



# Report and Recommendation of the President to the Board of Directors

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Project Number: 46260  
August 2013

## Proposed Loans Democratic Republic of Timor-Leste: Road Network Upgrading Sector Project

Asian Development Bank

## CURRENCY EQUIVALENTS

The currency of Timor-Leste is the United States dollar.

## ABBREVIATIONS

|       |   |   |
|-------|---|---|
| ADB   | – | Asian Development Bank  |
| CAFI  | – | Conselho de Administracao do Fundo Infraestrutura (Council for the Administration of the Infrastructure Fund) |
| CPS   | – | country partnership strategy  |
| DRBFC | – | Directorate of Roads, Bridges, and Flood Control  |
| EMP   | – | Environmental Management Plan   |
| FCAS  | – | fragile and conflict-affected situation   |
| IEE   | – | initial environmental examination   |
| km    | – | kilometer   |
| LIBOR | – | London interbank offered rate   |
| MPW   | – | Ministry of Public Works  |
| PMU   | – | project management unit   |
| SDP   | – | Strategic Development Plan  |
| TA    | – | technical assistance  |

## NOTE

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

|                         |  |
|-------------------------|--|
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
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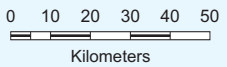
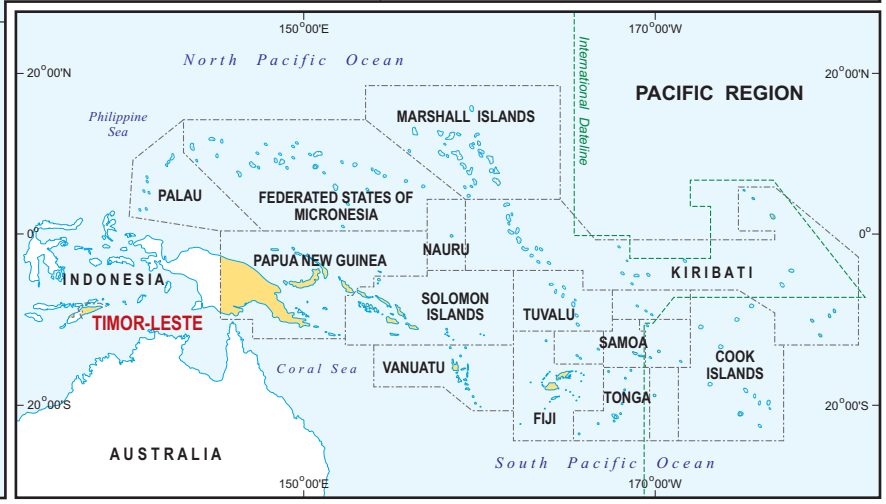
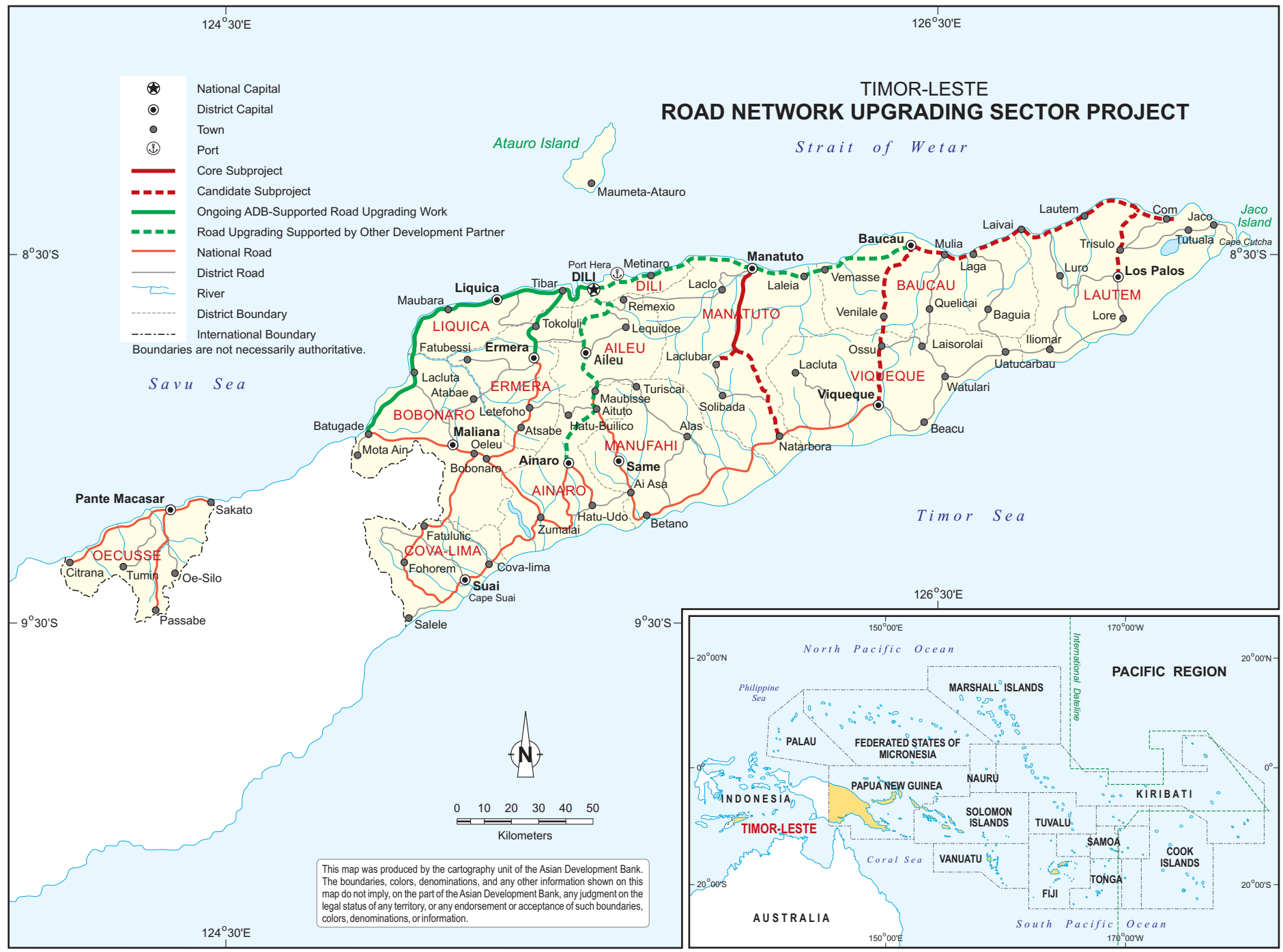
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## PROJECT AT A GLANCE

