to be strengthened.		promote understanding of economic integration issues in the GMS; and (v) enhancement of the capacity of ITD and GMS countries to undertake specific research. Provided the support to complement the CBTA and strengthen trade facilitation through framework for action on trade facilitation and investment in GMS by (i) simplifying, harmonizing, and increasing the transparency of customs procedures; (ii) improving oversight and compliance with regard to standards and SPS regulations consistent with the requirements of the World Trade Organization; (iii) providing more efficient and integrated logistics services; and (iv) enhancing the mobility of business persons.
Enhancing Transport and Trade Facilitation in the GMS Location: GMS	Facilitate operational CBTA showcase at the borders along the East–West Economic Corridor in the Lao PDR, Thailand, and Viet Nam	Streamline and strengthen institutional mechanisms for addressing regional transport and trade facilitation initiatives Strengthen institutional capacity within GMS countries to undertake initiatives for GMS transport and trade facilitation	Supported overall institutional capacity building to strengthen transport and trade facilitation in the GMS by working closely with relevant regulatory agencies with competency in these matters, including customs and SPS agencies. With capacity building as the central element of the TA, it undertook a series of activities centered on (i) strengthening transport facilitation, (ii) strengthening SPS capacity in the GMS, (iii) implementing business and logistics support, and (iv) developing a regional information platform to improve coordination and information sharing for trade facilitation.

ADB = Asian Development Bank, CBTA = Cross-Border Transport Agreement, GMS = Greater Mekong Subregion, GMS-BF = GMS Business Forum, ITD = International Institute for Trade and Development, Lao PDR = Lao People's Democratic Republic, NGO = nongovernment organization, SPS = sanitary and phytosanitary measures, SSTA = small-scale technical assistance, TA = technical assistance.
Source: Asian Development Bank database.

ASSESSMENT OF THE ROAD MAINTENANCE FUND: LITERATURE REVIEW

1. Several studies have analyzed road funds, such as the Road Maintenance Fund (RMF) in the Lao People's Democratic Republic (Lao PDR). In general, most studies[1] focused on these funds as an area of reform in road management and a likely solution to the problem of road maintenance. The studies identified common issues among road funds, such as inadequate funding for road maintenance, failure of the government to provide for adequate budget, eventual deterioration of road infrastructure, weak road management, and overloading.

A. The Road Maintenance Fund in the Lao People's Democratic Republic

2. The Government of the Lao PDR established the RMF on 15 January 2001 through Prime Ministerial Decree No. 9.[2] Collections for the RMF began in February 2002 and are currently from a fuel levy, bridge tolls, heavy vehicle surcharges, overweight fines, and international transit fees. The RMF was aimed at financing routine maintenance, emergency and periodic maintenance work, administration renewal works, road safety projects, and other administrative costs.

3. The RMF is managed and supervised by the Ministry of Public Works and Transport (MPWT). Another decree was signed for the creation of the RMF Advisory Board, which is tasked to approve decisions about RMF allocations with MPWT. The board consists of members from the public and private sectors appointed from the Ministry of Finance, MPWT, provincial authorities, Chamber of Commerce and Industry, road and passenger transport operators, and the general public. The chair is nominated by MPWT.

B. Findings from the Literature Review

4. **Key principles of the Road Maintenance Fund.** The RMF is aligned with key principles of road fund management, operating under the context of resource limitations. Vaidya and Tusanasorn[3] characterized the Lao PDR's creation of the RMF as reflective of the country's shift from emphasizing new construction and rehabilitation to maintenance. The RMF adopts the "user's pay" principle, since financing road maintenance comes from user charges. Following the general principles discussed in the World Bank studies,[4] the RMF is categorized as a second-generation road fund,[5] which takes on a commercial approach as it seeks to bring road maintenance to the private sector on a fee-for-service basis, similar to business transactions.

---

[1] H. Levy and P. Freeman. 2007. Evaluation of Bank Support for Road Funds. Background paper for *A Decade of Action in Transport: Evaluation of World Bank Assistance to the Transport Sector, 1995–2005.* Washington, DC: World Bank Independent Evaluation Group; Asian Development Bank (ADB). 2001. *Paving the Way to Poverty Reduction through Better Roads*. Manila; ADB. 2003. *Road Funds and Road Maintenance: An Asian Perspective*. Manila; and United Nations. 2005. *Road Maintenance Funds. Transport Communications Bulleting for Asia and the Pacific*. New York.

[2] ADB. 2003. *Completion Report: Sixth Road Improvement Project in the Lao People's Democratic Republic*. Manila; and ADB. 2003. *Road Funds and Road Maintenance: An Asian Perspective*. Manila.

[3] K. Vaidya and P. Tusanasorn. 2004. *Review of Rural Road Maintenance in Lao PDR: Current Status, Issues, and Options*. Vientiane: International Labour Organization. The study was prepared for the Local Roads Department of the Ministry of Construction, Transport, Post, and Construction.

[4] H. Levy and P. Freeman (footnote 1); and K. Gwilliam and Z. Shalizi. 1999. Road Funds, User Charges, and Taxes. *The World Bank Research Observer*. 14 (2).

[5] First-generation funds refer to the traditional or budget approach to road maintenance, which is widely used in developing countries. Road funds under this approach are allocated as public expenditures to be covered by the national budget.

5. **Sources of revenue.** Vaidya and Tusanasorn (footnote 3) reported gaps in local funding sources and the RMF's failure to meet targeted revenues. The RMF was expected to be supported mainly by collections from a fuel levy, with charges to be increased rapidly to meet maintenance requirements. While RMF revenues still grew because of increases in other charges, particularly from vehicle charges, the study observed that revenue targets would not be met, as the fuel levy was KN40 per liter in 2004. The levy was increased to KN300 per liter in 2009.

