

**REPORT AND RECOMMENDATION  
OF THE  
PRESIDENT  
TO THE  
BOARD OF DIRECTORS  
ON A  
PROPOSED LOAN  
TO THE  
REPUBLIC OF INDONESIA  
FOR THE  
ROAD REHABILITATION-2 PROJECT**

**August 2005**

## CURRENCY EQUIVALENTS

(as of 29 July 2005)

Currency Unit	–	rupiah (Rp)
Rp1.00	=	\$0.000114
\$1.00	=	Rp8,800

## ABBREVIATIONS

ADB	–	Asian Development Bank
ASEAN	–	Association of Southeast Asian Nations
BAPPENAS	–	Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)
CPFPFPG	–	Compensation Policy Framework and Procedural Guidelines
DGLC	–	Directorate General of Land Communications
DGH	–	Directorate General of Highway
EIRR	–	economic internal rate of return
GDP	–	gross domestic product
IEE	–	initial environmental examination
IIRMS	–	Indonesian integrated road management system
IRMS	–	interurban road management system
JBIC	–	Japan Bank for International Cooperation
LIBOR	–	London interbank offered rate
MOC	–	Ministry of Communications
MOF	–	Ministry of Finance
MPW	–	Ministry of Public Works
P3JJ	–	proyek perencanaan dan pengawasan jalan dan jembatan (road and bridge planning and management unit, the provincial representative of DGH)
PMU	–	project management unit
PSAP	–	policy statement and action plan
RRSP	–	Road Rehabilitation (Sector) Project
SOE	–	statement of expenditure
STD	–	sexually transmitted disease
TA	–	technical assistance
VOC	–	vehicle operating costs
WIM	–	weigh-in-motion

## NOTES

- (i) The fiscal year (FY) of the Government ends on 31 December.
- (ii) In this report, "\$" refers to US dollar.

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## LOAN AND PROJECT SUMMARY

<b>Borrower</b>	Republic of Indonesia
<b>Classification</b>	Targeting Classification: Targeted intervention Sectors: Transport and communications Subsectors: Roads and highways Theme: Sustainable economic growth Subtheme: Fostering physical infrastructure development
<b>Environment Assessment</b>	Category B: Sensitive An initial environmental examination was undertaken, and its summary circulated to the Board on 3 June 2004.
<b>Project Description</b>	The proposed Road Rehabilitation-2 Project (the Project) will support the Government's program of rehabilitating strategic national road links in Sumatra and Kalimantan. The links lie in trans-island corridors and serve interregional trade and local traffic, providing a corridor from Indonesia to the Association of Southeast Asian Nations (ASEAN) highway through links with Malaysia and Brunei. The Project will strengthen the capacity of central and provincial agencies to maintain and protect road surfaces and reduce the risk of accidents in areas of growing traffic. The Project includes training and capacity-building subcomponents.
<b>Rationale</b>	Since the 1997/98 Asian financial crisis, the Government has focused on macroeconomic stabilization, corporate restructuring, bank recapitalization, and mobilization of resources to strengthen social safety nets. As a result of scarce financial resources, spending on the transport infrastructure, specifically roads, was cut. As part of its national transport network development plan, the Government is focusing on upgrading and developing main national road corridors to improve intra- and interisland transport links, within Indonesia and with other neighboring countries. The Kalimantan Highway corridor, in particular, is a major link between Brunei Darussalam, Indonesia, and Malaysia that will promote regional cooperation. With fiscal constraints likely to remain, external support is critical to preserving, upgrading, and developing priority links and supporting economic recovery. In Sumatra and Kalimantan, an inadequate road network has increased transport costs for the important agricultural, plantation, petroleum, and industrial sectors; raised transport costs between provincial centers and plantation areas and ports; and limited local transport. By improving the condition of high-priority links, the Project will facilitate trade, investment, and economic growth; promote regional cooperation; improve accessibility and living conditions in isolated areas that have growth prospects; and help reduce poverty. The Project also aims to develop new approaches to road maintenance management and institutional capacity building and training related to road policy. The Project is in line with the Asian Development Bank's (ADB) strategic focus for Indonesia and included in the 2005 country strategy and program update.

**Impact and Outcome** The expected impact of the Project is economic growth and improved living conditions in poor areas of Sumatra and Kalimantan. The primary outcome of the Project is improved vehicular access via strategic national roads on these islands. The Project will help reduce transport tariffs, improve road safety, reduce truck overloading, and promote financial transparency through better fiduciary control and anticorruption measures. Combined with other activities of the country strategy and program, it will help reduce poverty in project areas. It will rehabilitate about 1,300 kilometers (km) of deteriorated roads and replace or widen about 40 bridges on the Trans-Sumatra Central and Eastern corridors and Trans-Kalimantan Highway, linking producing areas and markets through 10 provinces on the country's two largest islands. To ensure that the rehabilitated roads do not deteriorate prematurely and to secure sustainable benefits, the Project will include measures to reduce pavement damage caused by overloaded trucks. Working with local agencies, it will explore new ways of utilizing available resources to maintain roads and reduce the risk of accidents in roadside communities by raising awareness of the risk. The training and capacity-building components include environmental and social impact management, as well as training in project management and engineering support practices, including (i) construction contract law; (ii) landslide control, slope stability, and retaining walls; (iii) financial management and control; (iv) road and bridge maintenance; and (v) technical specifications in road and bridge works.

**Cost Estimates** The total project cost is estimated at \$215.8 million equivalent (including taxes), consisting of \$76.2 million in foreign exchange costs and \$139.6 million equivalent in local currency costs.

Financing Plan	(\$ million, 2005 prices)			
	Source	Foreign Exchange	Local Currency	Total
				Total Cost (%)
	ADB	76.2	74.8	151.0
	Government	0.0	64.8	64.8
	<b>Total</b>	<b>76.2</b>	<b>139.6</b>	<b>215.8</b>

Source: ADB estimates.

**Loan Amount and Terms** A loan of \$151 million from ADB's ordinary capital resources will be provided under a lending facility based on the London interbank offered rate (LIBOR). The loan will have a 25-year term, including a grace period of 5 years; an interest rate determined in accordance with ADB's LIBOR-based lending facility; a commitment charge of 0.75% per annum (capitalized in the loan); conversion options that may be exercised in accordance with ADB's loan regulations and conversion guidelines; and other terms and conditions as are set forth in the draft Loan Agreement.

**Period of Utilization** 31 December 2010

**Estimated Project Completion Date** 30 June 2010

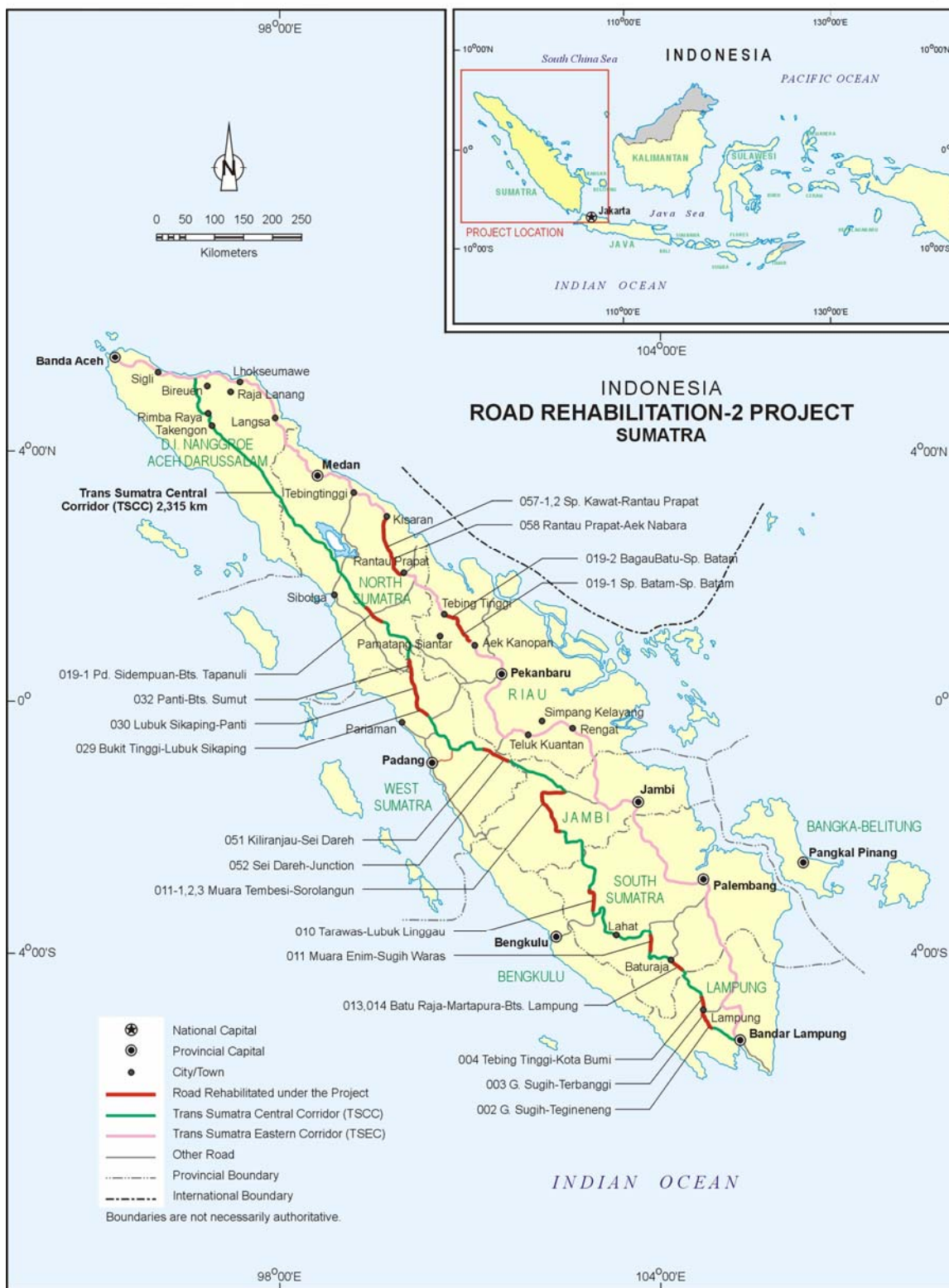
<b>Executing Agency</b>	Directorate General of Highway (DGH) under the Ministry of Public Works.
<b>Implementation Arrangements</b>	DGH will implement the Project through a project management unit (PMU). The PMU will supervise three implementing agencies—DGH, the Directorate General of Land Communications (DGLC), and the National Development Planning Agency (BAPPENAS). DGH will coordinate design, implementation and supervision of the road rehabilitation, and capacity-building components. DGLC will implement the enforcing controls on the truck overloading and road safety awareness subcomponents. BAPPENAS will implement the subcomponent on developing new approaches to road maintenance management. DGH's local project management will be carried out by the provincial road and bridge planning and management units in the 10 provinces, assisted by consultants funded under the Project. A steering committee representing Government agencies involved in national development planning, finance, roads, road traffic, and transport will monitor project progress.
<b>Procurement</b>	All civil works under the Project will be procured in accordance with ADB's <i>Guidelines for Procurement</i> . Contracts valued in excess of \$1.0 million for goods and \$1.5 million for civil works will be procured through international competitive bidding, with smaller civil works contracts procured through local competitive bidding. Supply contracts not exceeding \$1.0 million will be procured through international shopping. It is, however, expected that only international competitive bidding will be used for the 26 contract packages to be awarded under the Project. Equipment and spare parts required for the Project, and estimated to cost, in the aggregate, the equivalent of less than \$100,000 may be procured directly from the manufacturers of the original equipment or their agents. All contracts will be submitted to ADB for approval before they are awarded.
<b>Consulting Services</b>	A total of 274 person-months of international and 3,324 person-months of domestic consulting will be required to assist with (i) detailed design, review, coordination, and construction supervision of civil works; (ii) enforcement of truck axle-load limits; (iii) road safety awareness campaign; (iv) development of new approaches to road maintenance management; (v) strengthening of capabilities in environmental and social impact management; and (vi) training in project management and engineering support practices. The consultants will be engaged in accordance with ADB's <i>Guidelines on the Use of Consultants</i> and other arrangements satisfactory to ADB for engaging consultants.
<b>Project Benefits and Beneficiaries</b>	By improving national roads and bridges, the Project will reduce transport costs and improve accessibility, thus facilitating economic growth and improving the welfare of the poor. The main beneficiaries will be road users, passengers, freight transport services, and the population served by rehabilitated roads.

**Risks and  
Assumptions**

The main risks to the Project are (i) failure to maintain the rehabilitated roads, (ii) premature damage to pavement as a result of truck overloading, (iii) increased risk of accidents, (iv) lower-than-forecast economic growth, (v) lack of response by local communities to increased trade and jobs, and (vi) inadequate quality of project outcomes due to corrupt practices in procurement and other areas of project implementation. The first three risks will be minimized through technical assistance, training, and a road safety awareness campaign. The fourth and fifth will be monitored through a benefit-monitoring program, periodically targeting responses of local communities to the roads' improvement. The last risk will be minimized by strengthening implementation and control mechanisms through an action plan included in the project design.



Map 1





## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to the Republic of Indonesia for the Road Rehabilitation-2 Project (the Project).

## II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES<sup>1</sup>

2. Rehabilitation of high-priority road links in Sumatra and Kalimantan aims to improve accessibility; facilitate trade, investment, and economic growth; and improve living conditions of people living in isolated areas. The Project also aims to promote regional cooperation by developing corridor linkages to the Association of Southeast Asian Nations (ASEAN) Highway in Kalimantan and the Asian Highway in Sumatra. The project design and monitoring framework is in Appendix 1.

### A. Performance Indicators and Analysis

#### 1. The Road Sector

3. Road transport carried about 95% of Indonesia's estimated interprovincial freight and 85% of passenger traffic in 2001 (2003 estimates).<sup>2</sup> At the end of 2002, Indonesia's road network was close to 324,150 kilometers (km), excluding 515 km of toll roads and some 250,000 km of unclassified village roads (Appendix 2). Despite recent funding increases and a renewed emphasis on maintenance, roads have not yet returned to the condition they were in before the Asian financial crisis of 1997/98.

4. In 2003, 32.7 million vehicles (excluding police and military vehicles) were registered, of which 14.8% were passenger cars, 6.0% buses and vans, 8.2% trucks, and 71.0% motorcycles. Road transport services are mainly provided by private companies. Except in remote areas—where demand is thin, investors few, and road conditions poor—the transport services industry is competitive. Entry is largely unrestricted and tariffs determined by market forces, with the exception of fares for low-income passenger services set by the Government for interprovincial services and by provincial authorities for services within provinces. Even so, there is competition on the basis of service quality and frequency. In general, savings in vehicle operating costs made possible by road improvements are passed on through reductions or delayed increases in fares.

5. Four national Government agencies play key roles in the road sector. The National Development Planning Agency (BAPPENAS) formulates national development strategies, establishes broad policy and investment priorities, and prepares and supervises the implementation of annual development budgets. The Ministry of Communications (MOC) is responsible for policy formulation, and for planning, regulating, and managing most transport infrastructure (except roads) and some transport services. Within MOC, the Directorate General for Land Communications (DGLC) is responsible for land communications. The Ministry of Public Works (MPW), through its Directorate General of Highway (DGH), develops and maintains the national roads, sets technical standards for all types of roads, and provides technical assistance (TA) to road agencies at the lower administration levels. DGH has regional offices (P3JJ) for road design and supervision. The Ministry of Home Affairs coordinates the

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<sup>1</sup> ADB. 2002. *Technical Assistance to the Republic of Indonesia for Preparing the Second Road Rehabilitation Project*. Manila (TA 3989 INO).

<sup>2</sup> Source: 2001 MOC-original destination survey, inter-regency (*kabupaten*) trips, re: ADB. 2003. *Transport Sector Study*. Manila.

management of lower levels of government (provinces, districts, and municipalities) in relation to the road sector.

## **2. Sector Policy Framework**

6. Like other sectors, road transport sector growth and performance have been affected by decentralization. As part of the fiscal and administrative decentralization process, made effective in 2001, Law 32/2004 (revised 22/1999) has transferred most Government responsibilities to the regions, with regencies (*kabupaten*) and cities (*kota*) as the main focal points. Law 33/2004 (revised 25/1999) specifies how the new regional responsibilities are to be financed. For instance, motor vehicle fuel taxes are collected directly by provinces or kabupaten for their own purposes.

7. MOC has developed the 2005–2009 transport strategic plan, and DGLC periodically updates its policy statement and action plan (PSAP) for roads, traffic, and transport. The first PSAP was issued in 1989; the most recent draft covers 2001–2005. The latest ADB road project in Indonesia—the Road Rehabilitation (Sector) Project (RRSP)<sup>3</sup>—includes a component to help DGLC monitor the PSAP's progress and implement policies related to user charges, cost recovery, road maintenance funding, vehicle overloading, road safety, and private sector participation. This component helps amend road and road transport regulations to encourage competition in road transport services, and strengthen road management and development planning.

## **3. Road Expenditure Management Systems**

8. Road and bridge expenditure needs are assessed using DGH's Indonesian integrated road management system (IIRMS). Developed through the 1980s and 1990s, this computer-assisted tool maximizes the benefits of road improvements and maintenance funding allocations. IIRMS predicts pavement deterioration over time and under traffic load. The system analyzes the impacts of alternative treatment options for each link, thereby determining the economically optimum expenditure scenario, with or without budget constraints. DGH assesses budget requirements mainly on IIRMS outputs, but sometimes combines them with broader strategies for network development. One such strategy is to develop key corridors to link main population centers and facilitate trade within the country and with external markets. The links proposed for the Project all lie along priority corridors under this strategy (Maps 1 and 2).

## **B. Analysis of Key Problems and Opportunities**

### **1. Sector Problems, Causes, and Impacts**

9. The three interconnected key sectoral problems are (i) road deterioration, (ii) vehicle overloading and inefficient road transport operations, and (iii) road traffic accidents. Appendix 3 shows the interactions between them, their causes, and their impacts.

10. **Road Deterioration and Limited Maintenance Fund.** Deteriorated national roads raise the costs of road transport by increasing the consumption of fuel, oil and tires; increasing vehicle wear and tear; and raising vehicle insurance rates. Poor road conditions reduce vehicle

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<sup>3</sup> ADB. 2000. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Republic of Indonesia for the Road Rehabilitation Sector Project*. Manila (Loan 1798-INO, for \$190 million, approved in December 2000).

speeds, lowering the productivity of vehicles and people. Increased transport costs are passed on to consumers, who pay higher prices to travel or to move commodities, reducing their willingness to pay and, hence, their mobility and access to economic and welfare opportunities. Road maintenance is therefore essential to reduce transport costs.

11. Road cost recovery must be improved to sustain maintenance funding and reduce dependency on variable budgets.<sup>4</sup> User charges mainly consist of (i) vehicle ownership transfer fees, (ii) annual vehicle registration fees, and (iii) a 5% fuel tax. Revenues from taxes and fees constitute a major part of provinces' self-generated funds. These fees are treated as general tax revenues and are not incomes dedicated to road maintenance, considering that users receive subsidies in the form of below-market prices for fuel. These subsidies were estimated for 2004 at Rp60 trillion (close to the Government's whole development budget of Rp75 trillion for 2004), but the Government reduced the fuel subsidy by increasing prices of major fuel products by 22–53% on 28 February 2005. These increases could not totally remove the subsidies because of high international oil prices. This is, however, a major step to set up a healthier fuel pricing structure, and will further ease the Government's fiscal constraints on road maintenance. The new road law also ensures that priority will be given to road maintenance budget, although it does not plan to create a dedicated road fund. The budget allocation for road and bridge maintenance for national roads increased significantly in 2002 but has only increased slightly from 2003 to 2005. The current level road maintenance of about Rp1.2 trillion is obviously still below the requirement for all Indonesian provinces.