|   |  |  |  |
|---|--|--|--|
| <b>1. Project Name:</b> Road Network Upgrading Sector Project |  | <b>2. Project Number:</b> 46260-002  |  |
| <b>3. Country:</b> Timor-Leste, The Democratic Republic of    |  | <b>4. Department/Division:</b> Pacific Department/Transport, Energy and Natural Resources Division |  |
| <b>5. Sector Classification:</b>                              |  |  |  |
|   |  | <b>Sectors</b>   | <b>Primary</b>                           |
|   |  | Transport, and information and communication technology  | √  |
|   |  | <b>Subsectors</b>  |  |
|   |  | Road transport   |  |
| <b>6. Thematic Classification:</b>                            |  |  |  |
|   |  | <b>Themes</b>  | <b>Primary</b>                           |
|   |  | Economic growth  | √  |
|   |  | Environmental sustainability   |  |
|   |  | Capacity development   |  |
|   |  | <b>Subthemes</b>   |  |
|   |  | Widening access to markets and economic opportunities  |  |
|   |  | Natural resources conservation   |  |
|   |  | Institutional development  |  |
| <b>6a. Climate Change Impact</b>                              |  | <b>6b. Gender Mainstreaming</b>  |  |
| Adaptation  |  | Gender equity theme (GEN)  |  |
| Mitigation  |  | Effective gender mainstreaming (EGM)   |  |
| High  |  | √  |  |
| Low   |  | Some gender elements (SGE)   |  |
|   |  | No gender elements (NGE)   |  |
| <b>7. Targeting Classification:</b>                           |  | <b>8. Location Impact:</b>   |  |
| <b>General Intervention</b>                                   | <b>Targeted Intervention</b>                     |  |  |
|   | <b>Geographic dimensions of inclusive growth</b> | <b>Millennium development goals</b>  | <b>Income poverty at household level</b> |
| √   |  |  |  |
|   |  | National   |  |
|   |  | Rural  |  |
|   |  | High   |  |
|   |  | Medium   |  |
| <b>9. Project Risk Categorization:</b> Low                    |  |  |  |
| <b>10. Safeguards Categorization:</b>                         |  |  |  |
|   |  | Environment  | B  |
|   |  | Involuntary resettlement   | B  |
|   |  | Indigenous peoples   | C  |
| <b>11. ADB Financing:</b>                                     |  |  |  |
| <b>Sovereign/Nonsovereign</b>                                 |  | <b>Modality</b>  | <b>Source</b>                            |
| Sovereign   |  | Sector loan  | Asian Development Fund                   |
| Sovereign   |  | Sector loan  | Ordinary capital resources               |
| Total   |  |  | 50.0                                     |
| <b>12. Cofinancing:</b>                                       |  |  |  |
| No Cofinancing available.                                     |  |  |  |
| <b>13. Counterpart Financing:</b>                             |  |  |  |
| <b>Source</b>   |  | <b>Amount (\$ Million)</b>   |  |
| Government  |  | 73.2   |  |
| Total   |  | 73.2   |  |
| <b>14. Aid Effectiveness:</b>                                 |  |  |  |
| Parallel project implementation unit                          |  | No   |  |
| Program-based approach  |  | No   |  |

# TIMOR-LESTE ROAD NETWORK UPGRADING SECTOR PROJECT

-  National Capital
  -  District Capital
  -  Town
  -  Port
  -  Core Subproject
  -  Candidate Subproject
  -  Ongoing ADB-Supported Road Upgrading Work
  -  Road Upgrading Supported by Other Development Partner
  -  National Road
  -  District Road
  -  River
  -  District Boundary
  -  International Boundary
- Boundaries are not necessarily authoritative.



This map was produced by the cartography unit of the Asian Development Bank. The boundaries, colors, denominations, and any other information shown on this map do not imply, on the part of the Asian Development Bank, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries, colors, denominations, or information.

## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on proposed loans to the Democratic Republic of Timor-Leste for the Road Network Upgrading Sector Project.<sup>1</sup>

2. The proposed project will (i) upgrade and climate-proof about 117 kilometers (km) of principal national roads, (ii) expand the road maintenance program of the Ministry of Public Works (MPW), and (iii) prepare detailed designs and environmental and social due diligence for upgrading 169 km of principal national roads through future projects. The project is in line with the ongoing efforts of the Asian Development Bank (ADB) and other development partners to support the progressive upgrading of the entire national road network.<sup>2</sup>

## II. THE PROJECT

### A. Rationale

3. From 1975 to 1999, a struggle for independence in Timor-Leste led to a prolonged violent conflict. Timor-Leste gained independence in 2002 after a brief period under United Nations administration. However, it had suffered massive losses of livelihoods, social capital, and basic social services. Public infrastructure had been destroyed or become dilapidated. International assistance was provided to start building government institutional capacity and state authority from scratch. However, from 2006 to 2008, internal factionalism resulted in the temporary displacement of nearly a quarter of the population, which disrupted recovery efforts. International support for maintaining law and order was again required until 2012. While considerable progress has been made, Timor-Leste remains fragile and its institutions remain weak in many respects. ADB's institutional approach to achieving development effectiveness in a fragile and conflict-affected situation (FCAS) is relevant to the design of the project.<sup>3</sup>