6. In a World Bank report, Gwilliam[6] also claimed that the increased tax rate fell behind the original schedule of increases. The rate was still considered low by international standards, as it only constitutes about 2.0%–2.5% of the retail price. Other sources of RMF revenue may also be worth investigating to improve its revenues. In particular, there could be some leaks and inefficiencies in collections of road tolls, unnecessary spending on weighing equipment and staffing costs being charged to the RMF to enforce overloading fines, and complex licensing procedures on vehicle registration. Vaidya and Tusanasorn (footnote 3) expected that support from external sources would likely to continue beyond 2009 to sustain the RMF.

7. **Financing needs.** In a 2007 study conducted by the World Bank Independent Evaluation Group on road funding strategies of various countries,[7] the RMF was assessed as *especially successful.* Fund collections were efficiently allocated for road maintenance. Using the percentage of estimated needs financed and changes in the overall level of funding for maintenance as indicators to assess improvement in the quality of roads, the World Bank study observed a significant increase in the percentage of roads in good condition than in most countries. The RMF only covered 40% of its needs, but it was still said to be a "well-performing fund." In general, the World Bank study noted that no road fund in the countries surveyed managed to cover all maintenance funding needs, with the best cases contributing as much as 75%–80% (e.g., Ethiopia and Uganda). It found that about half of the road funds fulfilled half of the maintenance needs of the national network, and only one third of the road funds use the resources exclusively for road maintenance. A 2003 Asian Development Bank (ADB) study[8] on best practices of road funds also found that a dedicated road fund typically contributes about 50% of the requirements, depending on its ability to raise revenues.

8. **Allocations of the Road Maintenance Fund.** MPWT reported that about 90% of the RMF has been given to national roads and only 10% to local roads. If RMF revenues can be increased, the percentage allocations provided to national and provincial roads should be examined as long as this is consistent with the fund's objective to prioritize road maintenance. The ADB study (footnote 8) claimed that the RMF should not only finance all maintenance works of the national highway network but also partly provide for lesser roads.

9. **Provincial road maintenance.** Vaidya and Tusanasorn (footnote 3) emphasized the very limited resources provided to road maintenance at the provincial level. In addition, it was observed in the same study that available funds for roads at the provincial level tend to be spent on rehabilitation and construction rather than on maintenance. The study suggested that provinces should be given the option to raise additional revenues, such as through license fees for vehicles, to finance road maintenance. The establishment of provincial road maintenance funds managed at the local or provincial levels should be considered with structures similar to the national RMF. Provincial RMFs may include allocations for local roads from the national

[6] K. Gwilliam. 2007. *Paving the Road for Better Capacity*. Washington, DC: World Bank.
[7] H. Levy and P. Freeman (footnote 1).
[8] ADB. 2003. *Road Funds and Road Maintenance—An Asian Perspective*. Manila.

RMF, provincial and national budget, and donor support. Continued financial support from available sources would be required to help establish the provincial RMFs, including the required institutional structure.

10. **District roads.** Gwilliam's report mentioned that the RMF has been struggling to obtain funds for the routine maintenance of the network (footnote 6). At the district level, the creation of community road trust funds might address the financial needs to rural road maintenance. The report noted that funding community roads and their maintenance should be an area of continued support or assistance by multilateral donors.

11. **Advisory board and secretariat.** The World Bank studies (footnote 4) have argued that a road fund should have an independent advisory board. The Lao PDR's RMF Advisory Board may not be fully independent, as it is created as a department in MPWT, which exercises oversight functions. Moreover, the RMF Advisory Board has limited powers to oversee the RMF, thus diluting its role. Gwilliam also found that control over the Lao PDR's road maintenance program composition and financial allocations remained with the Department of Roads.

12. Further, the RMF secretariat is expected as an organization to be strong, stable, and competent on financial management procedures. However, preliminary findings on the performance of the RMF reported some operational delays in revenue collections, implementation of maintenance works, and payments to contractors. These were attributed to inadequate technical capacities of the RMF secretariat.

C. Support from Aid Agencies

13. The main supporters of the Lao PDR's maintenance activities have been ADB, Nordic Development Fund, Swedish International Development Cooperation Agency (Sida), and the World Bank. The last three have provided assistance in the development of the Road Maintenance Program.[9] The program supported the establishment of a road fund financed from gradually increasing road user charges, in particular a surcharge on fuel. ADB supported the setting up of the RMF and also provided funding for the periodic maintenance.[10]

14. Before its exit from the Lao PDR, Sida contributed to the development and maintenance of the rural roads network. In its 2004 country report (footnote 9), Sida supported the government's move to raise fuel levies as a means to mobilize resources for the RMF and a step toward sustaining the road network. Sida has also provided assistance in capacity development programs for provincial road authorities and promoted the community road model as an approach to road maintenance at the district levels (footnote 10).

D. Issues

15. **Need for further studies.** An assessment on the performance or effectiveness of the RMF remains largely inadequate. While aggregate assessments could be drawn particularly from the World Bank and ADB studies, there has also been a pervading view that no single model is the best; hence, road funds may well be analyzed on a case-to-case basis in accordance with country needs. In other words, the development of road funds needs to be

[9] Embassy of Sweden. 2005. *Sida Country Report 2004*. Vientiane; and ADB. 2003. *Completion Report: Sixth Road Improvement Project in the Lao People's Democratic Republic*. Manila.

[10] ADB. 2000. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Lao People's Democratic Republic for the Rural Access Roads Project*. Manila (Loan 1795-LAO[SF], for $25 million, approved on 7 December).

carried out, taking into account national legislation, institutional structures, and maintenance requirements.

16. **Financial.** Most studies observed gaps in meeting the targeted revenues from local sources and the overall level of coverage of the RMF vis-à-vis the country's financing needs. The RMF's allocation formula, which favors national roads, is a matter of concern since it dilutes the resources for provincial, district, and rural roads.