12. **Vehicle Overloading and Inefficiencies in Road Transport Operations.** The common practice of vehicle overloading increases total road transport costs by accelerating pavement deterioration. Vehicle-weighing stations are obsolete, badly maintained, or improperly operated. Records are often unreliable, corruption occurs frequently, and traffic regulations are not enforced. The number of prosecutions against road violators is negligible. The World Bank's Sumatra Region Roads Project has been trying on a pilot basis since early 2004 to have four weighbridges managed by private operators (one in Aceh Province and three in West Sumatra Province).<sup>5</sup> Under this initiative, the weighbridges have been upgraded and supplemented by automatic weigh-in-motion (WIM) equipment that allows crosschecking of the weighbridge records. Other bridge design measures need to be provided to mitigate pavement overloading, for example, installation of bridge height clearance structures to control the passage of overloaded or oversized vehicles.

13. Other inefficiencies in road transport operations stem from poor pavement conditions, poor driving standards, low standards of vehicle maintenance, poor fleet management, and inappropriate vehicle technologies. This is mainly due to an inadequate road user taxation system that does not require sufficient users' contribution to road costs, and gives truck operators no incentive to replace old, inefficient vehicles with more modern, multiple-axle vehicles that do less pavement damage per ton of payload.

14. **Road Traffic Accidents.** Indonesia's high levels of road traffic accidents are the result of poor standards of driver education, training, and testing; poor vehicle safety standards; and limited awareness of accident risk—all attributable to shortcomings in traffic education and enforcement. Accident risks are made worse by insufficient attention to safety features in road

<sup>4</sup> The World Bank's Eastern Indonesia Region Transport Project envisages road maintenance through multiyear contracts to the private sector; should such a system be implemented, annual availability of funds would no longer be a constraint. The project includes a trial implementation of a provincial road fund sourced from user charges collected by the province.

<sup>5</sup> Based on a recent status report by DGLC, the results are encouraging.

design. In 2003, about 10,000 road fatalities (3 deaths per 10,000 registered vehicles) and more than 14,000 serious injuries were recorded. The actual figures may be higher as transport department records differ significantly from the traffic police records to the hospitals. A high proportion of victims are pedestrians. The social and economic costs of road fatalities, injuries, and material damage have been estimated about 2–3% of gross domestic product (GDP). Under ADB's regional road safety TA,<sup>6</sup> ASEAN member countries are committed to implementing the ASEAN Road Safety Strategy and Action Plan 2005–2010, comprising 12 actions. The Project will help the Government implement two actions identified under the plan: promoting greater awareness and steady enforcement of traffic rules and regulations, and fostering a culture of road safety.

## **2. Road Connectivity and Poverty Reduction**

15. Indonesia's poverty incidence was about 23% (about 48 million people) in 1998, then declined to about 18% (about 38 million) in 2002, according to the National Socioeconomic Survey (BPS SUSENAS).<sup>7</sup> Regional variations are sharp: poverty is more common in rural areas than in urban centers, and in the project area, it varies from 18% in Riau to 42% in South Sumatra, and 30% in South Kalimantan to 57% in Central Kalimantan.

16. National roads are the arteries of trade and commerce and enable the incomes of the poor to grow. Agriculture products—cultivated largely by the poor, who rely on basic commodities hauled in from cities—need an effective transportation network to be delivered on time. The poverty assessment done in November 2000 notes that increasing the productivity of agriculture requires improved infrastructure, including transport, which will reduce regional disparity and rural poverty over the medium term. The Government White Paper<sup>8</sup> identifies the infrastructure backlog as a key bottleneck to poverty reduction. Better roads will improve access by the poor, as well as doctors and teachers, to health centers and schools.

## **3. Government and ADB Transport Sector Strategies**

17. The 2004–2009 Government midterm development plan places high priority on the development of infrastructure within the overarching objectives of creating peace and security, creating democracy and fairness, and improving people's prosperity. Road development policy prioritizes on increasing road capacity and quality to more developed regions by strengthening island-based main national road corridors and providing better access to less developed regions, including remote and border areas. The development of these national corridors is part of the Government's commitment to the ASEAN regional cooperation program, which requires implementation of priority infrastructure projects at national level. Improving integration and connectivity, developing land transport and trade corridors linking Brunei Darussalam, Indonesia, and Malaysia are ASEAN milestone objectives. The Project is in line with ADB's strategic focus for Indonesia and is included in the 2005 country strategy and program update. It is also an integral part of ADB's regional cooperation strategy and program for Southeast Asia, which is being prepared.<sup>9</sup>

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<sup>6</sup> ADB. 2002. *Technical Assistance for Road Safety in the Association of Southeast Asian Nations*. Manila (TA 6077-REG).

<sup>7</sup> Excludes Papua and Aceh.

<sup>8</sup> INPRES 5/2003.

<sup>9</sup> It will cover Indonesia, Malaysia, Philippines, and Singapore.

#### 4. Road Sector Assistance and Lessons Learned

18. ADB has assisted Indonesia's road sector since 1976. ADB's total lending amounts to \$1.57 billion for 15 projects, 14 of which have been completed. Indonesia had received about \$7.6 billion in foreign assistance for road development from 1984 to 2003. Of this, 33% came from the World Bank and 33% from the Japan Bank for International Cooperation (JBIC). ADB's contribution was about 17% and bilateral funding agencies from countries such as Australia, Austria, Germany, Kuwait, Saudi Arabia, and the United States provided the remaining 17%. ADB has also provided grants totaling \$4.3 million (Appendix 4).

19. Project completion reports have been prepared for 14 ADB-financed road projects, with all rated projects considered successful except one partly successful. Performance audit reports have been prepared for 9 projects, all rated successful. The reports identified the following key lessons: (i) in the short term, projects should focus on periodic maintenance and rehabilitation; (ii) simplified design procedures used by DGH to prepare subprojects on a network basis should be replaced with detailed design methods; (iii) economic evaluation should be more thorough, especially traffic growth projections; (iv) greater attention should be paid to drainage structures; (v) periodic maintenance should not compensate for delayed or poor routine maintenance; and (vi) the capacity of the executing agency and its relationship with the implementing agency are crucial to project success. Another lesson is that capacity and institution building should be implemented regularly to avoid skill loss as a result of staff retirement or transfer.

20. Recently, projects have been delayed by lack or late release of counterpart funds, and by land acquisition and resettlement problems, especially the North Java Road Improvement Project.<sup>10</sup> Resettlement issues have been minimized under the RRSP, which, however, suffered other delays (para. 21). Fraudulent practices and corruption, especially in procurement, were also perceived to have led to poor quality of work.

21. **Lessons from the RRSP.** The RRSP is behind schedule due mainly to delays in recruiting the consultants, preparing the subprojects' reports and detailed designs, and issuing and approving the bidding documents for the civil works. As of mid August 2005, 33% of the RRSP had been disbursed and 73% of the contracts awarded. While the problems that delayed the RRSP have been resolved, the late release of the 2005 counterpart funds set back implementation. Efforts have been made to tackle this issue, and adequate counterpart funds are now available. The RRSP disbursement rate is now improving and cumulative disbursement is projected to be close to 50% by early 2006 when the implementation of the Project is expected to start. All contracts will be awarded by early 2006 and the RRSP is expected to be completed by the extended loan closing date.<sup>11</sup>

22. The lessons learned under the RRSP have been incorporated into the proposed Project. Taking advantage of the ADB-approved advance actions for procurement, preconstruction activities for the first year of implementation are being carried out using RRSP consultants (para. 32). Bids for the first year of rehabilitation works are expected to be called in October 2005 and recommendations for contract award should be issued in early 2006. Concurrently, the recruitment of consultants for design and construction supervision has started. Recommendations for award of consultants' contracts are expected by December 2005.

<sup>10</sup> ADB. 1995. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the Republic of Indonesia for the North Java Road Improvement Project*. Manila (Loan 1428-INO for \$150 million, approved January 1996 and completed in December 2002).

<sup>11</sup> ADB approved on 10 March 2005 an extension of the loan closing date from 31 March 2005 to 28 February 2007.



23. While the Project covers national roads only, local agencies will be involved in the design and procurement of the rehabilitation works. Their involvement in the RRSP delayed implementation because they lacked capacity and the knowledge of ADB's procurement guidelines. They have gained experience over the last 3 years and, with the early support of consultants, should provide the required inputs on time. Implementation workshops will be held upon loan effectiveness to update project staff on ADB procedures and policies—procurement and safeguard policies in particular. Land acquisition-related delays are unlikely as the works are to be carried out within the existing right-of-way. To facilitate the liaison with the executing agency and implementing agencies and ensure timely project monitoring by ADB staff, it is proposed to have the Project administered by the Indonesian Resident Mission.

### **III. THE PROPOSED PROJECT**

#### **A. Impact and Outcome**

24. The expected impact of the Project is economic growth and improved living conditions in poor areas of Sumatra and Kalimantan. The primary outcome is improved vehicular access on strategic national roads. The Project will help reduce transport tariffs, improve road safety, reduce road deterioration due to overloaded vehicles, and promote financial transparency through improved fiduciary control and anticorruption measures. Combined with other activities included in the country strategy and program, it will help reduce poverty in project areas. The road sections to be rehabilitated under the Project lie along the strategic trans-island corridors linking producing areas and markets of the two largest islands. The Project will also promote regional cooperation as the rehabilitated roads are part of the main interregional routes with the neighboring countries.

#### **B. Outputs**

25. The Project will rehabilitate deteriorated road sections and replace bridges on the strategic national road networks. To ensure that benefits from road rehabilitation are sustainable, the Project will address road policy issues by (i) strengthening enforcement of vehicle-load regulations, (ii) raising road safety awareness among local communities, and (iii) developing new approaches to road maintenance management. It will also provide capacity building and training to strengthen capabilities in environmental and social impact management, project management, and engineering support.

#### **1. Civil Works: Road and Bridge Rehabilitation**

26. The Project will rehabilitate 1,292 km of roads through (i) the reconstruction of 60 km<sup>12</sup> and resurfacing and widening of 593 km<sup>13</sup> of the Trans-Sumatra eastern and central highways, (ii) reconstruction of 371 km and resurfacing of 268 km of the Trans-Kalimantan Highway, and (iii) replacement of 21 timber and log bridges in Kalimantan and widening of 19 bridges in

<sup>12</sup> Reconstruction (including some new construction) involves improvement, strengthening of pavements and shoulders, and surface and subsurface drainage, within the existing right of way.

<sup>13</sup> Resurfacing and widening consists of roadway overlays with or without widening, including reshaping or addition of shoulders, minor drainage works, and road signage and pavement markings. Natural stone aggregates for road construction are not commonly found in West and Central Kalimantan. A soil-cement base design has been proposed for these areas. However, new products are available for road base stabilization, and experiments show they are cost-effective and their strength is comparable to cement. DGH is recommended to test new products on selected road sections in Kalimantan.



Sumatra. The Project covers 10 provinces: Central Kalimantan, East Kalimantan, South Kalimantan, West Kalimantan, Jambi, Lampung, North Sumatra, South Sumatra, West Sumatra, and Riau. The details of proposed rehabilitation works are in Appendix 5. Once rehabilitated, the roads and bridges<sup>14</sup> will require routine maintenance.<sup>15</sup> The quality and reliability of the routine maintenance will be enhanced through complementary activities under the Project's capacity-building component. Roads will be widened within the existing right-of-way where the road fails to meet DGH pavement- and shoulder-width standards.

## 2. Support to Road Sector Policies

27. **Enforcing Controls on Truck Overloading.** Given the encouraging results of the ongoing North Sumatra and Aceh pilot initiative to prevent overloading (para. 12), the Government has recommended its extension to other regions. Four new locations have been identified, one in Sumatra and three in Kalimantan, for privately operated weighbridges with WIM equipment. The Project will select sites, procure equipment, supervise installation, and supervise 12 months' implementation of the four weighbridge stations. A simultaneous experiment on the two islands will enable the Government to better assess the performance of the improved vehicle-load control system.

28. **Road Safety Awareness Campaign.** Efforts to improve traffic safety by treating accident-prone spots, implementing horizontal and vertical signage, and establishing accident investigation units are ongoing under the World Bank's funded Sumatra Regional Road Project. The RRSP is providing additional assistance for road safety policies under the Government's action plan. However, these efforts do not address the poor awareness of accident risk among children and other vulnerable groups in communities near the roads to be rehabilitated. The Project will support a road safety awareness campaign in West, Central, and South Kalimantan, targeting vulnerable groups, particularly children and old people living in areas newly exposed to higher traffic volume and speed.

29. **Developing New Approaches to Road Maintenance Management.** To ensure the sustainability of investments in road construction and rehabilitation, road maintenance—routine and periodic—is essential. Although road maintenance funding is increasing (para. 11), it is still limited. The Project will formulate a new approach to road maintenance management based on the recommendations of a related study financed by JBIC Loan IP-467 (2001).

## 3. Capacity Building and Training

30. **Project Management and Engineering Support Practices.** The training in project management and engineering support practices will (i) help train each project province's P3JJ and government agency for regional infrastructure to execute and monitor national road maintenance; and (ii) support central DGH's efforts to provide guidelines, training resources, and assistance to regional road agencies in their management of the road network. The teams assisting the P3JJ and government agency for regional infrastructure will work directly with their staff in implementing developed or new programs for project management practices, to provide training in areas that are relevant to the Project and that are Government priorities. The training will cover (i) construction contract law; (ii) landslide control, slope stability, and retaining walls;

<sup>14</sup> Deficient bridge structures will be replaced on road sections selected for reconstruction or resurfacing and/or widening.

<sup>15</sup> Routine maintenance is required periodically, depending on the traffic and other features of road sections, and is to be financed by the Government.

(iii) financial management and control; (iv) road and bridge maintenance; and (v) technical specifications in road and bridge works.

31. **Strengthening Capabilities in Environmental and Social Impact Management.** The Project will provide training in environmental and social impacts for road rehabilitation projects on the national network. The training will include road planning in accordance with Government regulations and donor guidelines on the environment and social development.

### C. Special Features

32. To increase project readiness, the consultants recruited under the RRSP were used to prepare the Project under advance procurement action. The contract of the RRSP core team of consultants has been amended to incorporate the detailed design and bidding documents for the rehabilitation works scheduled to be implemented in the first year of the Project.

### D. Cost Estimates

33. The project cost is estimated at \$215.8 million (Table 1). This includes value-added tax, physical and price contingencies, and capitalized interest and commitment fees charged during construction. The foreign exchange cost of \$76.2 million accounts for 35% of the total cost. The local currency component of \$139.6 million equivalent constitutes the remaining 65%. Detailed cost estimates and the financing plan are in Appendix 6.

**Table 1: Cost Estimates**  
(\$ million)

Item	Foreign Exchange	Local Currency	Total
<b>A. Base Cost<sup>a</sup></b>			
1. Road and Bridge Rehabilitation			
a. Civil Works <sup>b</sup>	62.4	93.8	156.2
b. Consulting Services	2.7	6.4	9.1
2. Road Sector Policies	2.2	1.7	3.9
3. Capacity Building and Training	0.1	0.5	0.6
<b>Subtotal (A)</b>	<b>67.4</b>	<b>102.4</b>	<b>169.8</b>
<b>B. Contingencies, Taxes<sup>c</sup> and Interest during Construction<sup>d</sup></b>	8.8	37.2	46.0
<b>Subtotal (B)</b>	<b>8.8</b>	<b>37.2</b>	<b>46.0</b>
<b>Total</b>	<b>76.2</b>	<b>139.6</b>	<b>215.8</b>

<sup>a</sup> 2005 prices.

<sup>b</sup> Including bridge replacement costs.

<sup>c</sup> Including value-added tax, customs, and duties.

<sup>d</sup> Including commitment charge.

Source: Asian Development Bank estimates.

### E. Financing Plan

34. The Government has requested ADB to provide a loan of \$151 million to finance 100% of the foreign currency costs (\$76.2 million equivalent) and 54% of local currency costs (\$74.8 million equivalent). The remaining \$64.8 million in local currency costs will be financed by the Government. Overall, the loan will finance 70% of the estimated project cost. Table 2 summarizes the project financing plan. The Government has confirmed that sufficient counterpart funds will be included in the 2006 national budget to cover the first year of

implementation. The required counterpart funds will be made available on time for the full duration of the Project.

35. The ADB loan will be from ADB's ordinary capital resources. The Borrower will be the Republic of Indonesia. Provided in US dollars, the loan will have a maturity period of 25 years, including a grace period of 5 years, a commitment charge of 0.75% per annum, conversion options that may be exercised in accordance with ADB's loan regulations and conversion guidelines, and such other terms and conditions set forth in the draft Loan Agreement. Interest will be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility. The Government has provided ADB with (i) the reasons for the Government's decision to borrow under ADB's LIBOR-based lending facility on the basis of these terms and conditions, and (ii) an undertaking that these choices were the Government's own independent decision and not made in reliance on any communication or advice of ADB.

**Table 2: Financing Plan**  
(\$ million)

<b>Source</b>	<b>Foreign Exchange</b>	<b>Local Currency</b>	<b>Total</b>	<b>Total Cost (%)</b>
Asian Development Bank (ADB)	76.2	74.8	151.0	70
Government	0.0	64.8	64.8	30
<b>Total</b>	<b>76.2</b>	<b>139.6</b>	<b>215.8</b>	<b>100</b>

Source: ADB estimates.

## **F. Implementation Arrangements**

### **1. Project Management**

36. DGH will be the Executing Agency, responsible for the overall execution of the Project. Chaired by BAPPENAS, a project steering committee representing BAPPENAS, the Ministry of Finance, MPW, and MOC will monitor and coordinate project implementation. DGH will establish a project management unit (PMU) headed by a manager with experience in externally financed projects. Appointed for the duration of the Project, the PMU staff will be responsible for the day-to-day implementation and accountable for technical and financial reporting. The PMU head will ensure compliance with ADB procurement guidelines and ADB safeguard policies. The PMU staff will be assisted by experienced engineers, accountants, and other staff as required. ADB is comfortable with DGH's capacity and resource management. A core team of consultants will be financed under the Project (para. 45) and assist the PMU staff in management, administration, monitoring, procurement, and construction supervision.

37. DGH, DGLC, and BAPPENAS will act as the implementing agencies. Each will appoint experienced project staff members to monitor and follow up the implementation of their project components. DGH will implement the road rehabilitation, and capacity-building and training components. DGLC will implement the enforcing controls on truck overloading and road safety awareness campaign subcomponents of the road sector policy component. BAPPENAS will implement the development of new approaches to road maintenance management subcomponent of the road sector policy component.

38. Road and bridge rehabilitation works will be executed by contractors in the 10 project provinces, under the supervision and management of the P3JJs, assisted by two field teams of consultants (para. 45), one each in Sumatra and Kalimantan. The P3JJs will be responsible for

preconstruction (preparation and acceptance of detailed designs), and procurement committees appointed by the project manager for preparation of tender documents for ADB approval, prequalification of contractors, arrangement of pre-bid meetings, evaluation of bids, and awarding of contracts related to civil works.

39. To strengthen the components for road safety and truck overloading, DGLC will prepare and award consulting service contracts, minor civil works, weighbridge WIM equipment procurement and installation, and operational management contracts. However, day-to-day management and financial and reporting requirements in selected provinces will be carried out through DGLC headquarters in Jakarta.

## **2. Project Readiness**

40. Project readiness requires that the detailed designs of road links must be completed before implementing the first year's program. P3JJs, assisted by Government-financed local consultants, are carrying out this task under advance procurement action. The detailed designs will be reviewed by the P3JJs and PMU staff before contract award and implementation. Any design work for the road links to be rehabilitated in the following years and not completed under the above arrangements will be completed by the field team consultants hired under the Project.