4. Since 2005, Timor-Leste's economy has derived most of its income from offshore oil and gas. Its sovereign wealth fund had accumulated more than \$13 billion by March 2013.<sup>4</sup> With withdrawals from the fund prudently managed, it is well placed financially to invest in development. Government spending has generated strong economic momentum with gross domestic product (excluding the petroleum sector and United Nations contribution) growing at an average annual rate of 11.7% between 2008 and 2012. The economy is forecast to grow 9.5% in 2013 and 10% in 2014, driven by continuing government spending.<sup>5</sup> The effect of government spending on stimulating business opportunities and investment are expected to underpin long-term prospects for private sector development and future economic growth.

5. In 2011, the government published its Strategic Development Plan (SDP), 2011–2030, which aims to sustain economic growth and fast-track economic development to achieve a modern and diversified economy with high-quality infrastructure. The SDP envisages three pillars for development: social capital development, infrastructure development, and economic development. Public investment (including roads) over the first 5 years of the SDP is intended to create the conditions to attract private investment and ensure an economy led by the private sector by 2030. An efficient and safe transport system is essential to achieving the three

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<sup>1</sup> The design and monitoring framework is in Appendix 1.

<sup>2</sup> ADB provided project preparatory technical assistance: ADB. 2012. *Preparing the Road Network Upgrading Sector Project*. Manila (TA 8146-TIM).

<sup>3</sup> ADB. 2007. *Achieving Development Effectiveness in Weakly Performing Countries (The Asian Development Bank's Approach to Engaging with Weakly Performing Countries)*. Manila.

<sup>4</sup> Central Bank of Timor-Leste, 2013, *Petroleum Fund of Timor-Leste Quarterly Report, 31 March 2013*, Dili

<sup>5</sup> ADB. 2013. *Pacific Economic Monitor July 2013*, Manila.

developmental pillars. The SDP and the operational plans of the government emphasize the upgrading of roads.

6. Alignment with country strategies is an important element of engagement in an FCAS. Additionally, engagement in an FCAS should promote inclusive growth. Economic expansion in Dili is encouraging rural–urban migration, but high youth unemployment and high demands on basic services in the city are emerging issues. Diversification of economic activity beyond Dili is needed to help stem these pressures and spread the benefits of petroleum wealth more widely. An efficient transport network is central to economic diversification and national integration.

7. The poor condition of the roads results in high costs and unreliable services. The core network comprises 1,426 km of national roads and 869 km of district roads. About 3,000 km of rural roads provide access to villages and more remote areas. Only about 8% of the core road network is assessed to be in fair condition and about 70% in very poor condition,<sup>6</sup> which is constraining the country’s efforts to emerge from fragility. Support is essential to bring about “quick wins” and transformational changes to the road network to underpin economic progress and social stability.

8. The MPW, with ADB assistance, has developed the Medium-Term Road Network Development Program, the implementation of which started in 2010. The Road Network Development Sector Project, the Road Network Upgrading Project, and projects supported by the Japan International Cooperation Agency and the World Bank are being implemented and will upgrade about 356 km of road.<sup>7</sup> These projects supported by Timor-Leste’s development partners are closely coordinated and are piloting performance-based road maintenance by including 2-year post construction maintenance in the construction contracts. Performance-based maintenance will help alleviate capacity shortages that constrain effective road maintenance. Local contractors now have the capacity for such maintenance, but they do not have the capacity for major upgrading work. International contractors will be needed in the short and medium term.<sup>8</sup>

9. Road safety is a related and emerging issue. Inadequate enforcement of regulations, lack of road safety awareness, and poor road conditions contribute to high accident rates. In 2012, 76 people died on Timor-Leste’s roads, according to traffic police data. However, the World Health Organization’s *2013 Global Status Report on Road Safety* suggests significant underreporting of fatalities and gives a likely point estimate of 190 deaths—or 19.5 per 100,000 population.<sup>9</sup> The vehicle fleet is expanding rapidly, especially motorcycles, with a threefold increase in motorcycles between 2005 and 2009.

10. The MPW is responsible for planning, developing, and maintaining roads. In many FCAS, human capacity shortages are a major constraint. The MPW’s Directorate of Roads, Bridges, and Flood Control (DRBFC) has only 12 engineers, severely limiting its capacity to manage the road infrastructure. More professional staff, particularly new graduates, are required to make

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<sup>6</sup> ADB. 2008. *Technical Assistance to the Democratic Republic of Timor-Leste for Preparing the Road Network Development Project*. Manila (TA 7100-TIM).

<sup>7</sup> ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Asian Development Fund Grant to the Democratic Republic of Timor-Leste for the Road Network Development Sector Project*. Manila; ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to the Democratic Republic of Timor-Leste for the Road Network Upgrading Project*. Manila; JICA. 2011. *Road Network Development Project in Timor-Leste*. Tokyo; and World Bank. 2011. *Timor-Leste Road Climate Resilience Project*. Washington.

<sup>8</sup> Sector Assessment (Summary) (accessible from the list of linked documents in Appendix 2).

<sup>9</sup> World Health Organization. 2013. *2013 Global Status Report on Road Safety*. Geneva.

capacity development efforts effective. ADB supports the preparation of a medium-term capacity development framework for the MPW.<sup>10</sup> Ongoing technical assistance (TA) supports scholarships and a technical upgrading program.<sup>11</sup> Twinning arrangements with public works and highways departments in Indonesia and the Philippines are being developed. A project management unit (PMU) will continue to be essential for the management of projects financed by development partners. In line with FCAS principles, the PMU will be gradually integrated with the line ministry.