17. **Institutional.** The independence and technical capacity of the RMF secretariat and RMF Advisory Board were concerns that need to be addressed. Specifically, the creation of the RMF under MPWT could be seen as limiting the powers of the RMF. On the other hand, it could also be argued that locating the RMF outside of MPWT supervision could lead to coordination problems among rehabilitation and maintenance activities. Finally, the RMF secretariat has also been found to be wanting in capacities in planning, selection, and prioritization of maintenance works, including monitoring and evaluation of projects.

E. Summary

18. In conclusion, the RMF has steadily improved its efficiency and effectiveness since 2001. However, it has a long way to go before it can be declared a complete success. The RMF follows the general principles of the second-generation road funds established under the broader context of road management reforms and limited resources. Its creation provides the mechanism by which user charges are pooled to a separate and/or dedicated fund with priority given to road maintenance. The decree that established the RMF Advisory Board included members representing both the public and private sectors. All these aspects point to a good fund structure. However, for this structure to succeed, it needs to receive adequate revenues.

19. Significantly, some financial and institutional issues have since affected the operations and management of the RMF. These weaknesses were being addressed by further improvements in human resources, financial management, and maintenance procedures, among others. These can be addressed through technical assistance for skills transfer and institutional development.

SUMMARY OF THE IMPACTS OF ADB-FUNDED ROAD PROJECTS

1. The sector assistance program evaluation for transport sector in the Lao People's Democratic Republic (Lao PDR) included a broad evaluation of the entire portfolio of transport projects completed until date to assess their visible impacts. This evaluation is based on the findings of the project performance evaluation reports (PPERs), project completion reports, consultants' findings, and secondary sources. This appendix provides a summary of the outcomes and impacts of the projects listed in Table A10.1.

Table A10.1: ADB Road Projects in the Lao People's Democratic Republic

Loan No.	MPWT Acronym	Implementation Period	Location	Project Name
0643	ADB 1	1984–1987	Vientiane Province	Vientiane Plain Road Improvement
0788(SF)	ADB 2	1987–1996	Champasack, Salavan	Second Road Improvement
0866(SF)	ADB 3	1988–1994	Vientiane–Vangvieng	Third Road Improvement
1009 and 1108	ADB 4 and 5	1990–1997	Vangvieng–Louangphrabang–Pak Mong	Fourth and Fifth Road Improvement
1234	ADB 6	1993–1999	Champasack, Attapeu, Xekong	Sixth Road Improvement
1266		1994–2001	All	Airports Improvement
1369	ADB 7	1995–2000	Champasack	Champasack Road Improvement
1533	ADB 8	1998–2002	Xieng Khouang	Xieng Khouang Road Improvement
1727		2000–2004	Savannakhet	GMS: East–West Corridor
1795	ADB 9	2001–2005	Houaphan, Vientiane, Attapeu	Rural Access Roads

ADB = Asian Development Bank, MPWT = Ministry of Public Works and Transport.
Source: Asian Development Bank database.

A. Vientiane Plain Road Improvement Project

2. The implementation period for this project was from 1984 to 1987.

3. Its benefits were as follows.
   (i) The volume of traffic observed in 1988 was higher than the traffic forecast in the appraisal report. Thus, the project is considered to have realized its principal objective of facilitating more efficient road transport for both the main road and feeder road traffic.
   (ii) The project generated about 9,020 person-months of employment for both skilled and unskilled labor.
   (iii) It spurred savings in vehicle operating costs.
   (iv) It provided agricultural and producer surplus benefits.
   (v) The project's social and educational benefits improved access to primary and secondary schools, health care clinics, as well as community stores.
   (vi) Bicycle access to schools was extended to about 10 kilometers (km), resulting in higher school attendance.
   (vii) Additional school facilities are now being constructed along the road.

(viii) The improved feeder roads increased intervillage traffic, primarily agricultural flows associated with farm-to-market access. Vientiane is now perceived as a major market center year-round.
(ix) There were also slight increases in consumption of luxury items like televisions and motorcycles, as well as liquor.
(x) Jobs were generated as more timber processing facilities opened (though this was not mentioned as an environmental impact).

4. No negative impacts were mentioned in the PPER.

B. Second Road Improvement Project (Champasack, Pakxong, and Salavan)

5. The implementation period was from 1987 to 1996.

6. Its benefits were as follows.
(i) Traffic volumes observed in 1995 were considerably higher than the traffic forecast at appraisal, while traffic composition was not significantly different, except for trucks. Thus, the project is considered to have realized its principal objective of facilitating more efficient road transport.
(ii) About 18,000 person-months of employment was generated for both skilled and unskilled labor.
(iii) Vehicle operators emerged as the main beneficiaries of the reduction in vehicle operating costs as a result of the improved road sections.
(iv) Access to health care centers improved.
(v) Primary and secondary educational facilities were improved.
(vi) The numbers of markets and community stores increased.
(vii) Passenger fares and truck rates indicated that a substantial amount of the initial savings in vehicle operating costs was passed on to road users.

7. No negative impacts were mentioned in the project completion report.

C. Third Road Improvement Project (Vangvieng and Vientiane)

8. The implementation period was from 1988 to 1994.

9. Its benefits were as follows.
(i) With the improved project road, cattle raising, forestry, and logging in Phon Hong and Vientiane increased.
(ii) External assistance for irrigation, rural electrification, and forestry was set in motion.
(iii) Improvement of the project road accelerated development of the area, including new gas stations, small service industries, food markets, restaurants, shop-front housing, several new factories, a new vehicle assembly plant, and new housing.
(iv) Tourist attractions and accommodations were developed at km 45 and in Phon Hong.
(v) While paddy farming still predominates, introduction of irrigation led to considerable tracts of farmland producing two rice crops per year instead of one. Fish farming has been introduced as has diversification to cattle, goats, tree-type crops, and vegetables.
(vi) At km 150, the cement factory run under a joint venture consortium between the governments of the Lao PDR and the People's Republic of China was completed.