41. Project management arrangements were put in place before loan negotiations, including senior appointments to the steering committee, the PMU, and the implementing agencies. DGH has assigned a project manager and staff to the PMU.

42. To cover counterpart expenditure requirements for the first year's program, the Government is required to allocate budgets in FY2006 and sufficient resources to DGH, DGLC, and BAPPENAS to implement the civil works and policy components that are expected to start by mid-2006. Project-readiness criteria and parties responsible are shown in Appendix 7.

## **3. Implementation Schedule**

43. The Project will be implemented over 54 months, from January 2006 to June 2010, including mobilization but excluding the defects-liability period. A tentative implementation schedule is in Appendix 8.

## **4. Procurement**

44. All procurement to be financed from the project loan will be in accordance with ADB's *Guidelines for Procurement*. Contracts valued in excess of \$1.0 million for goods and \$1.5 million for civil works will be procured by international competitive bidding, with smaller civil works contracts fulfilled through local competitive bidding. Supply contracts not exceeding \$1 million will be procured through international shopping. However, only international competitive bidding is expected to be used. Equipment and spare parts required for the Project, and estimated to costs, in the aggregate, the equivalent of less than \$100,000 may be procured directly from the manufacturers of the original equipment or their agents. Prior to such procurement, a list of individual items to be procured, an estimate of their costs, an indication of potential sources of supply and any related documents shall be submitted to ADB for approval. After award, three copies of each contract for such items shall be furnished to ADB. To expedite procurement before effectiveness, advance procurement action was approved on 2 April 2004, to procure goods, works, and related services up to but not including contract signing. Twenty-six contract packages developed during appraisal will allow sufficient competition during

procurement, and efficient program implementation. The list of contract package is in Appendix 5. During project inception, special workshops targeting staff at DGH, the PMU, and the implementing agencies will be held to update them on ADB's policies and procedures for procurement and evaluation of proposals and bids. Similar workshops will be held for members of procurement committees under the Project.

## **5. Consulting Services**

45. The Project will require 3,598 person-months of consulting services: 274 person-months of international consulting and 3,324 person-months of domestic, including (i) a core team of consultants (109 person-months international consulting and 495 person-months domestic consulting) to help the PMU supervise the Project; (ii) two field teams of consultants (96 person-months international and 2,381 person-months domestic) to help PIUs and local government agencies supervise contractors implementing the Project; (iii) consultants to enforce controls on the truck overloading subcomponent (24 person-months international and 85 person-months domestic); (iv) consultants to implement the road safety awareness campaigns (102 person-months, domestic); (v) consultants to develop new approaches to road maintenance management (40 person-months international and 130 person-months domestic); (vi) consultants for environmental and social impact management capacity building (5 persons-months international and 72 person-months domestic); and (vii) capacity-building consultants (59 person-months domestic) to provide training in project management and engineering support practices. All consultants to be financed under the loan will be recruited in accordance with ADB's *Guidelines on the Use of Consultants*, and ADB's quality- and cost-based selection method will be used and the submission of full technical proposal requested. Detailed terms of reference are in Appendixes 9–15.

## **6. Disbursement Arrangements**

46. Disbursement will be based on an annual expenditure plan for the project activities that will be consolidated by the PMU and included in DGH's budgeted list of projects. Budget preparation and consolidation will have inputs from defined levels in the project management, and will be consistent with the overall project procurement plan, which identifies activities to be undertaken by each level of project management.

47. The loan proceeds will be disbursed in accordance with ADB's *Loan Disbursement Handbook* (2001). The Project will use direct payments, commitment procedure, and an imprest account. The direct payment procedure will be used for payments over \$100,000, and the commitment procedure for imports over \$100,000. All other payments will be channeled through the imprest account to increase flexibility in project disbursement.

48. The initial advance to the imprest account will be based on approved contracts and planned expenditures for the first 6 months of the Project. The ceiling on the imprest account will be \$1.5 million. The statement of expenditure (SOE) procedure may be used to reimburse eligible project expenditures and to liquidate or replenish imprest account advances. The SOE procedure is applicable to individual payments not exceeding \$100,000 equivalent. Detailed arrangements to establish the imprest account and SOE procedure will be made in accordance with ADB's *Loan Disbursement Handbook* (2001) as amended.

49. Sufficient supporting documentation, as defined in the *Loan Disbursement Handbook*, must be kept at each level of project management to substantiate all expenditures incurred from

the loan proceeds. Staff at DGH, the PMU, and implementing agencies will be trained in ADB's disbursement procedures.

## **7. Accounting, Auditing, and Reporting**

50. The PMU and implementing and other agencies involved in project implementation will prepare and maintain accounts exclusively for the Project and will register in such accounts all receipts and payments for the Project in accordance with sound accounting principles and procedures. Annual project accounts will be prepared by one auditing firm acceptable to ADB, based on sound and acceptable accounting principles. Audited project accounts, audited financial statements, and the audit opinion must be submitted to ADB within 6 months of the end of the financial year and at project completion. The financial statements and the auditor's report will be in English. The Government and DGH were informed of ADB's policy on submission of audited accounts, which covers failure to submit audited accounts and financial statements on time. A formal warning will be issued for accounts more than 6 months overdue, and disbursements will be suspended for accounts that are 12 months overdue.

51. An audited opinion of the project accounts will reflect (i) an assessment of the adequacy of accounting and internal controls systems with respect to project expenditures and other financial transactions and to ensuring the safe custody of project financed assets; (ii) a determination as to whether the Borrower and project implementing agencies have maintained adequate documentation on all relevant transactions, including specific mention of SOE and imprest account transactions; (iii) a confirmation that expenditures submitted to ADB are eligible for financing and identification of any ineligible expenditures; and (iv) a confirmation of compliance with financial loan covenants and ADB requirements for project management. Under Indonesian regulations, the Inspectorate General has to audit the Project's financial accounts and the effectiveness of control mechanisms established within the Project. Copies of all such reports will be sent to ADB.

52. The PMU will be responsible for (i) collecting and consolidating all project progress reports, site reports, technical and financial reports, and their submission to ADB; and (ii) preparing quarterly progress reports, the midterm project evaluation report, and the overall project completion report. The quarterly reports will be submitted to ADB within 15 days of the end of each quarter due. The implementing agencies will be responsible for (i) preparing monthly and quarterly project progress, technical, and financial reports covering site-specific activities; and (ii) collecting and consolidating field data and feedback from local participating agencies and contractors that, in turn, will be relayed to the PMU. Implementing agencies and the PMU will do their accounting and reporting by e-mail. Off-the-shelf databases and other software will be used to set up effective and transparent accounting, monitoring, and financial reporting systems. The quarterly reports submitted to ADB will be posted on the Project's website, located as a link within the MPW website.

## **8. Monitoring and Evaluation of Project Performance and Benefits**

53. DGH, DGLC, and ADB have agreed on a set of indicators to monitor and evaluate the Project's performance in relation to its expected impact, outcomes, and outputs. The details of the indicators and baseline values will be established by DGH and DGLC, in consultation with ADB, and with the assistance of the core team of consultants, at least 2 months before civil works begin in the project provinces. DGH will be responsible for data on (i) average road roughness, (ii) classified traffic counts, (iii) annual expenditures on maintenance (routine and periodic) of national roads and bridges, and (iv) social and economic impact indicators. DGLC

will also provide baseline data and be responsible for (i) impact of the road safety awareness campaign on attitudes toward road and pedestrian safety; (ii) truck axle loads, as measured at the four weighbridges and by WIM monitoring equipment; and (iii) average one-way passenger fares and freight transport rates for general cargo to and from predetermined points on the rehabilitated road corridors. Monitoring indicators will be measured each year and for 3 years after project completion. Each assessment will consist of an evaluation of changes that occurred in the preceding year. Comments and findings regarding these project indicators will be included in the midterm review. The agreed-on list of indicators is in Appendix 16.

## **9. Project Review**

54. ADB will carry out regular loan reviews and a midterm review of the Project around 2008, as to be agreed on between the DGH, the implementing agencies, and ADB. This will focus on project impacts, particularly relating to institutional, administrative, organizational, technical, environmental, and social aspects. The Project's economic viability and other aspects that may have an impact on project performance will be reassessed during this review. The review will also examine compliance with covenants specified in the loan agreement. The EA and the implementing agencies will make sure that their staff visit the field frequently and join ADB for all project review missions.

## **10. Anticorruption Measures**

55. Following governance issues in 2003 under an ADB-assisted project with the then Directorate General of Urban and Rural Development, of the then Ministry of Settlement and Regional Infrastructure (MPW now), the Government and ADB jointly addressed weaknesses and defined remedial actions to improve project implementation. A TA was implemented<sup>16</sup> and proposed a number of measures to broaden the mandate of the inspector general to make it a more effective internal auditor instead of just an auditor of the financial accounts. The TA resulted in the signing of an action plan for controlling fraud and corruption between ADB and the directorate. A similar action plan was developed under the Project between ADB and DGH. The action plan targets the functioning of regional governments and DGH, but also the performance of auditors, consultants, and contractors, as well as ADB's project implementation. Regarding the recruitment of observers for procurement as required by the action plan, ADB will guide DGH based on its experience of Sustainable Capacity Building for Decentralization Project.<sup>17</sup> The attached action plan matrix (Appendix 17) summarizes the agreement reached between ADB and DGH.

56. ADB's anticorruption policy was explained to the Government. The policy, together with other ADB safeguard policies, will be included in the training provided to DGH, the PMU, and implementing agency staff. The Government is committed to creating and sustaining a corruption-free environment, and has agreed to abide by the relevant provisions of ADB's anticorruption policy during project implementation. A new anticorruption law gives the Government strengthened legal powers of investigation and enforcement in cases of corruption. Finally, provisions will be included in all contracts to specify the right of ADB to audit the accounts of contractors, suppliers, and service providers as they relate to the Project.

<sup>16</sup> ADB. 2002. *Technical Assistance to the Republic of Indonesia for Strengthening the Capacity of the Ministry of Settlements and Regional Infrastructure to Combat Fraud and Corruption*. Manila (TA 3842-INO).

<sup>17</sup> ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the Republic of Indonesia for the Sustainable Capacity Building for Decentralization Project*. Manila.

57. Following the experience of the RRSP, the procedures for submitting and approving work variation orders have been streamlined in consultation with the Government. Adoption of detailed design procedures instead of a simplified design procedure will help reduce the probability of fraud and corruption in procurement. The Government has agreed to improve transparency and accountability by keeping better records of the procurement process to ensure compliance with procedures.

58. Poor-quality work as a result of corruption is a major issue. Substantial emphasis was therefore placed on improving quality control by (i) strengthening construction supervision through specific additional powers and authority to reject defective works and by disapproving related payment requests, (ii) conducting independent technical audits through the core team of consultants, (iii) training all professional construction supervision staff in quality control aspects before their mobilization, and (iv) promoting awareness of quality control at all times during implementation.

#### **IV. PROJECT BENEFITS, IMPACTS, ASSUMPTIONS, AND RISKS**

##### **A. Economic Benefits**

59. The main benefits will be from motorized vehicle through vehicle operating cost savings resulting from reduced road roughness and better vehicle running conditions. Road roughness affects vehicle speeds and consumption of fuel, oil, and tires. On selected routes, people who currently travel by river would benefit from the improved roads. The cost difference reflects the diverted traffic benefits and has been included in the economic analysis.

60. The Project will generate nonquantifiable economic and social benefits. Better roads will likely attract additional economic activity and traffic, thus generating benefits to a wider circle of beneficiaries. The incomes and well-being of people living near the roads will rise as a result of better access to social services, markets, and jobs, especially in agriculture, the main source of livelihood.

61. The methodology, assumptions, and results of the economic evaluation are summarized in Appendix 18. The Project's overall economic internal rate of return (EIRR) was estimated at 25.2%. The average EIRR for subproject links in Sumatra (32.4%) is higher than that in Kalimantan (13.4%) because of higher levels of traffic in Sumatra. However, nonquantifiable benefits are substantial in Kalimantan.

62. The EIRRs of road links in Sumatra range from 10.3% to 50.2%. The road link in West Sumatra with the lowest estimated EIRR was still economically and socially justified since it (i) would provide a better access to health care facilities, schools, and markets; and (ii) could help promote the region's industries related to palm oil, thus generating local benefits.

63. The EIRRs of road links in Kalimantan range from 10.4% to 23.6%. The three road links in West, Central, and East Kalimantan, with an EIRR of about 10%, were still economically and socially justified as (i) providing vital connections to health care facilities, schools, and markets; (ii) being part of the Government's broader strategies for developing strategic corridors to link key population centers to facilitate trade; and (iii) being of strategic importance as part of the cross-border ASEAN Highway connecting East Kalimantan and Sabah in Malaysia.



## **B. Social Dimensions and Poverty Reduction Impacts**

### **1. Poverty Reduction**

64. The Project's poverty reduction impacts are distinctly different in Sumatra and Kalimantan. The Sumatra network carries goods and people over long distances between Sumatra and Java, as well as interregional traffic, and, to a lesser extent, local traffic. The road also facilitates movements of goods between Indonesia, Malaysia, and Singapore. Much of the traffic flow is agricultural commodities for export coming from poor areas. The national road network also delivers processed goods from urban to rural markets in poor areas. In Sumatra, the road network is well established and the Project is intended to prevent further deterioration and loss of access.

65. In Kalimantan, where the road network is still limited and where trade is largely conducted along riverways, upgrading the national road system will promote interregional linkages, and provide an alternate mode of transportation for poor and remote communities. A shift from river- to road-based transport will reduce costs, promotes year-round access, and increases the potential for small- and medium-scale entrepreneurs to make use of the area's natural resources. Improved road access will facilitate government administration and social service delivery.

66. Construction will create temporary jobs, and routine maintenance will employ unskilled and semiskilled workers. Women will be encouraged to work and be treated equitably. A summary poverty reduction and social analysis is in Appendix 19.

### **2. Safety, Health, and Gender Concerns**

67. The Project will have few adverse social impacts. ADB and the Government have agreed that the Project should have an HIV/AIDS<sup>18</sup> prevention initiative targeting construction workers and the people they interact with, specifically addressing the disproportionate impact of HIV/AIDS on women, who are more vulnerable than men. The Project will involve about 30,000 people, mostly young men from Java, coming to live in base camps along the approximately 1,300 km project corridors. Because of extraordinarily low levels of condom use among Indonesian men, the risk of spreading HIV/AIDS and other sexually transmitted diseases (STDs) to workers and into local communities is high. The Government is undertaking HIV/AIDS awareness campaigns through programs targeting groups at risk. To mitigate these risks, construction contracts will require contractors to allow their workers to attend education sessions where materials such as condoms and awareness brochures will be distributed. An HIV/AIDS prevention initiative through a TA independent of this loan is under processing, including two relevant components: (i) information and education campaigns to prevent HIV/AIDS and STDs for workers and communities surrounding the project base camps, and (ii) capacity building of local HIV/AIDS civil-society institutions. The TA will work with other initiatives such as those financed by the United States Agency for International Development (USAID) and the Australian Agency for International Development (AusAID), focusing on sex workers and preventing human trafficking.

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<sup>18</sup> Human immunodeficiency virus/acquired immunodeficiency syndrome.

### **3. Involuntary Resettlement**

68. Project road alignments follow the existing centerline and remain within the existing rights-of-way. Pavement and shoulder widening will remain within the existing right-of-way in all cases. Surveys determined that the Project would not require land acquisition or resettlement or harm adjacent property, or religious, cultural, or historical sites. However, in the unlikely event that minor land acquisition might be necessary following detailed design, DGH has prepared the Compensation Policy Framework and Procedure Guidelines (CPFPG) to codify procedures for verifying road works impacts, deciding compensation eligibility and entitlements, undertaking and monitoring resettlement and compensation, and providing redress for complaints or grievances. In case of discrepancies between the Government's laws, regulations and procedures, and ADB's requirements, or if there is an omission in CPFPG or a discrepancy with the ADB's requirements, then DGH and ADB will agree upon a resolution.

### **4. Indigenous Peoples' Policy**

69. Some roads in Kalimantan will cross areas inhabited by indigenous peoples, who should not be affected as project road alignments remain within existing rights-of-way. If minimal and scattered impacts arise from detail design modifications and if, after review, ADB decides to proceed with the planned improvement activities, project-affected indigenous peoples will be compensated under the CPFPG. No systemic socioeconomic or cultural impact on indigenous peoples that would trigger the preparation of indigenous peoples development plans is foreseen. Consultations with indigenous peoples indicate that they do not consider the expected rise in economic activity or traffic an issue of conflict or competition that would require mitigation.

## **C. Environmental Impacts and Mitigation Measures**

70. The Project is classified under environmental category B (sensitive). Initial environmental examinations (IEEs), public consultations, and summary IEE reports have been prepared in accordance with ADB's environment policy and *Environmental Assessment Guidelines* (2003). The IEEs indicate no major adverse environmental impacts. The Project involves rehabilitating existing roads on existing alignments and within existing rights-of-way, with no additional land acquisition. The summary IEE was posted on ADB's website in June 2004. Potential adverse impacts are minor, localized, and temporary, and will receive mitigation and monitoring under the Project.

71. ADB shares the Government's concern regarding illegal logging. During the feasibility study, impacts of road rehabilitation on protected areas and on forests were analyzed. For protected areas, the analysis concluded that buffer zones were sufficient to protect rare habitats and that adequate management controls were in place. The study concluded that there would be no significant adverse impacts on protected areas, specifically the Rimbo Panti nature reserve in West Sumatra.

72. As there are no productive forest and commercial logging operations in the project areas, two scenarios for illegal logging are possible: (i) local, small-scale felling and utilization of timber, to build houses, with no significant adverse environmental impacts; and (ii) local exploitation of timber for small-scale commercial purposes, possibly in West Kalimantan.

73. Based on the field observations as well as discussions with local forest management authorities and legal loggers, the Project was determined to have little or no impact on the scale

or intensity of illegal logging. Rather, the rehabilitation of road links will make forest patrol easier and more efficient, improving control over illegal activities.

74. The Project's environmental mitigation measures may include (i) slope stabilization and protection to reduce the risk of failure and to protect watercourses; (ii) protection from landslides by retaining structures; (iii) proper drainage,<sup>19</sup> with cross-falls in each pavement layer and cross- and side-drains designed to cope with expected flows; (iv) preservation of protected areas through road signs, roadside warnings, and protective fencing; (v) incorporating safety features in engineering designs; (vi) protecting communities from project activities through close consultation with community leaders and those affected, providing advance notice of construction schedules, and adopting a code of conduct for worker behavior; and (vii) recycling construction materials, e.g., by using reclaimed asphalt in cold mixes or aggregates in surface material. In addition to cost savings, positive environmental impacts will be reduced need for quarrying, reduced dumping of waste, and reduced impact on air quality.

#### D. Project Risks

75. The main risks to the Project and the measures taken to minimize them are presented in Table 3.

**Table 3: Perceived Risks and Mitigation Measures**

<b>Project Risk</b>	<b>Measures Taken to Minimize Risk</b>
Government fails to provide counterpart funds	Related covenant
Bid costs are higher than estimates	The preliminary designs for first-year program to be reviewed during detailed design before contract bidding
DGH fails to maintain the project roads once rehabilitated	Consultants will be appointed to help strengthen maintenance planning, funding, and implementation.
Risk of spread of STDs and HIV/AIDS	The Government will assure availability of adequate funds. Contractors will be required to adopt strict controls over workers' conduct. Workers will be required to attend awareness campaigns. A TA will be prepared to address the issue.
Environmental damage during or after construction	Contractors will be required to adopt environmental protection and comply with mitigation measures.
Project is not implemented in the projected 54 months	Consultant services and civil works contracts are procured in advance. Close monitoring and accountability measures included
Corruption in project implementation, particularly in procurement	Implementation arrangements designed in compliance with the action plan for controlling fraud and corruption (para. 55)
Corruption in road management, particularly in enforcing regulations on truck overloading	Outsourcing of responsibility for weighing stations complemented with independently generated weight data to compare performance of weight stations
Truck overloading	More efficient weighing stations, and bridge designs incorporating bridge height clearance structures to discourage passage of oversized vehicles more likely to violate pavement load limits

AIDS = acquired immunodeficiency syndrome, DGH = Directorate General of Highway, HIV = human immunodeficiency virus, STD = sexually transmitted disease, TA = technical assistance.  
Source: Asian Development Bank.