11. Since 1999, ADB has been the lead development agency in the road sector. It has provided six TA projects, three project grants, one sector grant, and two loans for the road sector. The country partnership strategy (CPS), 2011–2015<sup>12</sup> continues ADB's strategic directions by concentrating on infrastructure development and management. ADB plans to provide complementary assistance in the core specializations of finance, regional cooperation and integration, and education. ADB will also support the private sector as a key driver of change to help make the transition from an economy led by the public sector.<sup>13</sup> ADB support for infrastructure, financial services, and skills training will help meet the needs of a growing economy. An emphasis on the provision of services outside the capital will support growth of the rural economy. Poverty will be reduced, particularly in rural areas, by connecting the poor to markets and expanding the availability of basic public services.

12. The emphasis in the CPS on infrastructure reflects its importance to the achievement of the government's development priorities for 2011–2017, as well as ADB's established presence and comparative strength in infrastructure. ADB will help coordinate capacity development and investment programming across infrastructure sectors (particularly road transport, and water and sanitation), and help mobilize financial resources for infrastructure investment.

13. The Road Network Upgrading Sector Project will upgrade priority sections of the national road network. The project will finance the upgrading of the trans-island road from Manatuto to Natarbora, which will greatly improve national connectivity and directly support the government's petroleum and gas developments on the south coast.<sup>14</sup> The project will also finance the preparation of other high-priority road links.

14. The project seeks to increase the scale of ADB's support by leveraging the government's financial capacity for investment in infrastructure, as effective programs in FCAS often have fewer but larger projects consistent with priority public investment programs (footnote 3). Other lessons from ADB's previous projects are incorporated in the project design. These include (i) paying sufficient attention to climate resilience in project design, (ii) using sector approaches to allow the government to progressively expand its leadership in the road sector, (iii) paying attention to institutional capacity and long-term road maintenance strategies to achieve sustainability, and (iv) encouraging community participation in roadwork to extend the benefits of national road development to roadside communities.<sup>15</sup>

<sup>10</sup> ADB. 2007. *Infrastructure Project Management*. Manila; ADB. 2012. *Infrastructure Management*. Manila.

<sup>11</sup> ADB. 2007. *Technical Assistance to Timor-Leste for Infrastructure Project Management*. Manila (TA 4942-TIM).

<sup>12</sup> ADB. 2011. *Country Partnership Strategy: Timor-Leste, 2011–2015*. Manila.

<sup>13</sup> The CPS addresses four of ADB's five core specializations, as identified in ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

<sup>14</sup> The government will construct a liquefied natural gas plant, a refinery and a supply base port, and three new towns in the south coast.

<sup>15</sup> ADB. 2010. *Completion Report: Road Sector Improvement Project in Timor-Leste*. Manila; ADB. 2010. *Performance Evaluation Report: Emergency Infrastructure Rehabilitation Project Phases 1 and 2 in Timor-Leste*. Manila; and ADB. 2011. *Country Strategy Final Review: Democratic Republic of Timor-Leste, 2006–2010*. Manila.



## B. Impact and Outcome

15. The impact of the project will be increased and more efficient movement of people and goods. The outcome will be a more reliable and safer road network provided by the MPW.

## C. Outputs

16. Five outputs will contribute to the project outcome and impact:

- (i) **Upgrade and climate-proof national roads.** About 117 km of roads will be upgraded to a climate-resilient standard including priority roads of 81 km from Manatuto to Natarbora.
- (ii) **Prepare detailed designs for future priority road links.** Detailed engineering design and social and environmental due diligence will be prepared for about 169 km of national roads.
- (iii) **Expand performance-based road maintenance.** The civil works contractors will maintain the upgraded road sections for 2 years after physical completion. Local contractors will be trained in performance maintenance, and performance-based contracts will be used for future maintenance.
- (iv) **Generate awareness of road safety and transport-related social issues.** A community-based road safety awareness program, including education for schools, drivers, road users, communities, and HIV/AIDS prevention will be carried out. A multiyear national road safety action plan will be initiated.
- (v) **Provide project management support.** The project includes management support for the implementing agency through strengthening its PMU.

## D. Investment and Financing Plans

17. The project is estimated to cost \$123.25 million including taxes and duties, and financing charges during implementation. The project investment plan is in Table 1.

**Table 1: Project Investment Plan**  
(\$ million)

| Item  | Amount <sup>a</sup> |
|---|---------------------|
| <b>A. Base Cost<sup>b</sup></b>                               |                     |
| 1. Civil works  | 91.43               |
| 2. Consultants services (design and construction supervision) | 7.26                |
| 3. Project management <sup>c</sup>                            | 1.00                |
| 4. Environmental and social mitigation                        | 1.50                |
| 5. National road safety and public transport                  | 1.00                |
| <b>Subtotal</b>   | <b>102.19</b>       |
| <b>B. Contingencies<sup>d</sup></b>                           | <b>19.56</b>        |
| <b>C. Financing Charges During Implementation<sup>e</sup></b> | <b>1.50</b>         |
| <b>Total (A+B+C)</b>  | <b>123.25</b>       |

<sup>a</sup> Includes taxes and duties of \$15 million to be financed from government resources and Asian Development Bank (ADB) loan resources.

<sup>b</sup> In mid-2013 prices.

<sup>c</sup> Includes cost of external audits.

<sup>d</sup> Physical contingencies computed at 8% for civil works; and 5% for field research and development, training, surveys, and studies. Price contingencies computed at 12% for civil works and 8% for consultants services.

<sup>e</sup> Includes interest and commitment charges. Interest during construction for ADB ordinary capital resources (OCR) loans has been computed at the 5-year forward London interbank offered rate plus a spread of 0.4% and a maturity premium of 0.1%, and at 2% per year for ADB Asian Development Fund loans. Commitment charges for the ADB OCR loan are 0.15% per year to be charged on the undisbursed OCR loan amount.