Limestone rock is mined for the factory. Electricity has been extended between Phon Hong and Vangvieng, and further on to Louangphrabang.

(vii) Other socioeconomic benefits listed include (a) improvements in the quality of life of rural residents, many of whom have immigrated from less-developed areas; (b) improved access to other provinces and to health care and education services; (c) savings in travel time between district centers; (d) opportunities for paid employment; and (e) improved farm incomes due to access to irrigation schemes and production diversification as a result of improved access and the opening of new markets.

(viii) Improvements to the project road followed existing alignments, and the direct environmental impact of the project was minimal.

(ix) The provision of a bituminous seal eliminated dust problems for villages.

(x) In 1995, the government established the Ministry of Environment and issued Guidelines for Reducing Environmental Effects of Road Projects.[1] Also, in 1996, the Communication Department's Planning Division of the Ministry of Communications, Transport, Post, and Construction established an environment section through which all development projects were vetted.

10. Although functional, the cement factory was constructed in full view of the road in an area where scenery is an important tourist asset. Limestone quarries likewise destroyed the mountain views for which the area is famous. In addition, dust generated by the mining and crushing presents a health hazard to the immediate areas. Thus, although considered a benefit in the PPER,[2] it could be considered an environmental detriment.

D. Fourth and Fifth Road Improvement Projects (Louangphrabang, Pak Mong, and Vangvieng)

11. The implementation period was from 1990 to 1997.

12. Its benefits were as follows.

(i) Tourism has increased along the route, with centers developing around Vangvieng and Louangphrabang, which was declared a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site. Increased convenience and security of the road have contributed to a rise in the number of tourists visiting Louangphrabang. This has enhanced the local tourism industry through development of accommodations, restaurants, transport, internet services, and handicrafts.

(ii) The projects had a positive effect on economic activities in the impact area. The feasibility study observed that only few cash crops were grown in 1987. In 2001, all villages visited by the independent evaluation mission reported a variety of income sources, including vegetables, papyrus-type grass (i.e., paper mulberry tree or *broussenetia*) that local enterprises use for papermaking in the Louangphrabang area and export to Thailand, and fishponds. Hmong women in one village produce traditional embroidery and travel to Louangphrabang to send the final products to relatives in the United States. Without improved transport

[1] J. Vroegop. 1994. *Guidelines for Reducing the Environmental Effects of Road Projects in Lao People's Democratic Republic*. Report 93807G2. Government of Lao People's Democratic Republic, World Bank: Vientiane.

[2] ADB. 1997. *Project Performance Audit Report: Third Road Improvement Project in the Lao People's Democratic Republic*. Manila.

services, this income source would not be accessible to the women of this village.

(iii) In larger villages, local transport services facilitate the selling of produce in neighboring villages, whereas smaller villages depend on traders coming from Louangphrabang or Vientiane to purchase directly from them.

13. The PPER[3] stated the projects' negative impacts as follows.

(i) Road sections that traverse mountainous terrain experienced landslides and road slips and continue to do so. This was, in part, anticipated at appraisal, but the chosen road alignment was selected as the best possible least-cost option. Other choices would have caused fewer landslides but would have required more earthworks during construction, resulting in even more negative impacts.

(ii) Other environmental impacts were increased logging and "slash-and-burn" agriculture.[4]

(iii) An associated technical assistance (Road Infrastructure for Rural Development) cited in the PPER concluded that environmental impacts from logging and trafficking of wildlife and plants will not result from road projects in Louangphrabang and Vientiane provinces.

E. Sixth Road Improvement Project (Attapeu, Champasack, and Xekong)

14. The implementation period was from 1993 to 1999.

15. The project's environmental and socioeconomic impacts were as follows.

(i) The main component of the project—improvement of provincial roads—was primarily located in sparsely populated areas and generally followed existing alignments. As such, land acquisition for right of way, resettlement problems, and changes in land-use patterns were minimal. Tree cutting to widen the project roads had a moderately negative effect on the environment.

(ii) On the other hand, the strengthening, paving, and widening of the roads, and raising the embankments with proper culverts and bridges and channel treatments has helped improve the environment in the project area. The smooth surface of the improved roads requires less traction power, consumes less fuel, and results in less air pollution. Further, the smooth flow of traffic results in less noise.

(iii) Based on observations in the project area, there is evidence of significant development activity along the project roads. Activities expected at appraisal such as coffee production and increased coffee yields, livestock development, and expansion of the electricity grid has gone forward. Overall environmental, sociocultural, and other development impacts are significant.

[3] ADB. 2001. *Project Performance Audit Report: Fourth and Fifth Road Improvement Projects in the Lao People's Democratic Republic*. Manila.

[4] It is not clear how the latter is related to the road improvement or why it is an environmental impact since it has been practiced sustainably for several thousand years. No definition is given of the use of "slash-and-burn."

F. Champasack Road Improvement Project (Cambodian Border to Chong Mek, Thai Border)

16. The implementation period was from 1995 to 2000.

17. The project impacts were as follows.
    (i) The project completion report (PCR)[5] stated that several new industries were established along the project road and have generated jobs, thus reducing poverty in the project area. New industries include a concrete plant, import–export businesses, and a new plywood factory. Due to the increasing volume of traffic, several villages along National Road 13 have also grown considerably. Surveys showed that several village shops enjoy more business, and the tourist resorts in the area have benefited from the influx of domestic and international tourists since the road was improved.
    (ii) Improved access to social services and to markets was noted in the PPER[6] as well as an increase in tourism.
    (iii) The PPER also noted that the road has reduced travel by villagers because traders come to the village to buy and sell.
    (iv) Access to social services and markets have improved due to reduced transit time between communities. Travel time savings have not been estimated for reevaluation, as it was not calculated at the appraisal stage. A survey conducted among local people suggested that travel times had been reduced by more than half, however.
    (v) The PPER cited conclusions of a separate study that the road benefits only nonpoor.[7]
    (vi) Also, the PPER noted that negative environmental impacts resulted from damage and lack of clean-up during road construction and the excessive cutting of forests at km 26. According to the PPER, the International Union for Conservation of Nature complained publicly on the latter.