<sup>19</sup> The importance of drainage was emphasized by community representatives in public consultations.

## V. ASSURANCES

76. In addition to the standard assurances, DGH and the Government have given the following assurances, which are incorporated in the legal documents:

- (i) The Government will ensure that implementation arrangements of the Project, the provision of funds from loan proceeds, and the corresponding counterpart government contributions necessary for financing project activities are provided in a timely fashion throughout project implementation, including required expenditures for operation and management of weighbridges, in the manner agreed with ADB.
- (ii) The Government and DGH will ensure that the fiduciary control, fraud, and anticorruption action plan is fully implemented as agreed.
- (iii) The Government, through DGH, will establish baseline values at least 2 months prior to commencement of civil works in project provinces, for performance and benefit monitoring purposes, as to be agreed with ADB, and monitoring indicators will be measured each year and for 3 years after project completion.
- (iv) The Government will submit quarterly project progress reports and progress reports to ADB periodically on the revised PSAP and consult with ADB on further road sector policy measures, if and when available.
- (v) The Government will keep ADB informed of all transport sector and road subsector studies undertaken in Indonesia and will provide ADB with copies of all available documents relevant to such studies, including consultants' reports, and will ensure that ADB has the opportunity to comment on the recommendations contained therein.
- (vi) The Government will assure ADB of availability of funding for regular maintenance and implementation, as required, of the national roads rehabilitated under the Project. Furthermore, DGH will ensure that annual road maintenance plans are prepared for the improved roads on the basis of the agreed-upon maintenance standards, traffic volumes, and assessment of needs.
- (vii) DGH will ensure that road safety measures identified as needed during project preparation—including guardrails, road markings, and warning signs—and staff training in road safety and traffic engineering are incorporated in final designs for project-funded civil works and are implemented in accordance with designs.
- (viii) The Government will ensure that all Project activities will comply with Government laws and regulations governing environmental and social impact assessment, ADB's *Environment Policy* (2002) and all actions identified on SIEE and IEE will be implemented. The contract documents for all civil works under the Project will include specific measures as indicated in the SIEE and IEEs to mitigate negative environmental impacts caused by Project activities. Adequate environmental management plan and environmental monitoring plan will be implemented. The contractors engaged under the civil works contracts will be required to comply strictly with all environmental impact mitigation requirements to be set out in the contract documents, and the consultants engaged for construction supervision to monitor closely the compliance by the contractors with the environmental impact mitigation requirements. Semi-annual reports on implementation of the Environmental Monitoring Program as stated in the IEEs will be submitted to ADB.
- (ix) For project roads that pass through Rimbo Panti nature reserve, the Government will ensure that a monitoring program is in place and mitigation measures be implemented as per the bidding documents.

- (x) The Government will ensure that the civil works contractors comply with all applicable laws related to gender, labor, and workers' safety, including ensuring that women are given equal pay for work that is equal to men.
- (xi) DGH will ensure that civil works contracts will include appropriate clauses requiring contractors to allow their workers to attend planned campaigns on STDs and HIV/AIDS during construction and will maintain adequate sanitation and working conditions.
- (xii) DGH will ensure that adequate drainage of project roadways is provided by appropriate design and implementation of cross-falls, shoulder grading, cross-drains, culverts, and side-ditches.
- (xiii) In the event land acquisition or resettlement is needed, the Government will ensure that a Resettlement Plan will be prepared for approval by ADB. The Government will ensure that all land acquisition and resettlement activities will be completed prior to the award of a civil works contract. All land acquisition and resettlement activities will be carried out in accordance with the Compensation Policy Framework and Procedural Guidelines (CPFPG) developed by DGH, the Government's laws, regulations, and procedures, and ADB's requirements as defined in ADB's Policy on Involuntary Resettlement. In case of discrepancies between the Government's laws, regulations, and procedures, and ADB's requirements, DGH and ADB will agree upon a mutually acceptable resolution.
- (xiv) The Government will ensure that, to the extent that any indigenous peoples are likely to be affected under the Project, the measures set forth in the CPFPG, the Government's laws, regulations, and procedures, and ADB's requirements as defined in ADB's *Policy on Indigenous Peoples* shall apply. In case of discrepancies between the Government's laws, regulations, and procedures, and ADB's requirements, or to the extent there is an omission in CPFPG or a discrepancy with the ADB's requirements, then DGH and ADB will agree upon a mutually acceptable resolution.

## VI. RECOMMENDATION

77. I am satisfied that the proposed loan would comply with the Articles of Agreement of Asian Development Bank (ADB) and recommend that the Board approve the loan of \$151 million to the Republic of Indonesia for the Road Rehabilitation-2 Project from ADB's ordinary capital resources with interest to be determined in accordance with ADB's LIBOR-based lending facility; a term of 25 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreement presented to the Board.

Haruhiko Kuroda  
President

19 August 2005

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<b>Impact</b> Fostered economic growth and improved living conditions in poor areas of Sumatra and Kalimantan	Provincial gross domestic product increase at national rate  Selected household incomes increase	Provincial socioeconomic statistics  Structured interview surveys of 10 representative communities	<b>Assumption</b> <ul style="list-style-type: none"> <li>Overall economic growth for Indonesia maintained</li> </ul> <b>Risk</b> <ul style="list-style-type: none"> <li>Inadequate financial resources for road funding</li> </ul>
<b>Outcome</b> 1. Improved vehicular access on strategic national/international roads in Sumatra and Kalimantan (including Asian and ASEAN Highways)  2. Reduction of road transport tariffs  3. Reduced premature breaking of roads  4. Improved road safety awareness  5. Improved governance in project implementation	5% annual increase in average daily traffic  Transport time savings on all project roads.  Decline in average one-way passenger fares and freight transport rates on 10 selected road trips.  Reduction in average truck axle loads of 20%  Safe road-use practices by vulnerable pedestrians.  Reduction of complaints and related delays	Periodic traffic counts and surveys   Periodic surveys  Measurement by both weighbridges and nearby weigh-in-motion (WIM) equipment  Structured interview surveys of 10 representative communities  Progress reports, project review missions, PCR, and post-evaluation reports	<b>Assumptions</b> <ul style="list-style-type: none"> <li>Central government commitment to implement new road policies</li> <li>Appropriateness of road sector responsibilities at central and subnational level</li> <li>Competitive road transport services industry</li> </ul> <b>Risk</b> <ul style="list-style-type: none"> <li>Irregular operation of facilities</li> </ul> <b>Assumptions</b> <ul style="list-style-type: none"> <li>Commitment of DGLC to awareness campaigns</li> <li>Fiduciary Control, Fraud, and Anti-corruption Action Plan sufficient to bring improvements</li> </ul>
<b>Outputs</b> 1. Civil Works Reconstruction of 431 kilometers (km) of road; resurfacing and widening of 861 km; replacement or widening of 40 bridges  2. Road Sector Policies 2.1 a. Controls over truck overloading strengthened b. Equipment provided to enforce vehicle axle-weight limits	Pavement roughness index lowered to less than 5 m/km   One weighbridge in Sumatra and three in Kalimantan installed and operating effectively under private-sector management	Direct measurement, progress reports, PCR, and post-evaluation reports   Progress reports, project review missions, PCR and post evaluation report	<b>Assumption</b> <ul style="list-style-type: none"> <li>Good quality contractor performance</li> </ul> <b>Risk</b> <ul style="list-style-type: none"> <li>Insufficient funds for routine maintenance</li> </ul> <b>Assumptions</b> <ul style="list-style-type: none"> <li>Effective private-sector management in collaboration with the governmental agencies</li> </ul>

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
2.2 Affected communities aware of road safety issues	Community leaders actively involved and informed  Changes in road-related behavior	Surveys conducted, progress and task completion reports, project review missions and PCR	<ul style="list-style-type: none"> <li>Targeted communities apply the road safety principles, especially for vulnerable groups.</li> </ul>
2.3 New approach in road maintenance developed	Diagnostic assessment of the road agencies  Existing means and methods of road maintenance programs and procedure reviewed  New road maintenance and management procedures developed, and implemented	Consultant progress and task completion reports, project review missions, and PCR	<ul style="list-style-type: none"> <li>Directorate General of Highway is willing to apply new approach in road maintenance.</li> </ul>
3. Capacity Building and Training			
3.1 Strengthened project management and engineering support practices	400 staff of P3JJs trained in the provinces	Consultant progress and task completion reports, project review missions, and PCR	<ul style="list-style-type: none"> <li>Diagnosis, methods, procedures, and training efficiently applied in working practices</li> </ul>
3.2 Strengthened environmental and social impact management	300 staff of the environmental and forest departments trained	Progress report and task completion reports, project review missions, and PCR	<ul style="list-style-type: none"> <li>Training applied in road design</li> </ul>
<b>Activities with Milestones</b> <ol style="list-style-type: none"> <li>Recruit international and domestic consultants by December 2005</li> <li>Review designs and contract packages for first year links by August 2005</li> <li>Award first year rehabilitation contracts by February 2006</li> <li>Rehabilitate selected road sections and bridges by March 2010</li> <li>Implement improved procedures for controlling overloaded trucks by June 2008</li> <li>Implement road safety awareness campaign by December 2007</li> <li>Implement strengthened road maintenance management by June 2008</li> <li>Implement strengthened environmental and social impact management by June 2008</li> </ol>			<b>Inputs</b> <ol style="list-style-type: none"> <li>Civil works and supervision consulting services for \$65.1 million foreign currency costs and \$62.5 million local currency costs (total \$127.6 million) funded by ADB</li> <li>Consulting services for \$3.9 million for road sector policies</li> <li>Consulting services for \$0.6 million for capacity building and training</li> <li>Government funding of civil works local costs of \$37.8 million</li> <li>Government counterpart staff and resources for local consulting services</li> </ol>

ADB = Asian Development Bank, ASEAN = Association of Southeast Asian Nations, DGLC = Directorate General of Land Communications, m = meter, PCR = project completion report, P3JJ = road and bridge planning and management unit, the provincial level representative of Directorate General of Highway.

## PUBLIC ROAD NETWORK

Of the classified roads, 27,668 km (8.5%) are national roads, 51,638 km (15.9%) provincial roads and 244,844 km (75.5%) district (*kabupaten*) and municipal (*kota*) roads. The network has grown since the mid-1980s, when it was only 135,000 km, largely due to an increase in the size of the district and municipal road networks. Some district roads have also been upgraded to provincial or national status and unclassified roads brought into the network. Apart from this administrative classification, a functional classification distinguishes between primary and secondary roads. All national and provincial roads are part of the primary network and are functionally classified as arterial or collector roads.

**Table A2: Length of Public Roads, by Region<sup>a</sup>**  
(kilometers)

Region	National <sup>b</sup>	Provincial <sup>c</sup>	District <sup>d</sup>	Municipal <sup>d</sup>	Total	Percent	Village <sup>e</sup>
Sumatra	8,208.0	18,189.0	75,470.0	7,106.0	108,973.0	33.6	52,169.0
Java	4,561.0	9,179.0	60,445.0	9,714.0	83,899.0	25.8	68,207.0
Kalimantan	5,182.0	6,202.0	20,560.0	1,307.0	33,251.0	10.3	45,786.0
Bali/Nusa Tenggara	2,213.0	5,767.0	20,507.0	1,020.0	29,507.0	9.1	54,304.0
Sulawesi	5,336.0	7,887.0	32,028.0	2,019.0	47,270.0	14.6	17,969.0
Maluku/Papua	2,168.0	4,414.0	14,308.0	360.0	21,250.0	6.6	5,391.0
<b>Total</b>	<b>27,668.0</b>	<b>51,638.0</b>	<b>223,318.0</b>	<b>21,526.0</b>	<b>324,150.0</b>	<b>100.0</b>	<b>243,826.0</b>
Percent	<b>8.5</b>	<b>15.9</b>	<b>68.9</b>	<b>6.6</b>	<b>100.0</b>		

BPS = Central Bureau of Statistics, DGH = Directorate General of Highway, IIRMS = Indonesian integrated road management system, IRMS = inter-urban road management system, km = kilometer.

<sup>a</sup> Excluding tollroads. 2002 except where stated.

<sup>b</sup> 2002 data from IRMS; excludes tollroads.

<sup>c</sup> 2002 data from IRMS; includes 597 kilometers (km) of district/municipal and 30 km of unclassified road in IRMS database to be reclassified as provincial roads.

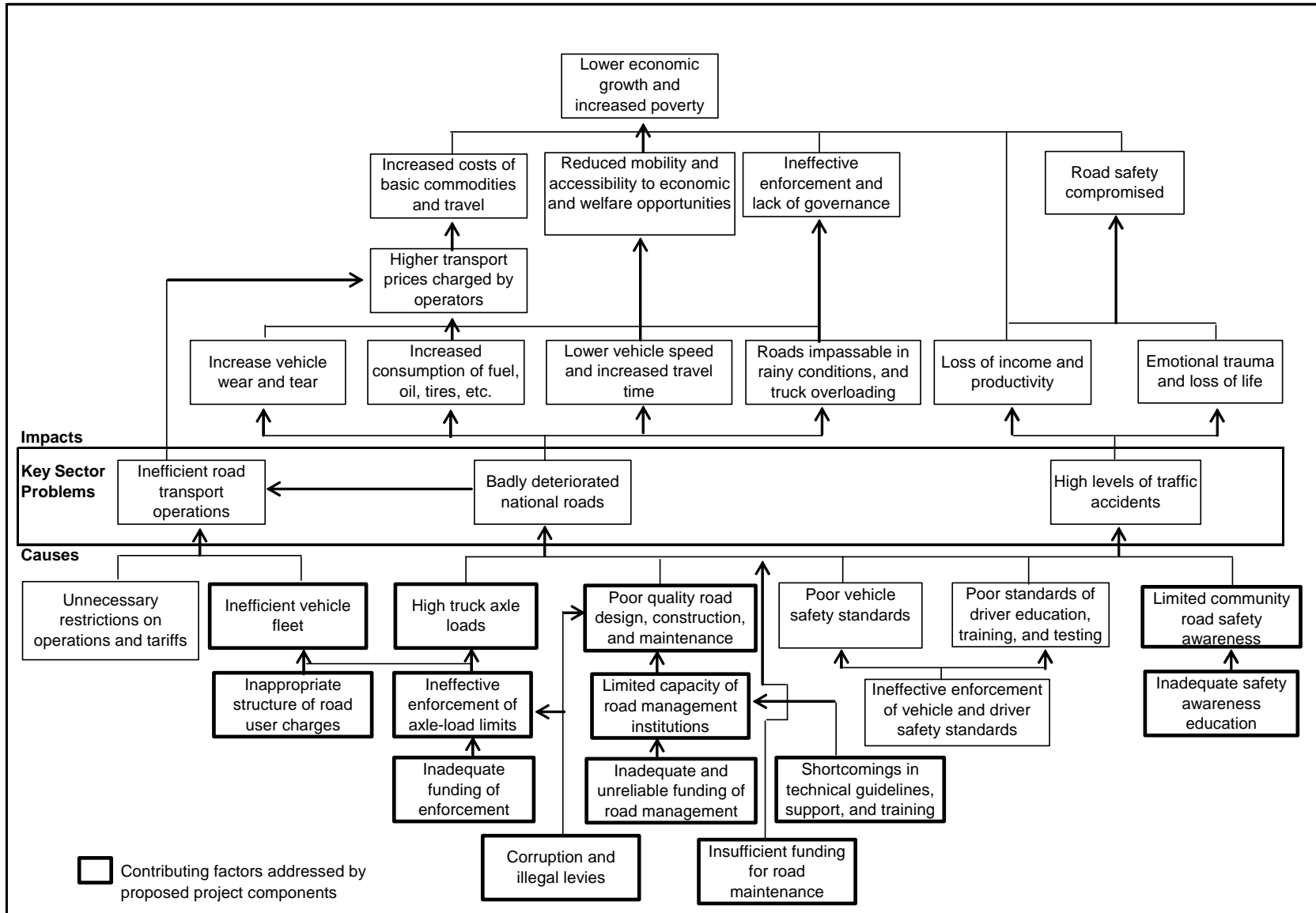
<sup>d</sup> 2000 data from DGH.

<sup>e</sup> Approximate length of village/desa roads outside IIRMS.

Source: Directorate General of Highway, inter-urban road management system, and Central Bureau of Statistics.



## SECTOR ANALYSIS FRAMEWORK



## EXTERNAL ASSISTANCE TO THE ROADS SECTOR

Table A4.1: Asian Development Bank Loans

No.	Project	Approved Amount (\$ million)	Approval Date	Completion Date	PCR Date and Rating	PPAR Date and Rating
<b>A.</b>	<b>Loans</b>					
261	Road Improvement Project	20.00	Apr 76	Jul 83	Jun 84 No rating	Mar 85 Gen. Successful
277	Second Road Improvement Project	48.21	Oct 76	Apr 87	Sep 87 No rating	Sep 88 Gen. Successful
347	Third Road Project	34.00	Jul 78	Dec 83	Aug 84 No rating	Mar 85 Gen. Successful
429	Fourth Road Project	27.00	Nov 79	Oct 86	Jun 87 No rating	Sep 88 Gen. Successful
484	Fifth Road Project	28.00	Nov 80	Dec 88	Jun 89 No rating	Sep 90 Gen. Successful
575	Sixth Road Project	60.00	Jun 82	Dec 88	May 90 No rating	
692	Seventh Road (Sector) Project	95.00	Sep 84	Dec 91	Nov 92 No rating	Jun 96 Gen. Successful
741	Eighth Road Project	120.00	Sep 85	Jun 92	Nov 93 No rating	
863	Ninth Road (Maintenance) Project	150.00	Nov 87	Dec 93	Jun 94 No rating	Dec 97 Gen. Successful
966	10th Road (Sector) Project	120.00	Aug 89	Jun 94	Dec 95 Gen. Successful	
1115	11th Road (Sector) Project	150.00	Nov 91	Jun 97	Dec 98 Gen. Successful	Apr 02 Successful
1232	Third Local Roads Project	200.00	May 93	Mar 98	Sep 00 Partly Successful	Dec 02 Successful
1335	Eastern Islands Roads (Sector) Project	180.00	Nov 94	Jul 03	Aug 02 <sup>a</sup> Successful	
1428	North Java Road Improvement Project	150.00	Jan 96	Dec 02	Sep-04 Partly Successful	
1798	Road Rehabilitation (Sector) Project	190.00	Dec 00	Ongoing		
	<b>Total</b>	<b>1,572.21</b>				
<b>B.</b>	<b>TA Loans</b>					
725	Subproject 1: Road Improvement Project	2.48	Nov 85	Sep 89		
725	Subproject 2: Cikampek-Padalarang Highway	Canceled	Oct 87			
	<b>Total</b>	<b>2.48</b>				

Gen = generally, PCR = project completion report, PPAR = project performance audit report, TA = technical assistance.

<sup>a</sup> PCR was prepared after the loan was physically completed (March 2001) without waiting for loan closing.