Source: Asian Development Bank estimates.

18. The government has requested a loan of \$40 million from ADB's ordinary capital resources to help finance the project. The loan will have a 25-year term, including a grace period of 5 years, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per year (the interest and other charges during construction to be capitalized in the loan), and such other terms and conditions set forth in the draft loan agreements.<sup>16</sup> The ordinary capital resources loan from ADB will finance civil works, consultants' services, taxes and duties, late payment charges imposed by suppliers and contractors, bank charges, local transport and insurance charges, and interest during construction.<sup>17</sup>

19. The government has also requested a loan in various currencies equivalent to SDR 6,672,000 (\$10 million) from ADB's Special Funds resources to help finance the project. The loan will have a 25-year term, including a grace period of 5 years, an interest rate of 2.0% per annum during the grace period and thereafter, and such other terms and conditions set forth in the draft loan agreement. The Asian Development Fund loan will finance equipment, consultants' services, taxes and duties, late payment charges imposed by suppliers and contractors, bank charges, local transport and insurance charges, and interest during construction.

20. The government will contribute \$73.25 million toward the cost of civil works, taxes and duties, and resettlement costs from its Infrastructure Fund (derived from the sovereign wealth fund). The government's willingness to share a large percentage of the costs demonstrates the priority it places on the project and road development.

21. The financing plan is in Table 2. The government has assured ADB that it will meet any financing shortfall to ensure project outputs are fully implemented.

**Table 2: Financing Plan**

| <b>Source</b>                | <b>Amount<br/>(\$ million)</b> | <b>Share of<br/>Total (%)</b> |
|------------------------------|--------------------------------|-------------------------------|
| Asian Development Bank (ADF) | 10.00                          | 8.11                          |
| Asian Development Bank (OCR) | 40.00                          | 32.46                         |
| Government                   | 73.25                          | 59.43                         |
| <b>Total</b>                 | <b>123.25</b>                  | <b>100.00</b>                 |

ADF = Asian Development Fund, OCR = ordinary capital resources.  
Source: Asian Development Bank estimates.

## **E. Implementation Arrangements**

22. An existing PMU within the MPW manages externally supported major road upgrading projects. While each development partner maintains separate responsibility for its respective projects, close collaboration reduces project management costs by facilitating the use of standardized approaches, as well as safeguards assessments and monitoring. The basic functions of the PMU are financed by ongoing projects. The project will create an environmental and social unit within the PMU by providing international and national environmental specialists, resettlement specialists, and a social and gender development specialist.

<sup>16</sup> The government has opted for a straight-line repayment option; the average loan maturity is 15.25 years and the maturity premium payable to ADB is 0.1% per annum.

<sup>17</sup> Financing of late payment charges and bank charges will avoid potential administrative delays. The amount of taxes and duties (i) is within the reasonable threshold identified during the CPS preparation, (ii) does not represent an excessive share of the project investment plan, and (iii) will only be financed for ADB-financed expenditures. Financing of taxes and duties is material and relevant to the success of the project.

23. The PMU will undertake the day-to-day project management, and assist the National Procurement Commission with the preparation of bidding documents for civil works and consultants services. To align the project with government systems, the National Procurement Commission will also procure civil works and consultants' services contracts using quality- and cost-based selection. The Ministry of Transport and Communications will be the implementing agency for a National Road Safety Action Plan and for the public transport policy review. It will be the focal point for coordination among stakeholders.

24. Additional financing may be considered in the future if the project performs well. The original loans will be used to prepare designs and undertake safeguards due diligence for an additional 169 km of national roads. The feasibility assessment and design of the Manatuto to Natarbora subproject has been completed and procurement of civil works and consultants services is being undertaken in advance.

25. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual.<sup>18</sup>

**Table 3: Implementation Arrangements**

| Aspects                         | Arrangements  |                   |                |
|---------------------------------|---|-------------------|----------------|
| Implementation period           | January 2014–December 2019  |                   |                |
| Estimated completion date       | December 2019   |                   |                |
| Management                      |   |                   |                |
| (i) Oversight body              | Conselho de Administracao do Fundo Infraestrutura<br>Prime Minister (chair)<br>Minister of Public Works (member)<br>Minister of Transport and Communications (member)<br>Minister of Finance (member)     |                   |                |
| (ii) Executing agency           | Conselho de Administracao do Fundo Infraestrutura   |                   |                |
| (iii) Key implementing agencies | MPW<br>MOTC   |                   |                |
| (iv) Implementation unit        | PMU, Department of Roads Bridges and Flood Control, 12 staff  |                   |                |
| Procurement                     | Civil works   | 3 contracts       | \$82.0 million |
|                                 | National competitive bidding (financed by the Government of Timor-Leste)  | 2 contracts       | \$8.0 million  |
|                                 | Shopping  | 10 contracts      | \$ 0.5 million |
| Consulting services             | QCBS  | 56 person-months  | \$ 1.8 million |
|                                 | QCBS  | 326 person-months | \$ 5.6 million |
|                                 | ICS   | 84 person-months  | \$ 0.9 million |
| Advance contracting             | Civil works packages for Manatuto to Natarbora road<br>Construction supervision for Manatuto to Natarbora road<br>Detailed design and safeguard due diligence (169 km of national road)                   |                   |                |
| Disbursement                    | The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed upon between the government and ADB. |                   |                |

ADB = Asian Development Bank, ICS = individual consultant selection, km = kilometer, MOTC = Ministry of Transport and Communications, MPW = Ministry of Public Works, PMU = project management unit, QCBS = quality- and cost-based selection.

Source: Asian Development Bank estimates.