G. Xieng Khouang Road Improvement Project

18. The implementation period was from 1998 to 2002.

19. The project impacts were as follows.
    (i) The main impact of the project as envisaged at appraisal was to promote national and provincial economic growth. The provincial annual gross domestic product growth rate in the project area prior to the project was about 5%. Annual growth during 1998–2003 was 6% and during 2003–2005 around 7%.
    (ii) The incidence of poverty in the project area declined from 49% in 2000 to about 30% in 2005.[8]

---

[5] ADB. 2001. *Completion Report: Champasack Road Improvement Project in the Lao People's Democratic Republic*. Manila.

[6] ADB. 2005. *Performance Evaluation Report: Champasack Road Improvement Project in the Lao People's Democratic Republic*. Manila.

[7] Asian Development Bank (ADB). 2000. *Effectiveness of ADB Approaches and Assistance to Poverty Reduction*. Manila.

[8] These poverty reduction figures provided in the PCR are taken from the standard poverty analysis done for the country by National Statistics Center and not from independent specific study of road-impacted villages of the project.

(iii) Access to social services, such as hospitals and schools, improved. The number of secondary schools in the project area increased from 38 in 2000 to 259 in 2005. There is also a number of new hotels in Phonsavan.

(iv) Electricity is now available to many residents on National Road 7 due to the infrastructure provided by Electricité du Lao. Income per capita in the project area increased from $263 in 2000 to $360 in 2005.

(v) An environmental management plan was not done prior to the commencement of the project, and it was not until problems were encountered later that mitigations were implemented, but only very slowly according to the PCR.[9] Implementation of the plan was finally completed, except for tree planting, which was canceled by the Embassy of Japan and characterized in the PCR as mainly a road beautification component, and not necessary for strictly environmental reasons.

H. East–West Corridor Project (Savannakhet)

20. The implementation period was from 2000 to 2004.

21. The PPER[10] reported that the project opened up markets and enhanced consumer choices through (i) cheaper prices, and (ii) product availability and diversity. Improved connectivity along the corridor also helped form surplus areas of production, which resulted in changes in the livelihood and living standards of local residents. Overall, the project made substantial positive contributions within the impact area.

22. Though the project impact varied according to household resources, large-scale farmers and cross-border traders experienced the highest sales and income increases. Some shifting cultivators, who adopted sedentary farming systems using new technologies, reported a 10%−20% increase in income.

23. Environmental and social concerns were incorporated in the project design through the inclusion of mitigation measures. These measures included implementation of specific safeguards to address issues such as the spread of sexually transmitted infections and HIV/AIDS during construction.

24. On the Lao PDR side, the project did not create any serious adverse environmental impacts. But some agriculture or productive land was lost to residential or industrial development, and sustaining forest conservation was a matter of concern.

25. In 2006, regional technical assistance[11] was funded by ADB to examine the impact on poverty of regional economic integration (REI), and the National Economic Research Institute of the Lao PDR looked closely at the impacts around the border crossing point at Dansavan. A consultant report on the research methodology noted that

> Although it was not my purpose to become too involved with the content, it is fair to say that local communities in the near vicinity of border crossing points do not currently benefit from REI in the form of improved roads and transportation, and in most cases are negatively impacted and impoverished by having their land and natural resources

[9] ADB. 2006. *Completion Report: Lao People's Democratic Republic: Xieng Khouang Road Improvement Project*. Manila.

[10] ADB. 2008. *Performance Evaluation Report: Greater Mekong Subregion: East–West Corridor Project in the Lao People's Democratic Republic and Socialist Republic of Viet Nam*. Manila.

[11] ADB. 2004. *Technical Assistance for Reviewing the Poverty Impact of Regional Economic Integration in the Greater Mekong Subregion*. Manila (TA 6171-REG, for $750,000, approved on 6 May).

usurped by the rich and powerful. Governments do not understand local communities and local livelihood systems and do not currently possess the means of doing so. Thus, providing mitigations and viable solutions to negative impacts will not happen through any planning process at the present time and in the near future. Positive actions are those that local villagers have developed on their own and remain in the domain of the informal sector. And these may or may not be in accord with what is considered to be "legal" since in many instances official policies have outlawed traditional livelihoods and have made it impossible to be legitimate and at the same time to survive.[12]

26. The National Economic Research Institute remarked that the markets at Dansavan on the Lao PDR side are dominated by Vietnamese traders, with little or no Lao PDR participation. It indicated that REI thinking has downplayed the asymmetrical relationships between countries and has no safeguards in place to help balance out the lack of equity. The same conditions are seen at Boten on the border with the People's Republic of China, where markets are dominated by the Chinese. Thus, without additional assistance, the Lao PDR might not realize projected economic benefits.

I. Rural Access Roads Project (Attapeu, Houaphan, and Vientiane)

27. The implementation period was from 2001 to 2006.

28. The project locations are outlined in Table A10.2.

Table A10.2: Locations of Rural Roads

Section	Province	Subproject
Attapeu–Senamnoy	Attapeu	C1
Nasak–Khockhaodo	Xanakham, Vientiane	C2
Thongkoun–Longxan	Meuang Hom, Vientiane	C3
Huayhung–Xam Tai	Houaphan	C4

Source: Asian Development Bank. 2009. *Performance Evaluation Report: Lao People's Democratic Republic: Rural Access Roads Project*. Manila.