Source: Asian Development Bank.

**Table A4.2: Asian Development Bank Technical Assistance**

No.	Project	Amount (\$'000)	Approval Date
105	Feasibility Study for Improvement of Surabaya-Malang Road and Related Collector Roads	310	5 Feb 74
129	Java Road Improvement Study	270	17 Oct 74
316	Rural Roads Development	150	29 Nov 79
426	Sixth Road Sector	50	27 Oct 81
467	Arterial, Collector, and Rural Roads Development	150	29 Jun 82
583	Seventh Road Sector	36	30 Jan 84
839	Preparation of Road Maintenance (Sector) Project	75	5 Jan 87
921	Local Roads Improvement	150	24 Nov 87
1193	North Java Transport Corridor Study	250	10 Aug 89
1194	Environmental Management of Road Projects	220	10 Aug 89
2209	Land Acquisition and Resettlement Program for the Proposed North Java Road Improvement	100	24 Nov 94
2268	Capacity Building for Resettlement Management in Road Projects	265	27 Dec 94
2527	Private Sector Participation in the Transport Sector	900	23 Jan 96
2762	Highway Toll Study	100	17 Feb 97
3334	Road Rehabilitation (Sector)	400	10 Dec 99
3989	Second Road Rehabilitation	900	15 Nov 02
<b>Total</b>		<b>4,326</b>	

Source: Asian Development Bank.

**Table A4.3: World Bank's Transport Sector Portfolio in Indonesia**

No.	Project Name	Subsector	Loan/Credit Amount	Status (\$ million)	Approval Date
1.	Third Kabupaten Roads Development Project	Highways	215	Closed	Jun 92
2.	Eastern Indonesia Kabupaten Roads Project	Highways	155	Closed	Mar 93
3.	Second Highway Sector Investment Project	Highways	350	Closed	Mar 94
4.	Fifth Kabupaten Roads Project	Highways	102	Closed	May 94
5.	Village Infrastructure Project for Java	Highways <sup>a</sup>	73	Closed	May 95
6.	Strategic Urban Roads Infrastructure Project	Highways	87	Closed	Jun 96
7.	Second Village Infrastructure Project	Highways <sup>a</sup>	140	Closed	Oct 96
<b>7 Closed Projects</b>		<b>Subtotal</b>	<b>1,121</b>	<b>54%</b>	
8.	Railway Efficiency Project	Railways	105	Active	Nov 96
9.	Sumatra Regional Roads	Highways	234	Active	Mar 98
10.	Eastern Indonesia Region Transport Project	Highways	200	Active	Dec 01
11.	Second Eastern Indonesia Region Transport Project	Highways	200	Active	Jun 04
12.	Strategic Roads Infrastructure Project	Highways	200	Active	May 05
<b>5 Active Projects</b>		<b>Subtotal</b>	<b>939</b>	<b>46%</b>	
<b>Total for 12 Transport Projects</b>			<b>2,060</b>		

<sup>a</sup> Mostly highways. Includes other sectors.

Source: World Bank.

# PROPOSED REHABILITATION WORKS AND CONTRACT PACKAGES

Table A5.1: Sumatra Road Links

Province	Link No. and Name		Pavement		Width m	Proposed Road Rehabilitation Treatments											Effective Length Km	Est. Cost (2005 prices) Rp mil equiv.		
			Existing	Proposed		Civil Work Packages Packages Package No. Bridges	New/Reconstruction		Widening + Reconstruction		Widening + Resurfacing		Resurfacing		Shoulder Improvement					
							Km	Width	Km	Width	Km	Width	Km	Width						
North Sumatera	019-1	Padangsidempuan-Bts Tapanuli	AC	AC-WC	4.7–6.0	SU 01 <sup>a</sup>		1.5	6.0			35.4	6.0		73.7	1.5	36.9	56,714.0	6,445	
	057-1	Sp Kawat-Bts L Batu	AC	AC-WC	6.0–6.2	SU 02 <sup>a</sup>	7	0.2	7.0			45.1	7.0	0.8	10.0	92.0	1.5	46.0	51,431.1	5,844
	057-2	Bts L Batu-Rantau Prapat	AC	AC-WC	6.0–6.4	SU 03 <sup>a</sup>	8	0.3	7.0	0.3	7.0	49.5	7.0		100.0	1.5	50.0	72,433.2	8,231	
	058	Rantau Prapat-Aek Nabara	AC	AC-WC	6.0–6.5	SU 04 <sup>a</sup>	4			0.8	7.0	38.4	7.0	0.3	7.0	79.0	1.5	39.5	52,904.8	6,012
West Sumatera	029	Bukittinggi-Lubuksikaping	AC	AC-WC		SB 02						64.0	6.0	104.0	1.5	64.0		65,415.0	7,434	
	030	Lubuksikaping-Panti	AC	AC-WC		SB 03						25.3	6.0	50.6	1.5	25.3		27,958.3	3,177	
	032	Panti-Bts Sumut	AC	AC-WC		SB 03						35.8	6.0	71.6	1.5	35.8		41,986.1	4,771	
	051	Kiliranjau-Sei Dareh	AC	AC-WC	6.0	SB 01 <sup>a</sup>		6.0	6.0			15.0	6.0	42.0	1.5	21.0		22,665.3	2,576	
	052	Sei Dareh-Junction	AC	AC-WC	6.0	SB 01 <sup>a</sup>		3.0	6.0			20.0	6.0	46.0	1.5	23.0		25,240.9	2,868	
Riau	019-1	Sp Batang-Sp Balam	AC	AC-WC	5.0–6.0	RI 01 <sup>a</sup>		6.0	7.0			45.0	7.0	3.3	7.0	108.3	2.0	54.3	87,014.3	9,888
	019-2	Bagan Batu-Sp Balam	AC	AC-WC	5.0–6.0	RI 02 <sup>a</sup>						9.3	7.0	18.2	7.0	55.1	2.0	27.5	39,425.9	4,480
Jambi	011-1	Muaratembesi-Bts Sarko	AC-WC	AC-WC	5.5–6.0	JM 01		13.5	6.0					26.0	1.5	13.5		17,711.0	2,013	
	011-2,3	Bts Sarko-Sorolangun	AC-WC	AC-WC	5.5–6.0	JM 01		24.6	6.0					49.2	1.5	24.6		34,705.3	3,944	
South Sumatera	010	Terawas-Lubuk Linggau	AC	AC-WC	7.0–15.0	SS 01 <sup>a</sup>						27.2	7.0 - 16.0	54.4	2.0	27.2		30,995.1	3,522	
	011	Muara Enim-Sugin Waras	AC	AC-WC	6.0–6.5	SS 02 <sup>a</sup>		5.4	6.0			46.2	6.0 - 10.0	103.1	1.5	51.6		55,424.6	6,298	
	013	Baturaja-Martapura	AC	AC-WC	6.0	SS 03						30.0	6.0	60.0	1.5	30.0		30,111.9	3,422	
	014	Martapura-Bts Lampung	AC	AC-WC	6.0	SS 03						8.0	6.0	16.0	1.5	8.0		8,117.8	922	
Lampung	002-1	Gunung Sugih-Tegineneng	AC	AC-WC	7.0	LP 01 <sup>a</sup>						25.0	7.0	49.9	1.0	25.0		18,065.9	2,053	
	003	Gunung Sugih-Terbanggi	AC	AC-WC	7.0	LP 01 <sup>a</sup>						12.4	7.0	19.7	1.0	12.4		12,053.4	1,370	
	004	Terbanggi-Kotabumi	AC	AC-WC	7.0–8.0	LP 02						38.2	7.0	76.4	2.0	38.2		27,901.9	3,171	
Total (Sumatra)							19	60.3		1.1	222.7	369.6	1,277.3		653.7		778,275.7	88,440		

AC = asphaltic concrete, Bts = border of, km = kilometer, m = meter, no. = number, Sp = Simpang; WC = wearing course.

Effective length = length of rehabilitation works.

Notes: All cost estimates include VAT, customs, and duties.

Procurement method for all civil work packages is international competitive bidding.

<sup>a</sup> Fifteen (15) packages tentatively included in the first year's implementation program, out of the total 26 packages.

Source: Directorate General of Highway estimates.

**Table A5.2: Kalimantan Road Links**

Province	Link No. and Name		Pavement		Width m	Proposed Road Rehabilitation Treatments													Effective Length Km	Est. Cost (2005 prices)	
			Existing	Proposed		Civil Work Packages		New/Reconstruction		Widening +		Widening +		Resurfacing		Shoulder		Rp mil		\$'000 equiv.	
						Packages	Km	Width	Reconstruction	Resurfacing	Km	Width	Km	Width							
															Package No.	Bridges	Km				Width
West Kalimantan	079-1	Tayan-Teraju	SCB/S	HRS-WC	4.7-5.0	BU 01 <sup>a</sup>		8.5	4.5					20.8	4.5	58.5	1.0	29.3	11,572.3	1,315	
	079-2	Teraju-Balaiberkuak	SCB/G/S	Sand Sheet		BU 01 <sup>a</sup>	4	50.8	4.5							50.7	1.0	50.8	39,121.8	4,446	
	079-3	Balaiberkuak-Aur Kuning	G/S	Sand Sheet		BU 02	3	79.0	4.5							158.0	1.0	79.0	41,416.0	4,706	
Central Kalimantan	010-2	Km 65 - Sampit	HRS	HRS-WC	4.5	BV 01 <sup>a</sup>		11.7								23.5	1.0	11.7	15,353.3	1,745	
	024-1	Runtu-Sp Runtu	HRS	HRS-WC	4.5	BV 02 <sup>a</sup>		9.0	4.5				12.4	4.5	42.8	1.0	21.4	15,974.6	1,815		
	024-2	Kujan-Runtu	HRS/Soil	HRS-WC	4.5	BV 02 <sup>a</sup>	7	34.8	4.5				7.5	4.5	68.6	1.0	42.3	69,412.6	7,888		
	024-3	Penopa-Kujan	Soil	HRS-WC	8.0	BV 03		60.4							89.4	1.0	60.4	96,881.0	11,009		
	024-4	Kudangan-Penopa	Soil	HRS-WC	8.0	BV 04	2	44.5	4.5						89.0	1.0	44.5	74,362.4	8,450		
South Kalimantan	035	Sebamban-Pagatan	HRS	HRS-WC	4.6-5.5	BX 02 <sup>a</sup>	1			3.8	6.0	15.4	6.0	13.8	6.0	65.5	1.5	33.0	22,843.5	2,596	
	036	Pagatan-Batulicin	HRS	HRS-WC	4.6-7.0	BX 02 <sup>a</sup>				7.4	6.0	14.2	6.0	2.5	6.0	48.3	1.5	24.1	18,887.4	2,146	
	039	Kintab-Sebambang	HRS	HRS-WC	4.5-7.0	BX 01 <sup>a</sup>	4			5.8	6.0	56.5	6.0	7.1	6.0	138.7	1.5	69.5	43,738.7	4,970	
	047-1	Seikupang-Magalau	HRS	HRS-WC	4.5-5.5	BX 03								50.0	4.5	100.0	1.0	50.0	28,015.0	3,184	
	047-2	Magalau-Bts Kaltim	HRS	HRS-WC	4.5-5.5	BX 04								50.0	4.5	100.0	1.0	50.0	30,441.4	3,459	
East Kalimantan	026-4	Sp Batu Ampar-Sp Batu Perdau	AC/SCB	AC-WC	5.0-7.5	BW 01		72.5	4.5							145.0	1.0	72.5	168,902.4	19,193	
Total (Kalimantan)							21	371.1		17.0		86.2		164.2		1,177.8		638.4	676,922.3	76,923	

Bts = border of; G = gravel, HRS = hot-rolled sheet, km = kilometer, m = meter, no. = number, S = soil/earth, SCB = soil cement base, Sp = Simpang; WC = wearing course.

Effective length = length of rehabilitation works.

Notes: All cost estimates include VAT, customs, and duties.

Procurement method for all civil work packages is international competitive bidding.

<sup>a</sup> Fifteen (15) packages tentatively included in the first year's implementation program, out of the total 26 packages.

Source: Directorate General of Highway estimates.

**Table A5.3: All Provinces Road Links**

Provinces	No. of Bridges	New Reconstruction Km	Widening + Reconstruction Km	Widening + Resurfacing Km	Resurfacing Km	Shoulder Improvement Km	Effective Length Km	Estimated Cost (2005 prices)	
								Rp million	\$'000
								equivalent	
Total (Sumatra)	19	60.3	1.1	222.7	369.6	1,277.3	653.7	778,275.7	88,440
Total (Kalimantan)	21	371.1	17.0	86.2	164.2	1,177.8	638.4	676,922.3	76,923
<b>Total (All Provinces)</b>	<b>40</b>	<b>431.4</b>	<b>18.1</b>	<b>308.8</b>	<b>533.8</b>	<b>2,455.1</b>	<b>1,292.1</b>	<b>1,455,198.1</b>	<b>165,363</b>

Km = kilometer

Source: Directorate General of Highway estimates.

# **COST ESTIMATES AND FINANCING PLAN** (\$'000)

Item	Cost Estimates			Financing Plan					
	Foreign Exchange	Local Currency	Total	Asian Development Bank			Government		
				Foreign Exchange	Local Currency	Total	Foreign Exchange	Local Currency	Total
<b>A. Base cost<sup>a</sup></b>									
1 Road and bridge rehabilitation									
a. Civil works <sup>b</sup>									
i. Road rehabilitation - Sumatra	36,631	49,560	86,191	36,631	28,714	65,345	0	20,846	20,846
ii. Road rehabilitation - Kalimantan	25,836	44,226	70,063	25,836	27,302	53,138	0	16,924	16,924
b. Consulting services									
i. Core team	1,466	1,734	3,200	1,466	1,734	3,200	0	0	0
ii. Field teams	1,198	4,701	5,899	1,198	4,701	5,899	0	0	0
2 Road sector policies									
a. Enforcing controls on truck overloading									
i. Consulting services	218	335	554	218	335	554	0	0	0
ii. Civil works	364	147	510	364	147	510	0	0	0
iii. Equipment	1,382	650	2,031	1,382	650	2,031	0	0	0
b. Road safety awareness campaign	0	204	204	0	204	204	0	0	0
c. Developing new approaches to road maintenance management	232	368	600	232	368	600	0	0	0
3 Capacity building and training									
a. Strengthening capabilities in environmental and social impact management	46	254	300	46	254	300	0	0	0
b.. Training in project management and engineering support practices	0	277	277	0	277	277	0	0	0
<b>Subtotal (A)</b>	<b>67,372</b>	<b>102,455</b>	<b>169,827</b>	<b>67,372</b>	<b>64,685</b>	<b>132,057</b>	<b>0</b>	<b>37,770</b>	<b>37,770</b>
<b>B. Contingencies</b>									
1 Physical <sup>c</sup>	0	6,793	6,793	0	500	500	0	6,293	6,293
2 Price <sup>d</sup>	0	3,653	3,653	0	1,000	1,000	0	2,653	2,653
<b>Subtotal (B)</b>	<b>0</b>	<b>10,446</b>	<b>10,446</b>	<b>0</b>	<b>1,500</b>	<b>1,500</b>	<b>0</b>	<b>8,946</b>	<b>8,946</b>
<b>C. Taxes<sup>e</sup></b>	<b>0</b>	<b>18,027</b>	<b>18,027</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18,027</b>	<b>18,027</b>
<b>D. Interest during construction<sup>f</sup></b>	<b>8,799</b>	<b>8,644</b>	<b>17,443</b>	<b>8,799</b>	<b>8,644</b>	<b>17,443</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>76,171</b>	<b>139,572</b>	<b>215,743</b>	<b>76,171</b>	<b>74,829</b>	<b>151,000</b>	<b>0</b>	<b>64,744</b>	<b>64,744</b>

<sup>a</sup> 2005 prices.

<sup>b</sup> Including bridge replacement costs.

<sup>c</sup> 6.6% of local currency base cost.

<sup>d</sup> Cost escalation factors applied.

<sup>e</sup> Including value-added tax, customs and duties.

<sup>f</sup> Including commitment charge.

Sources: Directorate General of Highway, Directorate General of Land Communications, National Development Planning Agency and Asian Development Bank estimates.

**PROJECT READINESS CRITERIA**

Status as of 19 August 2005

Activities	Target Date	Current Status Anticipated Activities	Responsibility
Project implementation plan	July 2005	Completed.	DGH and DGLC
Project Administration Memorandum	August 2005	First draft completed. To be further reviewed and developed during the inception mission.	DGH, ADB
Project management unit (PMU)	April 2004	PMU established and staffed.	DGH
Workshop on project implementation and procurement	August 2005	List of staff from PIU, project implementation units, and bidding committees has been prepared. Workshop scheduled on 22 and 23 August 2005.	DGH, ADB
Detail engineering design for the first-year program	August 2005	Of the 15 subprojects to commence in the first year, the detailed design has been completed.	DGH
Financial management system	May 2005	Completed.	DGH, MOF
Counterpart funds for the first-year program	October 2005	Counterpart funds will be earmarked in the 2006 to be finalized in October 2005.	DGH, MOF
Core team consultant and field team consultants:			DGH, ADB
<ul style="list-style-type: none"> <li>Shortlist</li> </ul>	March 2005	<ul style="list-style-type: none"> <li>Proposed shortlist of consulting firms sent to ADB in March 2005.</li> </ul>	
<ul style="list-style-type: none"> <li>Request for proposals (RFP)</li> </ul>	August 2005	<ul style="list-style-type: none"> <li>RFP submitted to ADB for review on 12 August 2005.</li> </ul>	
<ul style="list-style-type: none"> <li>Recommendation for contract award</li> </ul>	December 2005	<ul style="list-style-type: none"> <li>Recommendation for contract award issued by December 2005.</li> </ul>	
Procurement of Civil Works (first-year program):			DGH, ADB
<ul style="list-style-type: none"> <li>Prequalification of contractors</li> </ul>	August 2005	<ul style="list-style-type: none"> <li>Prequalification documents submitted to ADB for review on 11 August 2005.</li> </ul>	
<ul style="list-style-type: none"> <li>Bidding</li> </ul>	October 2005	<ul style="list-style-type: none"> <li>Bidding document being finalized. Call for bid expected in October 2005.</li> </ul>	
<ul style="list-style-type: none"> <li>Recommendations for contract award</li> </ul>	February 2006	<ul style="list-style-type: none"> <li>Recommendations for contract award expected in February 2006.</li> </ul>	
Auditing arrangements	Before loan effectiveness	The Government's Auditor will audit the project accounts.	DGH, ADB

ADB = Asian Development Bank, DGH = Directorate General of Highway, DGLC = Directorate General of Land Communications, MOF = Ministry of Finance, PIU = project implementation unit, PMU = project management unit, RFP = request for proposal.

Source: Asian Development Bank.

## PROPOSED IMPLEMENTATION SCHEDULE

Task Name	Duration Days	2005		2006		2007		2008		2009		2010	
		H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
<b>I. Project management unit</b>													
- Office set-up	2,190												
- Recruitment of core team consultant	290												
- Implementation	1,640												
<b>II. Road and bridges rehabilitation</b>													
- Recruitment of field team consultant	290												
- Implementation	1,460												
- First year civil works													
- Prequalification/bidding and award	302												
- Implementation	1,100												
- Other years civil works													
- Prequalification/bidding and award	302												
- Implementation	900												
<b>III. Road sector policies</b>													
- Enforcing controls on truck overloading	730												
- Road safety awareness campaign	365												
- Developing new approaches to road maintenance management	425												
<b>IV. Capacity building and training</b>													
- Strengthening capabilities in environmental and social impact management	545												
- Project management and engineering support practices	600												

H1 = first half of the year, H2 = second half of the year.

Notes: 1. Advance procurement action, May 2004 to December 2005.