<sup>18</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

### III. DUE DILIGENCE

#### A. Technical

26. Upgrading will include strengthening and widening from a width of generally less than 4.5 meters to 6 meters. Climate resilience will be emphasized in subproject engineering designs. Vulnerability to damage from severe rainfall, sea level rise, and other potential effects of climate change will be reduced through engineering countermeasures, including ensuring suitably sized drainage structures, raising road levels in flood-prone areas, and using bioengineering to promote slope stability.

#### B. Economic and Financial

27. Timor-Leste still exhibits many of the characteristics of an FCAS. Consequently, rates of return on investments are likely to be lower and associated risks higher as the country seeks to reintegrate socially and economically, while ensuring that the benefits of stability and economic growth are inclusive. In accordance with ADB's approach to engaging with weakly performing countries, economic internal rates of return in Timor-Leste should not be expected to be the same as in other developing member countries (footnote 3).

28. The core subproject—the Manatuto to Natarbora road—links the north coast road to large-scale development planned to support the oil and gas industries on the south coast. Because the condition of the existing road is poor, all forms of development are suppressed. By considering only the demand generated by those south coast developments for which there is a high level of certainty, a conservative approach to estimation of future traffic has been taken. Other nonquantifiable benefits, such as road safety, and improved access to health and education, have not been included. The economic assessment also does not take into account benefits such as political stability and national integration, which are potentially significant. Because of the mountainous terrain, the cost of constructing the road to a standard sufficient to catalyze the development as envisaged is relatively high.<sup>19</sup> The economic internal rate of return of the preferred option has been calculated to be 10.2%.

29. Upgrading of the road while incorporating climate resilience measures will substantially reduce future operation and maintenance costs. Maintaining the unimproved road to a basic serviceable standard is estimated to cost \$1.25 million a year, nearly four times the \$0.32 million for upgraded the road. Current budget allocations for maintenance, which include for emergencies, are sufficient. Needs will reduce as roads are upgraded and maintenance practices improve.

#### C. Governance

30. The public financial management system is heavily centralized with numerous controls that have resulted in bottlenecks that slow payment processes and weaken budget implementation. Decentralization of noncore financial management functions from the Ministry of Finance to line ministries has been promoted, as capacity within these agencies has increased. However, the system for payments continues to involve a number of agencies in reviewing the payment certificates provided by the PMU and MPW.

31. The Procurement Commission was established in 2011. With the assistance of the PMU, the commission satisfactorily administered bidding processes in 2012 for ADB-financed projects

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<sup>19</sup> To accommodate container traffic, a minimum 6 meter carriageway with 1 meter shoulders is needed.

in accordance with ADB's guidelines. However, the transparency and efficiency of procurement still needs improvement, and a balance between risk and accountability for projects without development partner oversight has not yet been achieved.

32. The executing agency, Conselho de Administracao do Fundo Infraestrutura (CAFI), was established in 2011 to oversee the use of the Infrastructure Fund.<sup>20</sup> The Civil Service Act (2004) provides standards, principles, definitions, and guidelines for civil service administration; a code of ethics for civil servants; and an administrative disciplinary mechanism. A law creating the new Anti-Corruption Commission became effective in 2009, and the first anticorruption commissioner was appointed in 2010. However, the independence of this commission needs to be assured and it needs to be resourced effectively.

33. To mitigate the risks, the MPW has implemented a number of ADB-supported infrastructure projects through the PMUs. A PMU was created within the MPW to administer the Road Network Development Sector Project and was expanded for the Road Network Upgrading Project. It will be strengthened to administer this project. The PMU has a financial administrator who has considerable experience with ADB-financed projects. Based on previous project implementation experience, the PMU has sufficient capacity to manage the project.

34. ADB's Anticorruption Policy (1998, as amended to date) was explained to the government and the CAFI. Specific policy requirements and supplementary measures are described in the project administration manual (footnote 18).

#### **D. Poverty and Social**

35. The primary beneficiaries of the project are (i) road users, including vehicle drivers, passengers, and/or nonmotorized transport users; (ii) households in communities that sell cash crops and other agricultural produce; (iii) providers of passenger and goods transport services and commercial truck drivers; and (iv) small businesses and traders, including vendors at local markets, trade store owners, coffee and other produce buyers, and small- and medium-sized enterprises in the district capitals and towns. Key social service providers, such as those in the education and health sectors, will also benefit from road upgrading.

36. Women have been generally excluded from infrastructure-related jobs and decision making related to infrastructure development. The project aims to redress this. Classified as "effective gender mainstreaming," the project is designed to support women's empowerment by considering their views and requirements in the design of the subprojects. Women's involvement in all jobs under the project will be promoted.<sup>21</sup> The project will (i) incorporate women's views in the project design; (ii) raise awareness of gender and transport security, and HIV/AIDS; (iii) have a quota for women in the construction work, favoring unemployed widows, female heads of households, and other vulnerable groups; and (iv) have a quota for women's involvement in bioengineering and maintenance works.

#### **E. Safeguards**

37. **Involuntary resettlement and indigenous peoples.** The project has been classified as category B for resettlement and category C for indigenous peoples. The improvement of roads is expected to be mostly within the existing road corridor, but will require some resettlement

<sup>20</sup> The Infrastructure Fund is derived from the petroleum revenue-financed sovereign wealth fund and used for financing infrastructure development.

<sup>21</sup> Gender Action Plan (accessible from the list of linked documents in Appendix 2).

involving small areas of land, some houses and shops, and roadside stalls and kiosks. A resettlement framework has been prepared, providing guidelines on screening, assessment, and the preparation of resettlement plans for road subprojects. A draft resettlement plan has been prepared for the core subproject. This has been disclosed, along with the resettlement framework on the government and ADB websites. Resettlement plans for other subprojects will be prepared during implementation following the resettlement framework. The MPW will endorse and publicly disclose the resettlement framework and draft resettlement plan, and disseminate relevant information in local languages in subproject areas.