29. Of the four roads selected for inclusion in this project, only C3 and C4 are actually rural access roads in the developmental sense. The other two consist of a strategic road with a national security function (C2) and the completion of a national highway linking two inland provincial capitals (C1).

30. In Houaphan (C4), a component consisting of three feeder roads was added to complement United Nations Drug Control Programme (United Nations Office on Drugs and Crime) and government plans to eradicate opium. It was determined that because livelihoods of minorities would be affected through loss of opium sales, ethnic minority development plans would be necessary for each feeder road.

31. Yet for the main roads of the project, a separate ethnic minority development plan was not required because (i) most of the ethnic minorities were integrated into the wider community; (ii) project impacts related mainly to resettlement, and the project included specific actions for ethnic minorities; and (iii) significant economic benefits from improved access were expected for all populations within the project zone of influence.

[12] Joint Research Center. 2006. Report on Visits to Research Institutes to Review Qualitative Analysis and Report Writing (Viet Nam, the Lao PDR, Cambodia, Thailand).

32. A 2009 PPER[13] found that although some groups were living in ethnically mixed villages, the ethnic groups were living in their own separate sections, each maintained their own distinct language and cultural practices, and they did not intermarry. This cannot be considered integration as was assumed during appraisal.

[13] ADB. 2009. *Performance Evaluation Report: Lao People's Democratic Republic: Rural Access Roads Project*. Manila.

IMPLEMENTATION STATUS OF PROJECT PERFORMANCE EVALUATION REPORT RECOMMENDATIONS IN TRANSPORT SECTOR PROJECTS IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

Five project performance evaluation reports have been completed until date and provide significant recommendations on improving the Asian Development Bank's assistance. However, most of the recommendations are still work in progress with continuing interventions. Table A11 provides a summary of the recommendations from the project performance evaluation reports and the status of the actions as evident from the Asian Development Bank's management system and from the discussions with the Southeast Asia Department.

Table A11: Implementation Status of Recommendations from Earlier Evaluation Reports

Project	Project Performance Evaluation Report Recommendations for Follow-Up Actions	Actions Completed
Vientiane Plain Road Improvement Project	(PPAR 1989) Under the Fourth Road Improvement Project, which was then being processed, ADB should monitor the executing agency's institutional development and the impact of traffic growth on the project road.	Work in progress. ADB reported successful implementation of TA packages provided to the Lao PDR's Ministry of Transport and Post (predecessor to MCTPC) but had difficulties in monitoring the impact of capacity development initiatives for the ministry's institutional development over the years.
	ADB should monitor annual traffic counts on all project roads. Traffic counts should be scheduled for early November, prior to the onset of the country's main harvesting season.	No reported follow-up action.
Third Road Improvement Project	(PPAR 1997) ADB should continue to support road improvement projects but should (i) ensure that progress on civil works is monitored and stays within the project's design specifications; and (ii) specify, in accordance with accepted international benchmark standards, the finishing characteristics to which road pavement construction and improvements are expected to be built.	Work in progress. ADB had more road improvement project loans in the Lao PDR after 1997. Project monitoring is being done in line with project design appraisals.
	The government should ensure that reforms aimed at developing administrative and technical competencies and accountability at the central level are also transferred to the provincial and district levels. Reforms should include a commitment from the government and provincial administrators to enter into timely and obligatory contract payments.	Work in progress. Subsequent projects such as the Xieng Khouang Road Improvement Project have included capacity building at the provincial level.
	Studies were be initiated for cost recovery on enforcement, capital, and maintenance costs associated with overloading; and ongoing support of commercial finance mechanisms to address construction and maintenance enterprise needs for equipment purchases.	Work in progress.

Project	Project Performance Evaluation Report Recommendations for Follow-Up Actions	Actions Completed
	MPWT, the EA, was encouraged to take measures to ensure that drainage obstructions are routinely cleared and that platforms erected across main side drains do not interfere with drainage design provisions. MPWT was also encouraged to place increased routine maintenance along the project road, and to promote additional training to technical staff and administrators.	 Work in progress.
Fourth Road Improvement Project and Fifth Road Improvement	(PPER 2001) Repairs on major road damages need to be implemented before the next rainy season when some of the road sections risk being washed out further. Arrangements should be made to ensure that routine maintenance is undertaken along the entire length of ADB4 and ADB5. The EA may engage small contractors to cover areas beyond the reach of villages that otherwise undertake routine maintenance activities. The EA should expand the road markings, particularly on dangerous curves, to increase road security. Some initiatives to set up road signs have been taken, but have to continue to cover all road sections in need of markings.	Implemented. Work in progress. The road sign markings on the Vientiane–Louangphrabang road have been refined. However, these are not sufficient and can be further improved.
Champasack Road Improvement Project	(PPER 2005) ADB should work within the GMS Program to encourage successful completion of the border negotiations between the Lao PDR and Cambodia. This will enable MCTPC to complete the construction of the 6.9-kilometer link from the end of the project road (near the Veun Kham intersection) to the Cambodian border post to enable uninterrupted access from Champasack Province to towns in Cambodia. Subject to the resolution of these negotiations, activities leading up to the development of this link could be initiated to enable the completion of the road in time for the 2007 implementation of the GMS agreement. ADB should explore possible ways of including this link road in ongoing or future projects in the country. MCTPC should develop a modern road maintenance planning system. Such capacity building should be undertaken at the junior management level to ensure that a trained workforce is created for updating and running models such as the Highway Design and Maintenance Standards Model. Such needs could be addressed within the World Bank's Road Maintenance Program 2. Since this	The construction of the road link from the end of Champasack Road Improvement Project to the Cambodian border was completed in April 2008. The World Bank is taking the lead in providing assistance to strengthen road maintenance planning capacity through the ongoing Road Maintenance Program 2, with support from Sida and ADB. ADB is supporting the World Bank by providing funding for road maintenance through the ongoing Roads for Rural Development Project and the Northern GMS Transport