2. Project implementation, July 2006 to June 2010.

3. Loan closing, December 2010.



## **OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES FOR COORDINATION AND SUPERVISION OF CIVIL WORKS (CORE TEAM)**

### **A. Objectives**

1. The objectives of the services are to assist Directorate General of Highway (DGH) with implementation of the Road Rehabilitation-2 Project by (i) maintaining records and advising and assisting the project management unit (PMU) with the day-to-day coordination and supervision of the Project and its components, including the preparation of regular progress reports; (ii) coordinating and reviewing updated designs and cost estimates prepared by the Proyek Perencanaan dan Pengawasan Jalan dan Jembatan (road and bridge planning and management unit, the provincial level representative of DGH) P3JJs and field consultants in the project provinces; (iii) advising DGH and the P3JJs on the preparation, evaluation, and award of tenders for civil works construction; (iv) coordinating and supervising the work of field teams in supervising and certifying construction in accordance with contract conditions; (v) reviewing justifications provided for any proposed variation orders; (vi) monitoring contractors' conformity with environmental and social impact controls required under the Project; (vii) monitoring selected project impacts in accordance with project loan agreements; and (viii) assisting DGH to prepare a project completion report at the end of the Project.

### **B. Scope of Work**

2. The consultant's scope of work will include assisting DGH and the P3JJs to:

- (i) Review and revise, as necessary, terms of reference (TOR) for local design consultants and field teams to update surveys of existing road, bridge, and traffic conditions and for the preparation of the detailed designs and cost estimates for the required rehabilitation works.
- (ii) Coordinate and review detailed designs for individual road links prepared by the design and field teams conforming to the design standards and agreed implementation schedule.
- (iii) Review and recommend adjustments, as necessary, to the revised designs and cost estimates prepared by the design consultants (among other aspects, this review should ensure that the designs meet the latest agreed national and international standards and that adequate attention is given in project designs to lateral and cross-sectional drainage needs and environmental controls).
- (iv) Review and initiate action on the implications of any revised costs for project financing requirements and disbursement schedules.
- (v) Review and revise, as necessary, proposed contract packages and assist DGH to carry out prequalification of contractors for international competitive bidding (ICB) and local competitive bidding (LCB) where necessary.
- (vi) Ensure that the procedures to be used by the P3JJs for evaluating and awarding tenders for civil works construction are consistent with the Government's and the Asian Development Bank's (ADB) requirements for anti-corruption measures and transparency.
- (vii) Review and coordinate the plans prepared by field teams appointed under the Project to carry out field supervision of contractor performance in carrying out the works.

- (viii) Establish efficient procedures for verifying contractor performance and reporting progress and problems in a timely manner to DGH and the P3JJs, including arrangements for progress reports, quality control reports, quantity survey records, requests for variation or change orders, contractor's claims and invoices.
- (ix) Review and help DGRI decide on proposals by the field teams for any changes in the scope or schedule of works that may be deemed necessary, assessing the effects the changes may have on contracts, overall progress and disbursements, and review any necessary variation orders.
- (x) Based on reports prepared by the field teams, report monthly to DGH and the ADB on the overall progress of the works, the contractors' performance, the quality of works carried out, and the Project's financial status and performance.
- (xi) Check that "as-built" drawings are prepared for all works as construction progresses and that integrated road management system (IRMS) databases are updated to reflect as-built conditions.
- (xii) Check that contractors have fulfilled commitments on the measures needed to maintain a safe working environment, to protect the safety of road users and pedestrians, to eliminate the risk of infection of the local community by diseases such as HIV/AIDS,<sup>1</sup> and to ensure that all other negative social, health, and environmental impacts on local communities are controlled and minimized.
- (xiii) With the assistance of the field teams, monitor environmental impacts and prepare a checklist of compliance for each contract package during construction; the details of the checklist will be agreed beforehand with Dinas Prasarana Wilayah Propinsi (provincial government agency on regional infrastructure); compile the results of the environmental monitoring in monthly reports.
- (xiv) In accordance with the monitoring plan specified in the loan agreement, conduct a baseline survey prior to implementation of each contract package using economic, social, and physical indicators agreed with DGH and DGLC, including road roughness, classified traffic volumes, road maintenance expenditures and management arrangements, passenger and freight transport rates, and other relevant factors affecting the sustainability of project benefits. Monitor these indicators again at the midterm review and following completion of the contract works. Compile the results of the economic and social impact monitoring in a project summary report.
- (xv) Based on information supplied by the field teams, prepare a project summary report summarizing construction activities and indicating, among other things, disbursements, achievements (including achievements on social, economic or environmental matters), contract changes, claims, disputes, and any other substantive matters having effect on the amount, cost, and progress of the work.
- (xvi) Draft the project completion report.

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<sup>1</sup> Human immunodeficiency virus/acquired immunodeficiency syndrome.

### C. Organization and Staffing

3. Consulting services are expected to take place over 54 months. The consulting team is expected to be drawn from a consortium of international and domestic consultants and to consist of the experts whose skills are listed in the table below.

4. The team leader will be a senior engineer with tertiary qualifications in civil engineering and a minimum of 15 years of experience in managing, planning, programming, monitoring, designing, and supervising road construction projects. At least 5 years of the engineer's experience should have been spent in developing countries and at least 3 years in Indonesia. The other experts should also have relevant tertiary qualifications and at least 10 years' relevant experience, including 5 years in developing countries.

5. All experts, international and domestic, must be proficient in both written and spoken English. It is desirable to foreign experts to have basic knowledge of Bahasa Indonesia.

**Table A9: Staffing**

Item	No.	Person-Month	Item	No.	Person-Month
Team leader	1	54	Deputy team leader	1	54
Highway engineer	1	5	Pavement/geotechnical engineer	1	20
Transport economist	1	2	Procurement specialist	1	24
Quality engineering and contract specialist	1	40	Transport economist	1	8
Socio economic/environmental specialist	1	8	Structural/bridge engineer	1	12
			Socioeconomic specialist	1	20
<b>Total, international experts</b>	<b>5</b>	<b>109</b>	Environment specialist	1	25
			Local independent quality advisors	4	216
			Financial management specialist	2	108
			Contract specialist	1	8
			<b>Total, domestic experts</b>	<b>14</b>	<b>495</b>

Source: Directorate General of Highway estimates.

6. The consultants will maintain a central office in Jakarta for the duration of the Project. The consultant's staff will be based in Jakarta but will be expected to travel to project provinces when required.

### D. Supervision

7. A project officer and counterpart staff from DGH's project management unit (PMU) will be attached to the consultant's team by DGH. Day-to-day contact with DGH and Asian Development Bank (ADB) will occur through the PMU. The work of the consultants will be supervised by the steering committee established under the chairmanship of DGH. Meetings of the steering committee will take place as necessary. A working group, representing the P3JJs in the project provinces, will also be established and will meet as required to ensure a coordinated approach to the resolution of issues raised during the Project.

### E. Outputs

8. The consultant will prepare monthly reports on the Project's progress in a format and level of detail agreed with DGH and ADB.

9. The consultant will maintain records documenting information supplied by the field teams, decisions made at meetings, progress on civil works, certified achievements and milestones, financial records, and any deviations from or changes to the contract plans. The consultant will assist DGH in preparing quarterly project progress reports, a project completion report, and monitoring and evaluation reports as required under the Loan Agreement.

10. All reports will be in English.

## **OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES FOR COORDINATION AND SUPERVISION OF CIVIL WORKS (FIELD TEAMS)**

### **A. Objectives**

1. The objectives of the services are to assist the Directorate General of Highway (DGH) in Sumatra and Kalimantan with implementing the Road Rehabilitation-2 Project by (i) helping Proyek Perencanaan dan Pengawasan Jalan dan Jembafan (road and bridge planning and management unit, the provincial level representative of DGH) P3JJs to prepare and update designs and cost estimates; (ii) advising the P3JJs on the preparation, evaluation, and award of tenders for civil works construction; (iii) providing field staff to supervise and certify construction in accordance with contract conditions; (iv) analyzing and verifying any contract variation orders; (v) monitoring contractors' conformity with required environmental and social impact controls; and (vi) reporting progress on civil works and disbursements to the P3JJs and the core team established by DGH.

### **B. Scope of Work**

2. The consultant's scope of work will include assisting the P3JJs to
- (i) update road, bridge, and traffic conditions and prepare any remaining detailed designs and cost estimates for the required road and bridge rehabilitation works, according to agreed national and international standards, as well as lateral and cross-sectional drainage needs and environmental controls;
  - (ii) review contract packages for any changes, and carry out prequalification of contractors for the remaining local and international competitive bidding contracts;
  - (iii) evaluate and award tenders for civil works construction, having regard to the Government's and ADB's requirements for anticorruption measures;
  - (iv) plan and provide a program of field supervision of contractors' performance in carrying out the works in accordance with contract provisions;
  - (v) assess the adequacy of all materials, equipment, and labor provided by each contractor; assess the contractor's methods of work and rate of progress; and take appropriate action to expedite progress when necessary;
  - (vi) compute quantities of works and materials that have been accepted and approved, and check and certify contractors' interim and final payment requests;
  - (vii) certify contractor's claims for work completed, extra time, and reimbursement of expenses;
  - (viii) propose and submit for approval any changes in the scope or schedule of works that may be deemed necessary, and assess the effect that the changes may have on contracts;
  - (ix) prepare monthly reports on the progress of work, the contractors' performance, quality of work, and the Project's financial status and performance;
  - (x) ensure that "as-built" drawings are prepared for all works completed;
  - (xi) monitor whether contractors adopt measures for a safe working environment, protect the safety of road users and pedestrians, and mitigate the local community's risk of infection with HIV/AIDS,<sup>1</sup> sexually transmitted diseases, or other diseases;

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<sup>1</sup> Human immunodeficiency virus/acquired immunodeficiency syndrome.

- (xii) monitor environmental controls and impacts and prepare a checklist— the details of which will be agreed when implementation begins—of compliance for each contract package during construction;
- (xiii) submit a project summary report summarizing the construction activities, including disbursements, achievements, contract changes, claims, disputes, costs, and progress of the work; and
- (xiv) draft required contributions to the project completion report.

### C. Organization and Staffing

3. There will be two field teams, one for Sumatra and one for Kalimantan. The duration of works will vary depending on the scope of rehabilitation work.

4. The team leader will be a senior construction engineer with tertiary qualifications in civil engineering and a minimum of 15 years of relevant experience in Indonesia covering the design and supervision of road and bridge construction projects.

5. All experts must be proficient in both written and spoken English.

**Table A10: Staffing**

Sumatra	No.	Total Person- Month	Kalimantan	No.	Total Person- Month
Team leader/chief supervision engineer	1	48	Team leader/chief supervision engineer	1	48
<b>Total, international specialists</b>	<b>1</b>	<b>48</b>	<b>Total, international specialists</b>	<b>1</b>	<b>48</b>
<b>Domestic specialists in Jakarta</b>			<b>Domestic specialists in Jakarta</b>		
Co-Team leader/assistant chief supervisor	1	48	Co-Team leader/assistant chief supervisor	1	48
Pavement/material engineer	1	30	Highway engineer	1	40
Highway engineer	1	30	Bridge engineer	1	40
<b>Total, domestic specialists in Jakarta</b>	<b>3</b>	<b>108</b>	<b>Total, domestic specialists in Jakarta</b>	<b>3</b>	<b>128</b>
<b>Domestic specialist in field</b>			<b>Domestic specialist in field</b>		
Senior field engineer	5	144	Senior field engineer	4	192
Supervision/site engineer	15	328	Supervision/site engineer	11	275
Quality engineer	15	328	Quality engineer	11	275
Chief engineer/quantity engineer	15	328	Chief engineer/quantity engineer	11	275
<b>Total, domestic specialists in field</b>	<b>50</b>	<b>1,128</b>	<b>Total, domestic specialists in field</b>	<b>37</b>	<b>1,017</b>
<b>Total, domestic specialists (Sumatra)</b>	<b>53</b>	<b>1,236</b>	<b>Total, domestic specialists (Kalimantan)</b>	<b>40</b>	<b>1,145</b>

Source: Directorate General of Highway estimates.

6. The consultants will maintain offices in the respective provincial capitals and onsite for the duration of each project.

### D. Supervision

7. Each P3JJ will attach a project officer to the consulting team in each province. The work of the consultants will be supervised by the core team. A working group representing the P3JJs in the project provinces will also be established and will meet as required to ensure coordination of issues raised during the Project.

**E. Outputs**

8. Each field team will prepare monthly reports on the progress of the Project in a format and level of detail agreed by DGH and the ADB.
9. Assisting in the draft output for completion report.
10. All reports will be in both English and Bahasa Indonesia.

## **OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES FOR ENFORCING CONTROLS ON TRUCK OVERLOADING**

### **A. Objectives**

1. The primary objective of the services is to reduce the incidence of axle-loads in excess of the legal limits specified in Ministry of Communication (MOC) and provincial regulations for national roads. This will be done in conjunction with Directorate General of Land Communications (DGLC) in coordination with the relevant Provincial Transport Authority (Dinas LLAJ) units by establishing on a trial basis three privately-managed weighbridges and associated controls in Kalimantan and one in Sumatra at locations where trucks are commonly overloaded and road pavements susceptible to damage.

### **B. Scope of Work**

2. The consultant's scope of work will include assisting DGLC and the respective Dinas LLAJ units to

- (i) critically review progress on introducing privately-managed weighbridges in Sumatra under the Sumatra Region Roads Project and identify the factors contributing to success or otherwise;
- (ii) after the DGLC has identified four weighbridge sites (existing or new), prepare a detailed program, including monitoring and evaluation arrangements, for attempting to privatize weighbridges in the selected provinces;
- (iii) prepare designs and contract documents for rehabilitating or installing weighbridges at selected sites, as well as specifications and contract documents for installing weighing equipment at those sites;
- (iv) prepare designs, specifications, and contract documents for the provision of automatic weigh-in-motion (WIM) equipment to provide independent monitoring of operations at the weighbridges and their effectiveness in reducing axle loads;
- (v) procure the civil works, weighbridges, and WIM equipment for the four selected sites, and supervise their construction or installation;
- (vi) prepare and execute contract documents incorporating appropriate controls and incentives for effective weighbridge management and operation by private companies, whether or not in association with existing weighbridge operating staff;
- (vii) implement supplementary procedures, including the use of the automatic WIM equipment, for checking the performance of the privatized weighbridges; and
- (viii) monitor the establishment, operations, and effectiveness of the privatized weighbridge operations and introduce appropriate modifications to contract arrangements, as needed, in close cooperation with the Dinas LLAJ and weighbridge contractors.

### **C. Organization and Staffing**

3. The aims of the services are expected to be achieved by a consultant team comprising one foreign expert on road transport regulations and eight domestic experts whose skills are listed in the table below. The foreign specialist should have at least 10 years' experience in



regulating vehicle weight and dimensions limits, preferably in a regulatory agency, with at least 8 years' experience in developing countries.

4. The services are expected to be provided over a 2-year period. It will not be necessary for all team members to be mobilized throughout this period; the timing of their inputs will depend on progress with civil works, procurement, supply/installation, and subsequent operations. The team will be based in DGLC's offices in Jakarta but will be expected to spend the majority of time in the field, where office space will be provided by the provincial Dinas LLAs.

**Table A11: Staffing**

<b>International Specialists</b>	<b>No.</b>	<b>Total Person- Month</b>	<b>Domestic Specialists</b>	<b>No.</b>	<b>Total Person- Month</b>
Team leader/regulatory specialist	1	24	Co-Team leader/regulatory specialist	1	24
<b>Total, international specialist</b>	<b>1</b>	<b>24</b>	Senior VWDE advisor	1	20
			Publicity/public information	1	5
			Transport economist	1	8
			Highway/pavement engineer	1	12
			Institutional legal advisor	1	8
			Building design	1	4
			Document specialist	1	4
			<b>Total, domestic specialists</b>	<b>8</b>	<b>85</b>

VWDE = vehicle weight dimension evaluation.

Source: Directorate General of Land Communications estimates.

## **D. Supervision**

5. DGLC will attach a project officer to the consultant's team and counterpart staff will be assigned from the respective Dinas LLAJ in the selected provinces. The work of the consultants will be supervised by DGLC's project management unit and the steering committee established to oversee implementation of the Project. At least two meetings of the steering committee will be held during the consultancy. A working group representing the Dinas LLAJ in each of the four selected provinces under DGLC will also be established and will meet as required to ensure a coordinated approach to resolving issues raised during the Project.

## **E. Outputs**

6. The consultant will prepare an inception report after month 2 and progress reports every 2 months afterward. The inception report will contain recommendations for site selection and the criteria used to make them. A draft final report will be submitted 1 month before completion of the services, documenting achievements and setting out the main findings, conclusions, and recommendations concerning the effectiveness of private-sector management of weighbridges. The final report will be submitted before the end of month 24 and will incorporate all the comments made by DGLC, Directorate General of Highway (DGH), and the Asian Development Bank (ADB) in a review meeting after the draft final report is submitted. The consultant will also assist DGLC in preparing a project completion report.

7. All reports will be in English but contract documents for weighbridge operators will be in both English and Bahasa Indonesia.

## **OUTLINE TERMS OF REFERENCE FOR IMPLEMENTING A ROAD SAFETY AWARENESS CAMPAIGN**

### **A. Objectives**

1. The primary objective of these services is to help reduce the risk and severity of road traffic accidents on roads rehabilitated under Road Rehabilitation-2 Project in the provinces of West, Central, and South Kalimantan where exposure to traffic is relatively recent and roadside communities are vulnerable. These services will raise community awareness, particularly among children and other vulnerable groups, through a campaign making effective use of available media and involving briefings at schools and other community forums involving local law enforcement officials. The consultant is required to coordinate the scope of his work with similar programs of assistance under other projects and incorporate lessons learnt.

### **B. Scope of Work**

2. The tasks of the consultants will include

- (i) identifying nine target communities (three per province) newly exposed to high-speed traffic and likely to be vulnerable to increased accident risk following completion of rehabilitation of national roads under the Project;
- (ii) in conjunction with Directorate General of Land Communications (DGLC) and Provincial Transport Authority (Dinas LLAJ) staff, preparing a plan and associated materials, including effectiveness-monitoring arrangements, for raising the awareness of road safety issues among the selected communities;
- (iii) undertaking a baseline survey of road safety awareness among the targeted vulnerable groups to evaluate effectiveness of the awareness campaign;
- (iv) carrying out the public awareness campaign, making optimum use of public media, schools, community leaders, family groups, and community meetings;
- (v) undertaking a follow-up survey of the effectiveness of the campaign in raising levels of community awareness, particularly among children, the aged, and other vulnerable groups;
- (vi) advising DGLC and Dinas LLAJ staff in the design and continuing use of road safety public awareness campaigns;
- (vii) develop a module to train trainers based on the public awareness campaigns, allowing the campaign to be replicated in other communities along the rehabilitated links; and
- (viii) conduct a workshop per province for the trainers identified in the communities living along the road links to train them on road safety issues using the module developed under item (vii).

### **C. Organization and Staffing**

3. The services are expected to be carried out over a period of one year by a firm or nongovernment organization (NGO) familiar with the communities concerned. The consultants should be experienced in social marketing techniques, carrying out surveys, and delivering community-based campaigns with staff that is sensitive to local cultures. The staff required will be finalized on the basis of competitive proposals, subject to the available budget for staff

resources, but would probably comprise a campaign coordinator (12 person-months), a road safety specialist (6 person-months), two field team coordinators (6 person-months each) and six field staff (12 person-months each) who would assist the field team coordinators in carrying out the surveys and campaigns. Two teams, each comprising one team coordinator and three field staff, would undertake the survey and awareness-raising tasks among the targeted communities.