38. The MPW will finalize the resettlement plan for each subproject after the detailed design is prepared, and ensure that affected persons receive compensation following the resettlement framework. The MPW will (i) appoint a focal person for land issues; (ii) set up an environmental and social unit within PMU, including social safeguard specialists; (iii) coordinate with the Department of Land, Property and Cadastral Services and other relevant agencies; and (iv) set up national and district committees to implement resettlement activities. The project will strengthen the MPW's social safeguard capacity by providing resettlement specialists (30 person-months) and by conducting training.

39. **Environment.** The project is classified as category B for the environment. An environmental assessment and review framework (EARF) has been prepared to ensure that the project will comply with ADB's Safeguard Policy Statement (2009) and Timor-Leste laws. An initial environmental examination (IEE) has been prepared for the core subproject based on the detailed design. This has been publicly disclosed, along with the EARF on the government and ADB websites. IEEs of five candidate subprojects have also been undertaken, and these will be updated based on the detailed design. The environmental impacts of road upgrading works during construction and operation have been assessed, and can be mitigated to acceptable levels.

40. The Environmental Management Plan (EMP) from the updated IEE for each subproject will be incorporated in civil works contracts. The EMP will guide the PMU, supervision consultants, and contractors in managing, monitoring, and reporting environmental impact mitigations and compliance. Civil works will not start until (i) the contractor has received training on environmental management and has submitted the site-specific EMP; (ii) the site-specific EMP has been reviewed and cleared by the PMU and supervision consultant; and (iii) an environment license has been obtained from the National Directorate for Environment. During implementation, the environmental management capacity of the DRBFC and PMU will be strengthened through environment specialists who will provide training.

## **F. Risks and Mitigating Measures**

41. Major risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.<sup>22</sup> The risks can be managed and are mitigated by the design of the project. The intended benefits and impacts are expected to outweigh the costs.

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<sup>22</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

**Table 4: Summary of Risks and Mitigating Measures**

| <b>Risks</b>  | <b>Mitigating Measures</b>   |
|---|--|
| Land acquisition delays the start of civil works.                     | Resettlement plans will be finalized and compensation will be paid before civil works begin. Significant impacts will be avoided in designs.   |
| Difficult environment (high rainfall and unstable terrain)            | Climate change adaptation and climate resilience measures are incorporated in the engineering designs.   |
| MPW in-house capacity for technical guidance and supervision is weak. | An existing and experienced ADB-financed project management unit within the MPW will be strengthened to implement this project.  |
| Corruption  | Adherence to ADB anti-corruption policies will be monitored through regular formal ADB review missions.  |
| Lack of post-construction maintenance leads to asset deterioration.   | Construction contracts will include maintenance for 2 years after completion of construction. MPW's capacity for road maintenance will be strengthened through ADB-supported TA (footnote 9) |

ADB = Asian Development Bank, MPW = Ministry of Public Works. TA=technical assistance

Source: Asian Development Bank.

#### **IV. ASSURANCES**

42. The government and the CAFI have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement, as described in detail in the project administration manual and loan documents.

43. The government and the CAFI have agreed with ADB on certain covenants for the project, which are set forth in the loan agreements.

#### **V. RECOMMENDATION**

44. I am satisfied that the proposed loans would comply with the Articles of Agreement of the Asian Development Bank (ADB) and, acting in the absence of the President, under the provisions of Article 35.1 of the Articles of Agreement of ADB, I recommend that the Board approve

- (i) the loan of \$40,000,000 to the Democratic Republic of Timor-Leste for the Road Network Upgrading Sector Project from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for 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; and
- (ii) the loan in various currencies equivalent to SDR6,672,000 to the Democratic Republic of Timor-Leste for the Road Network Upgrading Sector Project from ADB's Special Funds resources with an interest charge at the rate of 2.0% per annum during the grace period and thereafter; for 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.

Bindu N. Lohani  
Vice-President

29 August 2013

## DESIGN AND MONITORING FRAMEWORK

| Design Summary  | Performance Targets and Indicators with Baselines  | Data Sources and Reporting Mechanisms   | Assumptions and Risks   |
|---|--|---|---|
| <p><b>Impact</b></p> <p>Increased and more efficient movement of people and goods</p> | <p><b>By end 2018:</b></p> <p>For Manatuto to Natarbora road:</p> <p>Small and medium buses using the Manatuto to Natarbora road increase by 500% (2013 baseline: 1,100 per year)</p> <p>Freight transported increases by 600% (2013 baseline: 10,000 goods vehicles per year of general cargo)</p> <p>For other project roads:</p> <p>Passengers using the project roads increase by 40% over pre-construction base.</p> <p>Freight transported (goods vehicles per year of general cargo) increases by 30% over pre-construction base.</p> | <p>Annual traffic surveys<br/>DRBFC</p>   | <p><b>Assumptions</b></p> <p>Increased availability and quality of transport services after upgrading</p> <p>Government's plans for development of the south coast are implemented in accordance with current expectations</p> <p>Satisfactory maintenance of project roads after upgrading</p> <p><b>Risks</b></p> <p>Deterioration in external conditions depress domestic, social, and business conditions</p> <p>Rising fuel prices depress transport services.</p> |
| <p><b>Outcome</b></p> <p>MPW provides a more reliable and safer road network</p>      | <p><b>By end 2017:</b></p> <p>Travel time from Manatuto to Natarbora road drops by 30% (2013 baseline: 3.5 hours); travel time on other candidate subproject roads drops by 15%</p> <p>Rate of road accidents on project roads does not increase (crashes resulting in serious injury or loss of life per year)</p>  | <p>Project completion report prepared by MPW</p> <p>National accident statistics produced by PNTL</p> | <p><b>Assumption</b></p> <p>The government's transport division and road division are effective in planning and implementing transport policies</p>   |
| <p><b>Outputs</b></p> <p>1. Upgrade and climate-proof national roads</p>              | <p>By the end of 2017, the average roughness of about 117 km of national roads (the project roads) falls from an average of 8 m/km to less than 4 m/km</p> <p>At least 80% of workers hired by contractors are from local areas, including</p>   | <p>Annual road condition surveys by DRBFC</p> <p>Project monitoring reports from MPW</p>              | <p><b>Assumption</b></p> <p>The government remains continues to prioritize the upgrading of national roads</p> <p><b>Risks</b></p> <p>Land acquisition delays the start of civil works</p>  |