Project	Project Performance Evaluation Report Recommendations for Follow-Up Actions	Actions Completed
	program is well under way, MCTPC could fit this activity into its broader schedule. Before the end of 2006, ADB should discuss this approach with MCTPC and the World Bank to enable such inclusion.	Network Improvement Project. ADB staff regularly communicate with their counterparts at the World Bank and other development institutions on road maintenance and other sector issues, during missions and while at headquarters.
Greater Mekong Subregion: East–West Corridor Project	(PPER, 2008) To achieve the main project impact of enabling cross-border traffic along the East–West Corridor, ADB should work closely with the governments to enable full ratification and implementation of the Cross-Border Transport Agreement.	Work in progress.
	ADB should work with the governments of the Lao PDR and Viet Nam on parallel interventions that enable development of industries, agriculture, and production in general.	Work in progress.
	ADB should add value by assisting the governments of the Lao PDR and Viet Nam in developing road maintenance regimes based on needs, achieve a balanced distribution of public funds, identify alternative financing sources including the private sector, and improve cost recovery.	Work in progress. The Road Maintenance Fund of the Lao PDR is not yet sufficient; hence, it will continue to rely on external sources.

ADB = Asian Development Bank; EA = executing agency; Lao PDR = People's Democratic Republic; MCTPC = Ministry of Communication, Transport, Post, and Construction; MPWT = Ministry of Public Works and Transport; PPAR = project performance audit report; PPER = project performance evaluation report; Sida = Swedish International Development Cooperation Agency.

Sources: Asian Development Bank project management database, discussions with the Southeast Asia Department staff, and Independent Evaluation Department database.

PERFORMANCE OF THE MINISTRY OF PUBLIC WORKS AND TRANSPORT IN SAFEGUARD IMPLEMENTATION

1. The Government of the Lao People's Democratic Republic (Lao PDR) has long considered the importance of incorporating environmental and social considerations into road projects. Policies and laws have been crafted to address the need for environmental protection and management. Since 1999, the Environmental Protection Law has been the central piece of legislation and main instrument for environmental protection and management in the Lao PDR. Further, Environmental Assessment Regulations (1770/STEA 2000) were issued and have defined the requirements and procedures for environmental impact assessments of development projects. In addition, the Road Law (1999) requires that road construction be undertaken in accordance with public safety and environmental protection considerations.

2. Subsequent regulations were issued in 2003 by the Ministry of Communication, Transport, Post, and Construction for the environmental impact assessments of road projects (Decree 2929/MCTPC), including provisions on screening, scoping, public involvement, environmental management plan and implementation, content, review, and approval. Similarly, importance was also given to social safeguards. A Prime Minister's decree (192/PM 2005) and regulations concerning compensation and resettlement of development projects, issued in 2005, define the principles, rules, and measures to mitigate adverse social impacts and to compensate for damages resulting from involuntary acquisition or repossession of land and assets. Also included were articles specific to concerns on ethnic minority groups requiring the preparation of a development plan if necessary.

3. Recently, the Ministry of Public Works and Transport (MPWT) has moved further to strengthen its commitment to incorporating environmental and social considerations in road projects through the release of its 2008 Environmental and Social Operations Manual. This manual serves as a reference point for harmonizing the law and regulations of the Lao PDR with the requirements of project donors and development partners. It acknowledges the need to address safeguard policies of project donors and development partners, including the three safeguard policies of the Asian Development Bank (ADB). It advocates the general principle of safeguard assessment and echoes the objectives of ADB safeguard policies, that is, to avoid, minimize, or mitigate harmful environmental impact, social costs, and marginalization of vulnerable groups that may result from development projects. The manual will be approved after its pilot testing in some selected provinces.

4. Full implementation of the Environmental and Social Operations Manual means there are sufficient regulations in the Lao PDR to require the necessary environmental and social safeguards during project preparation and implementation. These regulations are in line with the safeguard policies of project donors and development partners, including ADB, Swedish International Development Cooperation Agency (Sida), United Nations Development Programme (UNDP), and World Bank. It takes into account safeguard policies commonly triggered in road projects such as those related to environmental impact assessments, natural habitats, forestry, indigenous peoples, involuntary resettlement, and cultural property.

5. Although there is good policy support, the institutional capacity of the Department of Roads, within MPWT, to enforce safeguard requirements and to monitor their implementation is questionable. The recent reorganization within MPWT has temporarily weakened the institutional capacity of the Department of Roads. The newly created Environmental and Technical Division (ETD), which merged the former Environment and Social Division with the Planning and Technical Division, is tasked with mainstreaming the social and environmental

aspects in the road subsector. During reorganization, staff specialists of the former Environment and Social Division were transferred to MPWT's Public Transport Institute as a new unit that will handle policy-level work for the entire ministry. This move left ETD without any staff members who have the necessary skills for safeguard work.

6. Restoring ETD's capacity is an urgent task for the government. In the past, ADB has provided assistance to the Lao PDR for capacity building, specifically regarding safeguards. As reflected in the recent country strategy and program,[1] support for building capacity to incorporate environmental considerations into development planning is a key focus area for environmental initiatives. The country strategy and program also indicates that ADB will provide support to mitigate potential negative social impacts arising from road development, such as trafficking of drugs and humans, transmission of HIV/AIDS, and other sexually transmitted infections. However, the country strategy and program needs to be backed up by specific assistance. On the MPWT side, its institutional capacity needs to be sustained to ensure the effectiveness of external assistance.

[1] ADB. 2006. *Country Strategy and Program: Lao People's Democratic Republic, 2007–2011*. Manila.