**Table A12: Staffing**

<b>Domestic Experts</b>	<b>No.</b>	<b>Total Person-Month</b>
Team leader/campaign coordinator	1	12
Road safety specialist	1	6
Field team coordinator	2	12
Field staff	6	72
<b>Total, domestic experts</b>	<b>10</b>	<b>102</b>

No. = number.

Source: Directorate General of Land Communications estimates.

#### **D. Supervision**

4. A project officer will be appointed by DGLC to supervise progress on the services on a day-to-day basis. Supervision will also be by a working group chaired by the project officer and representing the Dinas LLAJ in each of the three provinces. The working group will meet as required to review progress and ensure a coordinated approach to the Project.

#### **E. Outputs**

5. The consultant will prepare an inception report after month 1, identifying the target groups and outlining the proposed work plan. A progress report will be submitted after month 3. A draft final report will be submitted after month 11, documenting the achievement of the services and proposing guidelines for adoption by DGLC and other Dinas LLAJ units. The final report will be submitted before the end of month 12 and will incorporate comments by DGLC, Directorate General of Highway (DGH), and the Asian Development Bank (ADB) in a review meeting after the draft final report is submitted. The consultant will also assist DGLC in preparing a project completion report.

## **OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES FOR DEVELOPING NEW APPROACHES TO ROAD MAINTENANCE MANAGEMENT**

### **A. Objectives**

1. The main objective of the services is to strengthen the capacity and procedures in the project provinces to undertake delegated responsibilities for maintaining national roads. To achieve this end, new approaches will need to be developed, such as combination of hands-on technical advice, on-the-job training and formal workshop training in selected provinces and Jakarta. The implementing agency (IA), National Development Planning Agency (BAPPENAS) will specifically detail the scope of this subcomponent and it may cover such topics as all aspects of maintenance planning, maintenance contract types, scheduling, execution and supervision. The consultant is required to review the scope of work with similar programs of assistance under other projects, specifically, the 2001 Japan Bank for International Cooperation (JBIC) funded study of Road Maintenance Improvement Project (II), for national and provincial roads to ensure no conflict, overlap or duplication.

### **B. Scope of Work**

2. The consultant's scope of work will include the following tasks, or as modified by BAPPENAS, carried out in conjunction with BAPPENAS, Directorate General of Highway (DGH), and the Proyek Perencanaan dan Pengawasan Jalan dan Jembatan (road and bridge planning and management unit, the provincial level representative of DGH) P3JJs and Dinas PU (provincial government agency on regional infrastructure) units in each project province:

- (i) In the light of the recommendations of the above-mentioned project report, clarifying the respective responsibilities of central and regional agencies for maintenance of national roads, defining maintenance functions and tasks, and drafting and implementation of the suggested changes/recommendations to central or regional government regulations to establish an effective program for organizing road and bridge maintenance;
- (ii) assessing P3JJ and Dinas PU staff capabilities, skills, and training needs; reviewing available equipment and manpower; and preparing an outline plan suitable for carrying out the planned tasks;
- (iii) reviewing technical and procedural guidelines, engineering and maintenance standards and model contract documents, and identifying improvements for review/adoption by DGH and the regional road agencies;
- (iv) reviewing the resources available in the private sector to assist in undertaking the road/bridge maintenance task;
- (v) following consultations with BAPPENAS and DGH, regional authorities and the local contracting industry, preparing one or more pilot projects for implementing out-sourced routine maintenance under performance-based contracts, whether through local contractors or adjacent communities;
- (vi) identifying areas where improved technical, training, or other support from central DGH would benefit road maintenance operations on national roads in the provinces; and

- (vii) preparing a plan for strengthening the capabilities of the P3JJ and Dinas PU units in the project provinces in the areas of maintenance planning, scheduling, funding, execution, and supervision (greater emphasis on drainage).

3. The emphasis will be on working side-by-side with the provincial staff responsible for road/bridge maintenance management and execution tasks. The consultants will be judged by their success in adopting a hands-on approach to achieving practical solutions to existing shortcomings.

### C. Organization and Staffing

4. The services will be provided over a 14-month period. The consultant team is expected to be drawn from a consortium of international and domestic consultants and to consist of the experts listed in the table below. The specialist positions may be changed within the overall suggested consortium depending on the IA's priorities and objectives.

5. The team leader will be a senior highway engineer with tertiary qualifications and a minimum of 15 years of experience covering most aspects of road sector and maintenance management, including institutional arrangements, training, planning, programming, contract management, supervision, and monitoring, preferably with some experience in a public-sector road agency. At least 5 years should have been spent in developing countries and at least 3 years in Indonesia. The other experts should also have relevant tertiary qualifications, at least 10 years' relevant experience, including 5 years in developing countries.

6. All experts, international and domestic, must be proficient in both written and spoken English. It is desirable to foreign experts to have basic knowledge of Bahasa Indonesia.

**Table A13: Staffing**

<b>International Experts</b>	<b>No.</b>	<b>Total Person- Month</b>	<b>Domestic Experts</b>	<b>No.</b>	<b>Total Person- Month</b>
Team leader/maintenance engineer	1	14	Deputy TL/maintenance engineer	1	14
Institutional/training specialist	1	6	Road maintenance engineer	2	28
Benefit monitoring specialist	1	2	Benefit monitoring specialist	1	4
Contracts management specialist	1	4	Drainage engineer	2	28
Maintenance works supervisor	1	14	Maintenance works supervisor	4	56
<b>Total, international experts</b>	<b>5</b>	<b>40</b>	<b>Total, domestic experts</b>	<b>10</b>	<b>130</b>

TL = team leader.

Source: National Development Planning Agency, Directorate General of Highway estimates.

7. The consultants will be based in Jakarta for the duration of the Project but will spend a large proportion of their time in the field, providing assistance and training. IA will dedicate office space to them. In the project provinces, the consultant's staff will work directly with counterpart staff with relevant P3JJ and Dinas PU.

### D. Supervision

8. DGH/BAPPENAS will attach a project officer and necessary counterpart staff to the consulting team. The work of the consultants will be supervised by a steering committee established under the chairmanship of DGH. A working group, in addition to the steering

committee, will also be established and will meet as required to coordinate the resolution of issues raised during the Project.

#### **E. Outputs**

9. The consultant will prepare monthly reports on the progress of the Project in a format and level of detail acceptable to DGH, BAPPENAS, and Asian Development Bank (ADB). All guideline and training documents will be prepared in a form suitable both for circulating among the regional road authorities and for making available on DGH's web site. A draft final report will be submitted in month 13, describing the achievements of the program. The final report will be submitted in month 14 and will incorporate comments made by DGH, Directorate General of Land Communications (DGLC), BAPPENAS, and ADB, in a review meeting after the draft final report is submitted. The consultant will assist DGH and BAPPENAS in preparing a project completion report. All reports and documents will be in both English and Bahasa Indonesia.

## OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES FOR STRENGTHENING CAPABILITIES IN ENVIRONMENTAL AND SOCIAL IMPACT MANAGEMENT

### A. Objective

1. The objective of the services are to help build up the capacity and procedures of Directorate General of Highway's (DGH), Subdirector for Environmental Affairs (SDEA) to undertake analyses of environmental and social impacts of road rehabilitation projects and to prepare environmental and social impact management plans in accordance with government regulations and donor guidelines.

### B. Scope of Work

2. The consultant's scope of work will include
- (i) reviewing prevailing government regulations and donor guidelines governing the assessment and management of environmental and social impacts for road rehabilitation projects on the national network;
  - (ii) identifying the procedures and tasks to meet these regulations and guidelines;
  - (iii) reviewing the skills available within SDEA and assessing the need for training to establish the capability to meet task requirements;
  - (iv) preparing a short-term staff training plan and associated materials to meet immediate needs;
  - (v) undertaking the training through a combination of hands-on assistance, on-the-job training, and workshops; and
  - (vi) evaluating the effectiveness of the training provided by measuring improvements in attitudes and skills achieved.

### C. Organization and Staffing

3. The services are expected to be provided over a 18-month period by a small team comprising international and domestic consultants.

**Table A14: Staffing**

International Experts	No.	Total Person- Month	Domestic Experts	No.	Total Person- Month
Social Poverty/environmental specialist	1	5	Environmental specialist	1	18
			Social cultural specialist	1	16
<b>Total, international expert</b>	<b>1</b>	<b>5</b>	Training delivery specialist	1	12
			Curriculum development specialist	1	10
			Highway specialist	1	16
			<b>Total, domestic experts</b>	<b>5</b>	<b>72</b>

Source: Directorate General of Highway estimates.

**D. Supervision**

4. The team will work directly with the staff of SDEA and the project management unit (PMU).

**E. Outputs**

5. The team's outputs will include (i) an inception report after month 1, reviewing SDEA's skills and training needs and setting out detailed proposals for training under the consultancy; (ii) quarterly reports to be submitted starting at the end of month 3 after the inception, with details of materials developed and training provided to date; and (iii) a draft final report after month 16, containing a description of achievements and details of the training services provided, including all materials, an assessment of their effectiveness in meeting objectives, and recommendations for further training assistance. The final report will incorporate comments made by Directorate General of Land Communications (DGLC), DGH, and the Asian Development Bank (ADB) in a review meeting after the draft final report is submitted, at the end of month 17.



## **OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES FOR TRAINING IN PROJECT MANAGEMENT AND ENGINEERING SUPPORT PRACTICES**

### **A. Objectives**

1. The objectives of the services are to assist Directorate General of Highway (DGH) and implementing agencies in the center and in the provinces in training in the project management and engineering support practices in 10 provinces of Indonesia. The proposed consulting service aims to introduce and provide training in areas that are relevant to the Project and that are government priorities, including (i) construction contract law; (ii) landslide control, slope stability, and retaining walls; (iii) financial management and control; (iv) road and bridge maintenance; and (v) technical specifications in road and bridge works.

### **B. Scope of Work**

2. The consulting services will assist DGH and Proyek Perencanaan dan Pengawasan Jalan dan Jembatan (road and bridge planning and management unit, the provincial level representative of DGH) P3JJ to

- (i) develop and outline a training program including the topics described above, and submit the program for review and approval;
- (ii) prepare a training program on the main subjects mentioned above, and identify needs and levels of different groups of trainees;
- (iii) prepare training material in consultation with ADB's Indonesia Resident Mission for each of the subjects;
- (iv) identify trainers in the center who could also travel to provinces;
- (v) identify trainees in the center and in each of the 10 provinces;
- (vi) carry out training during the prescribed time frame, testing and grading each individual trained and setting criteria for passing—incentives should be provided for those who achieve good grades; and
- (vii) evaluate and survey overall success and impact of the training program.

### **C. Organization and Staffing**

3. The services are expected to be carried out by a firm over 20 months. The staff required will be finalized on the basis of competitive proposals, and would comprise a team of 8 domestic experts with a team leader experienced in institutional training for infrastructure projects/agencies, for a total of 59 person-months.

**Table A15: Staffing**

<b>Domestic Specialists</b>	<b>No.</b>	<b>Total Person- months</b>
Team leader/training specialist	1	12
Deputy team leader/training specialist	1	12
Highway engineering specialist	1	8
Geotechnical engineering specialist	1	4
Financial management specialist	1	4
Training delivery specialist	1	8
Regional training delivery specialist	1	4
Evaluation specialist	1	7
<b>Total</b>	<b>8</b>	<b>59</b>

Source: Directorate General of Highway estimates.

#### **D. Outputs**

4. The consultant team will prepare an inception report after month 1, identifying the scope of the target program, target groups from the DGH and DGLC staff, and outlining the work plan. A progress report will be submitted every 3 months afterward. A draft final report will be submitted after month 18, documenting the achievement of the services, the results of the exams, and the results of the benefit monitoring survey. The final report will be submitted before the end of month 19 and will incorporate comments from Directorate General of Land Communications (DGLC), DGH, and ADB collected in a review meeting after the draft final report is submitted.

## PERFORMANCE INDICATORS

Key performance indicators to be monitored during and after project implementation are intended to reflect expected project impacts and benefits. The list of indicators will be refined and representative road links and communities selected by Directorate General of Highway and the Asian Development Bank, with assistance from consultants responsible for coordinating and supervising civil works (core team) (Appendix 9). It includes:

**Table A16: Performance Indicators**

No.	Indicators	Responsibility
(i)	Average road roughness over the rehabilitated road segments, measured in IRI units.	DGH
(ii)	Continuous 24-hour classified traffic counts, carried out over a 1-day period under representative conditions in April or November.	DGH
(iii)	Annual expenditures on maintenance (routine and periodic) of roads and bridges in the national road network in the project province.	DGH
(iv)	Average one-way passenger fares and freight transport rates for general cargo to and from 10 predetermined points on the rehabilitated road links (one per province).	DGLC
(v)	Social impact of road improvements on the lives, time savings, incomes, and economic activities of nine representative communities (one per province), determined through structured interview surveys.	DGH
(vi)	Evidence obtained from structured interview surveys of the impact of the road safety awareness campaign on attitudes towards road safety and safe pedestrian practices in 10 representative communities (three minimum per province).	DGLC
(vii)	Truck axle loads, as measured both by the four weighbridges brought under private-sector management through the Project and by nearby WIM monitoring equipment	DGLC

IRI = international roughness index, DGLC = Directorate General of Land Communications, DGH = Directorate General of Highway, WIM = weigh-in-motion.

Sources: Asian Development Bank and Directorate General of Highway.

## FIDUCIARY CONTROL, FRAUD, AND ANTI-CORRUPTION ACTION PLAN

No.	Issue	Action	Responsibility, Funding	Remarks
1.	Strengthen implementation and procurement arrangements.	Strengthen focus on detailed implementation and procurement arrangements. Measures to prevent fraud and corruption prepared and agreed during loan processing, and included in RRP and loan documents.	ADB, MPW, regional governments	Agreed
2.	Apply a code of conduct for project implementation.	DGH (MPW), in consultation with MOF, ADB, regional governments, NGOs, and other stakeholders will develop a code of conduct, ethics, and sanctions to be observed by project implementing agencies, bidders, suppliers, contractors, consultants, and other stakeholders.	MPW, MOF, regional governments, ADB	Agreed
3.	Capacity of project management units (PMU) often weak due to lack of skills and high turnover of staff.	<p>Ensure that PMU staff on central and regional levels are fully knowledgeable about government and ADB procedures including, but not limited to, procedures for (i) implementation, (ii) procurement, (iii) use of consultants, (iv) disbursement, (v) reporting, (vi) monitoring, and (vii) prevention of fraud and corruption.</p> <p>Conduct training on procurement at ADB/IRM. Develop CD-Rom-based training program on ADB's <i>Guidelines for Procurement</i> in Bahasa Indonesia, including case studies. Training material to be distributed to all personnel in ADB-assisted projects, including members of the tender committee and project staff.</p> <p>Assignments to key positions should be for the duration of the project implementation.</p> <p>Add responsibility of the bid evaluation to the contract of the core supervision team, in addition to standard tasks including, but not limited to, (i) management, (ii) administration, (iii) monitoring, (iv) procurement, and, if required, (v) construction supervision.</p>	<p>ADB, MPW, regional governments</p> <p>ADB/MPW</p> <p>MPW, regional governments</p> <p>ADB, MPW, regional governments. Loan financed.</p>	Agreed
4.	Large number of small contracts resulting in inefficient procurement and weak monitoring.	Improve contract packaging by reducing the number of contract packages, as feasible. The transparency and competition remains the prime criteria.	ADB, MPW, regional governments	Agreed
5.	Transparency in operation of the procurement committees in the provinces.	MPW will require agreement from regional governments participating in ADB-funded projects that procurement committees will include observers from a university or similar institution.	MPW	Agreed

No.	Issue	Action	Responsibility, Funding	Remarks
6.	Accountability and liability of consultants and other contractors clearly defined and enforced.	Strengthen contractual liability of contractors, suppliers, and service providers involved in the Project. Enforceable financial liability clauses to be included in the contract. Relevant clauses to be drafted in consultation with ADB.	MPW, regional governments	Agreed
7.	Independent consultant performance evaluation.	MPW, in consultation with regional governments and other stakeholders, will develop and implement a system for independent consultant performance evaluation including, but not limited to, performance indicators, and sanctions against poor performers.	MPW	Agreed
8.	Transparency in review of project performance.	Findings of ADB loan review missions on implementation progress, procurement, disbursement, compliance with loan covenants, and other relevant project issues will be made available to the public.	ADB, MPW	Agreed
9.	Project information systems and ICT equipment are not appropriate. Quarterly reports do not contain sufficient information on progress and are not focused on relevant issues.	Develop and implement appropriate ICT-based project information and reporting system. Quarterly reports should include, but not be limited to, updated financial and procurement related information.	MPW, regional governments. Loan financed.	Agreed
10.	Independent financial audit of projects.	The Government will contract independent auditor for financial audit of project accounts.	MPW. Loan financed.	Agreed
11.	Widen mandate of Inspectorate General in MPW.	MPW will widen mandate for the Inspectorate General to effectively audit national projects as well as decision-making procedures and control mechanisms within MPW.	MPW	Agreed
12.	Transparency and public participation to strengthen monitoring of project implementation.	Develop website with relevant project information.	MPW, regional governments. Loan financed.	Agreed
13.	Allegations of graft and financial fraudulent practices.	Provisions developed by ADB to be included in the contracts (special conditions of contract) to specify the right for ADB to audit the accounts of contractors, suppliers and service providers.	MPW, regional governments, ADB	Agreed

ADB = Asian Development Bank, DGH = Directorate General of Highway, ICT = information and communication technology, IRM = Indonesia Resident Mission, MOF = Ministry of Finance, MPW = Ministry of Public Works, NGO = nongovernment organization, PMU = project management unit.  
Sources: Asian Development Bank and Directorate General of Highway.

## ECONOMIC ANALYSIS

### A. General

1. An economic analysis was carried out comparing with- and without-project scenarios. The Project includes components to rehabilitate deteriorated road links and replace bridges on the strategic national road networks of Sumatra and Kalimantan, followed by routine and periodic maintenance. The base case reflects expected conditions in the absence of the Project, with maintenance sufficient only to hold the road in its present condition. The project case involves initial rehabilitation followed by routine and periodic maintenance, but with expenditure and frequency of periodic maintenance economically optimum for predicted road conditions and traffic flows.

2. The analysis was conducted by using the integrated road management system (IRMS), developed by the Directorate General of Infrastructure (DGH), which was basically derived from the highway design module (HDM) relationships calibrated for Indonesian conditions. The IRMS economic review module (ERM) produced predicted traffic flow, classified vehicle operating costs (VOC) in economic prices, predicted average travel speed, predicted pavement roughness, agency costs, and road user costs. ERM also calculated the economic viability of the road links. The ERM output was modified to accommodate estimated non-VOC savings.

3. IRMS contains comprehensive inventories and databases of road and bridge conditions. During project preparation, data such as road inventory, condition, and traffic were reviewed by field surveys and adjusted where necessary to reflect the real situation. All costs and benefits were expressed in constant mid 2005 prices. The economic analysis covers the construction period of 2006–2010 plus 20 years of operation and maintenance.

4. Economic analysis was conducted using domestic prices. A standard exchange rate factor (SERF) of 1.013<sup>1</sup> was applied to calculate the economic price of tradable goods. The shadow wage rates for skilled and unskilled labor were estimated at 0.95 and 0.6, respectively. The shadow wage rate factors were estimated by comparing the average labor wage in the region and the project labor wage, taking into consideration the existing unemployment rate.

### B. Traffic Forecasts

5. The standard 4-stage inter-regional transport demand model for the Transport Sector Strategy Study (TSSS)<sup>2</sup> validated traffic forecasts produced by IRMS. The estimated base-year annual average daily traffic (AADT) for each link is presented in the Table A18.2.