| Design Summary   | Performance Targets and Indicators with Baselines   | Data Sources and Reporting Mechanisms  | Assumptions and Risks  |
|--|---|--|--|
|  | at least 30% women in labor-based work  |  | Difficult environment (high rainfall and unstable terrain)   |
| 2. Prepare detailed designs for future priority road links               | Detailed engineering and environmental and social due diligence of 169 km of priority roads is prepared and completed progressively by April 2015   | Project monitoring reports<br>Consultants reports to MPW and ADB   |  |
| 3. Expand performance-based road maintenance                             | By December 2017, at least 650 km of national roads (45%) receive routine maintenance under a performance-based contract in accordance with DRBFC's annual plan (2013 baseline: 0%).  | Annual road condition surveys by DRBFC<br>DRBFC road maintenance program annual reports  | <p><b>Assumption</b><br/>The government adequately finances road maintenance</p> <p><b>Risk</b><br/>Insufficient capacity in MPW and through private contractors</p> |
| 4. Generate awareness of road safety and transport-related social issues | <p>At least 80% of children and 80% of women in project roadside communities receive road safety awareness education by the end of 2017</p> <p>100% of construction workers and at least 80% of roadside inhabitants receive education in gender and transport security, and HIV/AIDS awareness by 2014</p> <p>Rate of increase of fatal injury due to road crash is less than the rate of growth in the vehicle fleet</p> <p>Road safety council is established by December 2014</p> | <p>Records of road safety education delivered to schools maintained by the MOE</p> <p>Records of training of construction workers and roadside communities maintained by the MOH</p> <p>Records of crash fatalities maintained by PNTL and MOH</p> <p>Official memoranda of the MOTC</p> |  |
| 5. Provide project management support                                    | <p>PMU personnel increased from 5 (2011) to 12 (2013).</p> <p>All PMU and DRBFC personnel received training on social and gender issues.</p>  | <p>Employment records maintained by MPW</p> <p>Training records maintained by MPW</p>  |  |

| <b>Activities with Milestones</b>   | <b>Inputs</b>  |
|---|--|
| <p><b>1. Upgrade and climate-proof national roads</b></p> <p>1.1 Contract for civil works contract No.1 awarded by January 2014</p> <p>1.2 Contract for the civil works contract No. 2 awarded by April 2014</p> <p>1.3 Contract for civil works contract No.3 awarded by February 2015</p> <p>1.4 Construction supervision consultants recruited by January 2014</p> <p>1.5 Resettlement plans for the first and second subprojects implemented by January 2014</p> <p><b>2. Prepare detailed designs for future priority road links</b></p> <p>2.1 Consultant for detailed design and due diligence for the 169 km of national road recruited by February 2014</p> <p>2.2 Bidding documents for civil works contract No.3 completed by July 2014</p> <p><b>3. Expand performance-based road maintenance</b></p> <p>3.1 Contracts progressively introduced on upgraded national roads, with 650 km covered by December 2017</p> <p><b>4. Generate awareness of road safety and transport related social issues</b></p> <p>4.1 Road safety education provided to roadside communities by December 2017</p> <p>4.2 HIV/AIDS education program delivered to all construction workers and roadside communities by December 2017</p> <p>4.3 National road safety council established by December 2014, and action plan initiated</p> <p><b>5. Provide project management support</b></p> <p>5.1 Additional PMU staff recruited by September 2013</p> <p>5.2 PMU and DBRFC manage project implementation and monitoring</p> <p>5.3 PMU collects or measures data required by the design and monitoring framework</p> | <p><b>ADB: \$50.00 million</b></p> <p><b>Government: \$73.25 million</b></p> |

ADB = Asian Development Bank; DRBFC = Directorate of Roads, Bridges, and Flood Control; km = kilometer; m = meter; MOE = Ministry of Education; MOH = Ministry of Health; MOTC = Ministry of Transport and Communications; MPW = Ministry of Public Works; PMU = project management unit; PNTL = Timor-Leste National Police Force.

Source: Asian Development Bank.

### **LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/RRPs/?id=46260-002-3>

1. Loan Agreement: Ordinary Capital Resources
2. Loan Agreement: Special Funds Resources
3. Sector Assessment (Summary): Road Transport
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Economic and Financial Analysis
8. Country Economic Indicators
9. Summary Poverty Reduction and Social Strategy
10. Gender Action Plan
11. Initial Environmental Examination
12. Environmental Assessment and Review Framework
13. Resettlement Plan
14. Resettlement Framework
15. Risk Assessment and Risk Management Plan

#### **Supplementary Documents**

16. Subproject Eligibility Criteria and Selection Procedure
17. Scoping Study for the Implementation of the First Phase of a National Road Safety Action Plan for the Democratic Republic of Timor-Leste
18. Draft Feasibility Study Report: Manatuto to Natarbora Road
19. Economic Evaluations of the Rehabilitation of the (i) Baucau to Lautem Road, (ii) Lautem to Com Road, (iii) Baucau to Venilale Road, (iii) Venilale to Viqueque Road, and (iv) Los Palos to Lautem Road
20. Financial Management Assessment