MANAGEMENT RESPONSE TO THE SECTOR ASSISTANCE PROGRAM EVALUATION FOR THE TRANSPORT SECTOR IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

On 8 November 2010, the Director General, Independent Evaluation Department, received the following response from the Managing Director General on behalf of Management:

I. General Comments

1. We appreciate the IED report and its comprehensive analysis of ADB's assistance in the transport sector. We concur with the overall assessment that ADB's program has been *successful* and that ADB's performance in the sector has overall been *satisfactory.*

2. Before responding to the specific recommendations, we note that the report would benefit from some clarifications. First, the characterization of ADB's programming in the sector as "disconnected" (para. 73) is misleading. The report acknowledges that the transport sector faces funding constraints due to the country-level Asian Development Fund (ADF) allocation. Accessing the ADF subregional allocation pool to finance transport projects that support subregional cooperation does not crowd out national transport projects; in fact, because Lao People's Democratic Republic (Lao PDR) is a land-locked country, many of the roads improved through the subregional allocation are national roads. Second, while the report indicates that the quality of design and monitoring frameworks can be improved and acknowledges efforts to improve the quality of these frameworks (para. 82), the report does not acknowledge that these efforts have resulted in substantive quality improvements. Third, we are concerned about the assessment that the efficiency of ADB's assistance has deteriorated since 2006, and is rated as *less efficient* based on the performance of five road projects completed between 2000 and 2009 (paras. 85 & 86). While describing the same concerns over delays and cost overruns, the Country Assistance Program Evaluation (CAPE) (para. 43) rates nine out of 10 completed road projects as efficient as reflected in economic internal rates of return (EIRRs). While the report attributes this downgrading to the inclusion of a new criterion (i.e., implementation efficiency), it appears that the performance of one project has pulled down the average.

II. Comments on Specific Recommendations

3. **Recommendation 1: Capacity Development - Support the government in the development of integrated capacity-building programs (instead of one-off TA) in specific areas.** We agree. We are currently preparing support for an integrated capacity-building program as a core component of the proposed Southern Link Transport Project, which is scheduled for Board consideration in 2012. The proposed 2011 project preparatory TA for this Project will help to develop a multi-year capacity building program, which will include support for: (i) planning and prioritizing of road improvements; (ii) strengthening the institutional arrangements and performance standards for road maintenance; (iii) implementing environmental and social safeguards; and (iv) monitoring implementation. This capacity building program will be designed to

attract additional grant co-financing from development partners, which will further strengthen capacity development.

4. **Recommendation 2: Project-readiness filters - Improve implementation performance of ADB transport projects by mainstreaming project-readiness filters to assess the institutional preparedness within the government for implementing a new project.** We agree. The project readiness filters developed by the Lao Resident Mission (LRM) will be further improved in 2011 by: (i) incorporating requirements under the Streamlined Business Processes; (ii) making them more specific and relevant to transport projects; and (iii) including institutional capacity criteria. To mainstream these filters, the upcoming Country Partnership Strategy to be finalized in 2011 will refer to their usefulness and application.

5. **Recommendation 3: Coordination of assistance - Work in conjunction with the government to improve development agency coordination in the areas of knowledge sharing and implementation monitoring.** We agree. The creation of a Transport Sector Working Group (TSWG) has been discussed with the Government as a means to promote greater coordination among development agencies and the Government in knowledge management and implementation monitoring. The TSWG will be established in 2011, and will first focus on: (i) sharing of knowledge regarding the transport sector; and (ii) monitoring project implementation. The TSWG will have quarterly meetings that will include the participation of LRM and other development agency staff based in Vientiane. As recommended in the IED report, the annual multipartite meeting will include ADB staff from headquarters.

DEVELOPMENT EFFECTIVENESS COMMITTEE OF THE BOARD

Chair's Summary of the Committee Discussion on 10 November 2010

Sector Assistance Program Evaluation for the Transport Sector in the Lao People's Democratic Republic (DOC.IN.260-10)

1. DEC members viewed that ADB has been focusing more on regional road projects as compared to rural and provincial roads. Members also inquired as to how ADB has addressed issues on road maintenance and road safety that were raised in previous CAPEs.

2. Director, SETU described how the focus in the past was on national roads to meet the Government's priority to emphasize international linkage and in the future there will be projects for rural roads. On road maintenance, he noted that capacity building programs have been implemented with the objective of delegating road maintenance to provincial governments. Further, in road projects since 2007 road safety aspects have been built in as project components. Road safety is important not only to ADB, but also to co-financiers.

Conclusions

3. DEC members noted with satisfaction the steady progress made by LAO PDR. The Country grew at a compounded rate of 7% per year during 2000-2009, reduced its external public debt as a proportion of GDP from 80% in 2005 to 54% in 2009.

4. There was solid progress in rural electrification. Overall access to electricity increased rapidly from 17% of households in 1995 to more than 60% in 2009.

5. Lao PDR, from being a net energy importer, has become a net energy exporter, and is on its way to achieve its ambition of becoming the regional power battery.

6. Members expressed their satisfaction that certain facilitating laws, like water and water resources law, environmental protection law, environmental and social sustainability of the hydropower sector law, and amendment of the environmental protection law, were under way.

7. Members also noted that Nam Theun 2 has been successfully completed and sufficient progress has been made in implementing environment and social safeguards. It is now a world-class hydropower plant.

8. Members noted that the road network has increased by 78% over the last decade, from 20,000 kilometers in 1997 to 35,558 kilometers in 2009. Roads have had positive impact in ameliorating rural poverty.

9. Members underlined the need for improving implementation of projects and reducing the large delays observed in the past. There was a need for improving coordination, strengthening the LRM, and having a medium to long-term strategy based on policies and programs in various sectors. Furthermore, members noted that given the importance of hydroelectric power in Lao PDR and that hydroelectric power is a renewable energy source, ADB, including through the private sector, should remain engaged in the upstream generation projects.

(signed)
Ashok K. Lahiri
Chair, Development Effectiveness Committee