6. IRMS predicted the future traffic flow for each link using different traffic growth rates for every province over the 20-year planning horizon. The average traffic growth rates vary from 3 to 9% per year for roads in Sumatra and 3 to 5% per year for roads in Kalimantan.

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<sup>1</sup> A simple trade-weight formula was used to estimate the standard exchange rate factor (SERF) using the 2003 net international trade taxes and total trade data for Indonesia. As the SERF may be too low, the sensitivity analysis will test other values.

<sup>2</sup> ADB. 2000. *The Transport Sector Strategy Study for Indonesia*. Manila.

## C. Costs

7. Project costs include road rehabilitation and maintenance. IRMS holds information on a base set of unit costs for a detailed list of work items, together with provincial factors applicable to each item to account for regional differences in unit rates. The unit costs assembled over a period and used in DGH's planning, programming, and budgeting were reviewed during project preparation and adjusted with relevant provincial cost factors.

8. The economic costs were estimated based on financial costs including physical contingencies. Price escalation contingencies, interest during construction, and taxes were excluded. Financial costs were converted into economic costs using a specific conversion factor for civil works of 0.97.<sup>3</sup>

## D. Economic Benefits

### 1. Description of the Project Benefits

9. The main user benefits are in the form of VOC savings resulting from reduced road roughness and better vehicle running conditions. Road roughness affects vehicle speeds and consumption of fuel, oil, and tires. People who currently travel by river would benefit from the improved road. The cost difference of traveling by river and road reflects the diverted traffic benefits. These savings to diverted traffic have also been included in the benefit stream.

10. The Project will generate nonquantifiable economic and social benefits. Better road conditions would likely attract additional economic activity and more traffic, spreading benefits among a wider group. Generated traffic was considered for selected links serving relatively undeveloped areas with the potential for attracting development. Additional income is also expected for people living near the roads because of better access to markets and jobs.

11. The Project will provide better support for agriculture, the most important source of livelihood for the population living along the road. It would also perform a critical role in providing better access to public and social services.

### 2. Vehicle Operating Cost Savings

12. VOC savings for normal traffic in economic prices were calculated by using ERM. Normal traffic was assumed to constitute the main category of user benefits for the well-established routes in Sumatra and Kalimantan proposed for rehabilitation under the Project. For these links, rehabilitation represents an intervention in the normal pattern of deterioration and repair. In their absence, the road will continue to operate satisfactorily, albeit at a reduced level of service.

13. VOC, calculated for each of ten classes of vehicles,<sup>4</sup> varies with the road roughness measured in international roughness index (IRI) units, which depends on the pattern of pavement deterioration, pavement strength, traffic load, and maintenance. It affects vehicle speed and consumption of fuel, oil, and tires.

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<sup>3</sup> The road work costs were broken down into the following categories: 34% tradable goods, 44% nontradable goods, 16% skilled labor, and 6% unskilled labor.

<sup>4</sup> Passenger cars, light passenger vehicle, light goods vehicle, small buses, large buses, light trucks, medium trucks, heavy trucks, articulated trucks, and motorcycles.

### 3. Diverted Traffic Benefits

14. The river systems constitute the main transport arteries in West and Central Kalimantan. They run east-to-west in West Kalimantan (to the port at Ketapang and then by sea to Pontianak or Java) and north-to-south in Central Kalimantan (to Pangkalanbun) and are mostly perpendicular to the proposed road subproject links. Most settlements are along the river courses. The roads are relatively new and have not yet attracted significant development other than rubber plantations in West Kalimantan, and oil palm plantations in Central Kalimantan. When the road is improved, it will cut the average transport time from Balaiberkuak and Aur Kuning to Tayan (West Kalimantan) by up to 75% and from Kudangan to Simpang Runtu (Central Kalimantan) by up to 45%. This will help increase the availability of road transport and attract traffic that otherwise would have continued to travel by river.

15. Transport cost savings between road and river were used in estimating the annual benefits accruing to diverted traffic in West and East Kalimantan, respectively. The costs of the river transport were estimated from the responses of individuals interviewed in the social impact surveys. The estimated costs by road are based on the VOC calculated by IRMS, while the number of households affected was estimated from village census data. The river transport costs were not shadow priced since most of the cost components were non-tradable goods.

16. The benefits associated with diverted traffic to isolated communities are only significant for the links in West and Central Kalimantan for which they are assumed to apply (Table A18.1).

**Table A18.1: Composition of Benefits for Isolated Links in West and Central Kalimantan**

Province	Link	Proportion of Benefits (%)	
		Savings to Normal Traffic	Savings to Diverted Traffic
30-West Kalimantan	079-1 Tayan-Teraju	25	75
	079-2 Teraju-Balaiberkuak	59	41
	079-3 Balaiberkuak-Aur Kuning	80	20
32-Central Kalimantan	024-1 Runtu-Simpang Runtu	43	57
	024-2 Kujan-Runtu	84	16
	024-3 Penopa-Kujan	92	8
	024-4 Kudangan-Penopa	100	0

Source: Asian Development Bank estimates.

### E. Results of Economic Evaluation

17. The economic evaluation produced an overall project's economic internal rate of return (EIRR) of 25.2% (Table A18.3). As expected, the average EIRR for subproject links in Sumatra (32.4%) is higher than that in Kalimantan (13.4%) because of its higher traffic level.

18. At disaggregate level, the EIRRs of road links in Sumatra range from 10.3 to 50.2%. EIRR of one road link subproject in West Sumatra estimated at about 10% was economically justified since it (i) would provide a better access to social services such as health care centers, schools, and markets; and (ii) could contribute to promoting palm-oil-related industries in the region and provide local benefits to the rest of society.

19. The EIRRs of road links subprojects in Kalimantan varied from 10.4 to 23.6%. EIRRs of three road subprojects in West, Central, and East Kalimantan that were estimated at about 10%



were economically justified since they (i) would provide vital connectivity to health care centers, schools, and markets; (ii) are part of the Government's broader strategy of developing strategic corridors to link key population centers to facilitate trade; and (iii) are strategically important to the cross-border and Association of Southeast Asian Nations (ASEAN) Highways connecting East Kalimantan and Sabah in Malaysia.

## **F. Sensitivity Analysis**

20. A sensitivity analysis was carried out to test the impact of changes on key parameters determining project costs and benefits. The switching values for the road construction and maintenance costs (road agency costs) and traffic volume are 2.4 and 0.4, respectively. The overall EIRR will decline from 26.2 to the cutoff level of 12% when either the agency costs increase by about 2.4 times or the traffic level reduces by about 0.4 times of the current level. This condition seems unlikely to happen.

21. Given that the EIRRs are greatly varied across subproject links it is worth looking into the impact of the various cost and traffic level on the economic feasibility of subproject links in Kalimantan and Sumatra.

22. The road agency cost increase of 10% in Kalimantan will reduce the average EIRR from 13.5 to 12.1% for all subprojects in Kalimantan. Meanwhile, the average decrease in traffic by 10% would bring down the average EIRR from 13.5 to 12% for overall subprojects in Kalimantan. The road agency cost increase of 10% or traffic level decrease of 10% would bring down the EIRR of three subproject links to about 10%.

23. Either the road agency cost increase of 10% or traffic level decrease of 10% in Sumatra would bring down the average EIRR from 32.4 to 30.2% for all subprojects in Sumatra. However, either the road agency cost increase of 10% or traffic level decrease of 10% would bring down the EIRR of two subproject links in West Sumatra to about 10%.

24. A sensitivity test was also conducted to assess the impact of different SERF values on the overall EIRR. SERF values of 1.10 and 1.15 were introduced in the economic analysis and brought down the overall EIRR from 25.2 to 24.6% and 24.3%, respectively. This test resulted in the average EIRR of more than 12% for all subprojects in Kalimantan and Sumatra.

25. The sensitivity test concluded that the Project is still economically justified under various cost, traffic, and SERF scenarios.

**Table A18.2: Results of the Economic Evaluation**

No	Province	Link	Road Link	Est. 2004 AADT	EIRR (% p.a.)	NPV (12% p.a.)
03	North Sumatra	019-1	Padangsidempuan-Border of Tapanuli	1,132	34.7	177,051
		057-1	Simpang Kawat-Border of Labuhan Batu	4,600	34.2	125,866
		057-2	Border of Labuhan Batu-Rantau Prapat	4,853	49.9	332,106
		058	Rantau Prapat-Aek Nabara	3,804	18.3	28,554
06	West Sumatra	029	Bukittinggi-Kumpulan	2,671	10.9	(4,669)
		030	Lubuksikaping-Panti	3,323	13.1	2,466
		032	Panti-Border of Sumut	1,806	10.3	(4,882)
		051	Kiliranjau-Sei Dareh	4,301	21.4	22,294
		052	Sei Dareh-Junction	3,869	16.3	4,278
09	Riau	019-1	Simpang Batang-Simpang Balam	9,394	44.5	351,637
		019-2	Bagan Batu-Simpang Balam	7,021	42.4	163,932
11	Jambi	011-1	Muaratembesi-Border of Sarko	1,164	17.2	6,970
		011-2,3	Border of Sarko-Sorolangun	1,173	25.8	36,362
15	South Sumatra	010	Terawas-Lubuk Linggau	2,817	25.5	71,022
		011	Muara Enim-Sugin Waras	5,860	47.3	238,092
		013	Baturaja-Martapura	4,512	43.6	115,853
		014	Martapura-Border of Lampung	4,597	41.3	29,017
17	Lampung	002	Gunung Sugih-Tegineneng	12,350	47.3	94,700
		003	Gunung Sugih-Terbanggi	11,909	32.0	32,282
		004	Terbanggi-Kotabumi	8,499	14.1	5,443
30	West Kalimantan	079-1	Tayan-Teraju	197	22.3	8,299
		079-2	Teraju-Balaiberkuak	188	10.6	(2,984)
		079-3	Balaiberkuak-Aur Kuning	192	11.8	(513)
32	Central Kalimantan	010-2	Kilometer 65-Sampit	1,217	22.3	14,767
		024-1	Runtu-Simpang Runtu	640	23.6	14,353
		024-2	Kujan-Runtu	571	20.2	31,382
		024-3	Penopa-Kujan	344	10.6	(8,261)
		024-4	Kudangan-Penopa	271	12.5	2,166
34	East Kalimantan	026-4	Simpang Batu Ampar-Simpang Batu Perdu	352	10.4	(16,256)
36	South Kalimantan	035	Sebamban-Pagatan	3,758	11.3	(1,657)
		036	Pagatan-Batulicin	4,259	15.9	9,975
		039-1	Kintab-Ds Sungai Cuka (Border of Kotabaru)	2,779	14.1	2,842
		039-2	Desa Sungai Cuka-Sebamban	2,779	11.7	(716)
		047-1	Seikupang-Magalau	1,454	15.4	8,129
		047-2	Magalau-Border of Kaltim	1,454	12.5	1,297

AADT= annual average daily traffic, EIRR = economic internal rate of return, est. = estimate, NPV = net present value, p.a = per annum.

Source: Asian Development Bank estimates.

**Table A18.3: Summary**

Item	EIRR (%)	NPV (Rp million) at 12% p.a.
All shortlisted projects:		
Sumatra	32.4	1,838,096
Kalimantan	13.4	62,823
All Links	25.2	1,900,919

EIRR = economic internal rate of return, mln = million, NPV = net present value, p.a. = per annum.

Source: Asian Development Bank estimates.

## G. Nonquantifiable Benefits

26. **Induced Development.** For selected links in West Kalimantan (Tayan-Teraju-Balaiberkuak-Aur Kuning) and Central Kalimantan (Simpang Runtu-Runtu-Kujan-Penopa-Kudangan) serving relatively undeveloped areas, road rehabilitation will result in a more significant change in road conditions and reliability of transport services. This might attract inward investment and migration and generate additional traffic.

27. **Income Growth.** In relatively undeveloped areas of Kalimantan with poor access to markets, jobs, and government services, longer-term income and welfare gains will result from improved access. These are in addition to the direct savings to normal and generated traffic and arise largely from improvements in the range and quality of the opportunities available at the trip destination. These are difficult to measure, but evidence showed a strong relationship between household expenditure and access to opportunities available at provincial centers.

28. **Support to Agriculture.** The road networks provide support to agriculture, the most important source of livelihood for people living along the roads. In most of Sumatra and Kalimantan, farmers are self-employed small-holders involved in cash crops such as coffee, coconuts, and rubber. Road quality therefore has a direct impact on household income. Good roads reduce transportation costs and improve access to markets, increase competition, and raise farm-gate prices. Poor roads also lead to higher prices for consumer goods and lower purchasing power.

29. **Improve Access to Social Services.** The road network also performs a critical role in allowing access to many public and social services in both Sumatra and Kalimantan. For example, junior high school students from 27 out of 130 villages located around the Sidempuan-Bts. Tapanuli road link travel 10–30 kilometers to their school. Senior high school students travel 10-20 kilometers to reach their school. Assuming that 20% of all junior and 50% of senior high school students travel significant distances on the national road to go to school, the proposed road links provide better school access for more than 10,000 junior and 16,000 senior high school students.

30. The proposed road links also facilitate access to medical services. Access to polyclinics and health centers involves road travel in Sumatra and slow and expensive river travel in Kalimantan. For around half of the Sungai Loban subdistrict population, located along the Pagatan-Batulicin link in Kalimantan, the nearest hospital and/or modern maternity service is more than 20 kilometers away. For many households living on the Teraju-Balaiberkuak road link in Kalimantan, hospitals are more than 100 kilometers away. Village heads in this area describe travel to medical facilities as very difficult. The journey to Sanggau includes a ferry crossing of the Kapuas River without reliable connecting transport. All-weather, surfaced roads are essential in maintaining access to health facilities.

## SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

### A. Linkages to the Country Poverty Analysis

<b>Is the sector identified as a national priority in country poverty analysis?</b> <div style="float: right;"> <input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No         </div>	<b>Is the sector identified as a national priority in country poverty partnership agreement?</b> <div style="float: right;"> <input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No         </div>
<p><b>Contribution of the sector or subsector to reduce poverty in Indonesia:</b></p> <p>Indonesia's poverty incidence was about 23% (about 48 million people) in 1998, then declined to about 18% (about 38 million) in 2002, according to the National Socioeconomic Survey (BPS SUSENAS).<sup>1</sup> Regional variations are sharp: poverty is more common in rural areas than in urban centers, and in the project area, it varies from 18% in Riau to 42% in South Sumatra, and 30% in South Kalimantan to 57% in Central Kalimantan.</p> <p>Rural local surplus and urban consumer goods are hauled on national roads. National roads are the arteries of trade and commerce and enable the economy of the poor to grow. Agriculture products result from the labor of the poor who themselves rely on basic commodities hauled in from cities. The Indonesia Poverty Assessment<sup>2</sup> notes that increasing the productivity of agriculture requires improved infrastructure including transport, which will reduce regional disparity and rural poverty over the medium term. The transportation sector itself also provides a step up and out of the grinding poverty of farm labor. Adequate infrastructure is an underpinning to the success and expansion of small and medium enterprises with their deep backward linkages to the goods and services provided by the poor. National infrastructure is also important to breaking relative isolation and promoting delivery of government administration and social services. The Government White Paper<sup>3</sup> identifies the infrastructure backlog as a key bottleneck to poverty reduction.</p>	

### B. Poverty Analysis

#### Targeting Classification: Targeted intervention

#### What type of poverty analysis is needed?

The Project's poverty reduction impacts are distinctly different in Sumatra and Kalimantan. The Sumatra network carries goods and people over long distances between Sumatra and Java, as well as interregional traffic, and, to a lesser extent, local traffic. The road also facilitates movements of goods between Indonesia, Malaysia, and Singapore. Much of the traffic flow is agricultural commodities for export coming from poor areas. The national road network also delivers processed goods from urban to rural markets in poor areas.

In Sumatra, the road network is well established and the Project is intended to prevent further deterioration and loss of access. In Kalimantan, where the road network is still limited and where trade is largely conducted along riverways, upgrading the national road system will promote interregional linkages, and provide an alternate mode of transportation for poor and remote communities. In both Sumatra and Kalimantan, the poverty reduction impact lies in reducing vulnerability to poverty and removing lack of access as a binding constraint for regional economic activities that is essential in fueling economic growth. The Trans-Sumatra and Trans-Kalimantan corridors are not exceptionally poor. The road networks also provide access to support the agriculture sector which is the most important source of livelihood. In most of Sumatra and Kalimantan, farmers are self-employed small-holders involved in estate crops. Good roads reduce transportation costs and improve access to market, competition, and higher farm gate prices. The condition of the road also has an impact on household expenditures. Poor road quality leads to higher prices of consumption goods and lower purchasing power. A shift from river to road based transport reduces costs, promotes year-round access, and increases the potential for small and medium scale entrepreneurs to make use of the natural resource potential of the area. Similarly, improved road access facilitates delivery of government administrative and social services.

The road network provides access to essential public and social services. Roughly 20% of all junior secondary and 50% of senior secondary students in the corridors use the national road to go to school, the proposed road links protect the access of more than 10,000 junior secondary and 16,000 senior secondary students. An all-weather surfaced roads is essential in enabling residents to reach polyclinics and health centers that are generally located in subdistrict capitals. It is also critical in achieving the Millennium Development Goal targets to reduce infant and child and maternal mortality among the nearly 93,000 children under five and more than 100,000 women with potential high-risk pregnancies living along the road links.

<sup>1</sup> Excludes Papua and Aceh.

<sup>2</sup> November 2000.

<sup>3</sup> INPRES 5/2003.

**C. Participation Process**

<b>Is there a stakeholder analysis?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<b>Is there a participation strategy?</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

**D. Gender and Development**

<p><b>Strategy to maximize impacts on women:</b></p> <p>Loan covenants include assurances that women will receive equal pay for equal work. HIV/AIDS has a disproportionate impact on women due to their heightened vulnerability. An HIV/AIDS prevention initiative through a TA independent of this loan is under processing, including two relevant components: (i) information and education campaigns to prevent HIV/AIDS and STDs for workers and communities surrounding the project base camps, and (ii) capacity building of local HIV/AIDS civil-society institutions. The TA will work with other initiatives such as those financed by the United States Agency for International Development (USAID) and the Australian Agency for International Development (AusAID), focusing on sex workers and preventing human trafficking.</p> <p><b>Has an output been prepared?</b></p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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**E. Social Safeguards and other Social Risks**

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
<b>Resettlement</b>	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None		<input type="checkbox"/> Full <input type="checkbox"/> Short <input checked="" type="checkbox"/> None
<b>Affordability</b>	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Labor</b>	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	Proposed HIV/AIDS prevention TA targeting construction workers and the populations with which they interact. The proposed initiative will include two components: (i) information and education campaigns to prevent HIV/AIDS and STDs for workers and communities surrounding the project base camps, and (ii) capacity building of local HIV/AIDS civil-society institutions. The TA will work together with other initiatives such as those financed by the United States Agency for International Development (USAID) and the Australian Agency for International Development (AusAID) focusing on sex workers and preventing human trafficking.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

<b>Indigenous Peoples</b>	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	No systematic socioeconomic or cultural impact on IPs triggering the preparation of Indigenous Peoples Development Plans is foreseen. Consultations with IPs indicate that they do not consider the expected increase in economic activity and traffic along the roads as resulting in conflict or economic competition from in-migration and therefore requiring mitigation. However, ADB will monitor to ensure that should any IPs be affected during the Project implementation, they will be compensated under the CPFPG provisions.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Other Risks/ Vulnerabilities</b>	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

AIDS = acquired immunodeficiency syndrome, CPFPG = compensation policy framework and procedural guidelines, HIV = human immunodeficiency virus, IP = indigenous peoples, TA = technical assistance.