



# PACIFIC TRANSPORT UPDATE 2017

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Welcome to the 2017 edition of the Pacific Transport Update of the Asian Development Bank (ADB). ADB's Pacific Department partners with governments, communities, and the private sector to increase access to essential goods, services, and opportunities. Its work in the Pacific transport sector supports ADB's developing member countries in providing safe, efficient, and reliable transport services that drive equitable socioeconomic growth and sustainable results. This update highlights some of the core activities of ADB's Pacific Department, the impacts these activities produce, and what the Pacific Department aims to achieve in the future.



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Director General  
Pacific Department

# ADB Transport Operations in the Pacific

■ Ongoing
 ■ Completed
 ■ Planned

Infrastructure Management	\$1.50 M
Our Roads Our Future-Supporting Local Governance and Community-Based Infrastructure Works	\$3.00 M
Road Network Development Sector Project	\$46.00 M
Road Network Upgrading Project	\$73.32 M
Road Network Upgrading Sector Project	\$129.27 M
Dili to Baucau Highway Project	\$48.27 M
Baucau to Viqueque Highway Project	\$78.00 M

Road Rehabilitation Project \$69.23 M

Sustainable and Climate Resilient Connectivity in Nauru \$71.60 M

## REGIONAL

Strengthening Climate and Disaster Resilience of Investments in the Pacific	\$1.00 M
Trade Facilitation and Transport Logistics Performance in the Pacific	\$3.00 M
Strengthening Domestic Transport Connectivity in the Pacific	\$2.00 M

Outer Island Maritime Infrastructure Project \$14.40 M

Ports Development Master Plan \$1.25 M  
 Port Development Project \$28.43 M

Ports Development Master Plan in Fiji \$0.20 M  
 Transport Sector Planning and Management \$0.80 M

Transport Infrastructure Investment Sector Project and Technical Assistance for Strengthening Transport Coordination Capacity \$150.70 M

Port Vila Urban Development Project \$38.20 M

Interisland Shipping Support Project \$43.63 M

Establishment of the Maritime Safety Administration \$1.50 M

Supporting the Vanuatu Project Management Unit and the Ministry of Infrastructure and Public Utilities \$0.23 M

Cyclone Pam Road Reconstruction Project \$24.35 M

Lae Port Development Project	\$187.46 M
Highlands Region Road Improvement Investment Program, Tranche 1	\$99.42 M
Civil Aviation Development Investment Program, Project 1	\$89.70 M
Highlands Region Road Improvement Investment Program, Project 2	\$36.79 M
Highlands Region Road Improvement Investment Program, Tranche 3	\$142.37 M
Maritime and Waterways Safety Project	\$36.79 M
Bridge Replacement for Improved Rural Access Project	\$83.20 M
Regulating and Sustaining Road Transport	\$0.50 M
Civil Aviation Development Investment Program, Tranche 2	\$128.48 M
Civil Aviation Development Investment Program, Tranche 3	\$248.19 M
Sustainable Highlands Highway Investment Program, Tranche 1	\$317.50 M
Building Resilience to Climate Change in Papua New Guinea	\$6.12 M

Transport Sector Development Project \$12.80 M

Domestic Maritime Support Sector Project \$26.19 M

Strengthening the Solomon Islands' Maritime Safety and Establishing the Solomon Islands Maritime Safety Authority \$0.80 M

Transport Sector Flood Recovery Project \$12.46 M

Sustainable Transport Infrastructure Improvement Program \$78.70 M

Strengthening the Capacity of the Ministry of Infrastructure Development \$4.50 M

M = million, MFF = multitranche financing facility, TA = technical assistance.  
 Source: ADB Pacific Department.

## Abbreviations

ADB – Asian Development Bank  
CO<sub>2</sub> – Carbon dioxide  
DMC – developing member country  
DRM – disaster risk management  
FTIIP – Fiji’s 20-Year National Transport Infrastructure Investment Plan  
GDP – gross domestic product  
HCRN – Highlands core road network  
JICA – Japan International Cooperation Agency  
MFF – multitranche financing facility  
navaid – navigational aid  
NTP – National Transport Plan (Solomon Islands)  
PNG – Papua New Guinea  
RBL – results-based lending  
SIMSA – Solomon Islands Maritime Safety Authority  
TA – technical assistance

## Weights and Measures

ha – hectare  
km – kilometer  
km<sup>2</sup> – square kilometer  
m – meter  
TEU – twenty-foot equivalent unit

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

Unless otherwise cited, the source for all tables and boxes is information provided by ADB’s Pacific Department to the author.

Text boxes in this publication highlight crosscutting sustainable transport themes and how they relate to ADB’s operations in the Pacific. These topics include: climate-change resilience, cross-border trade and logistics, urban development, road safety and social sustainability, and long-term asset management.

## Overview

The work of the Asian Development Bank (ADB) in the Pacific transport sector is empowering people and economies by increasing access to opportunity, and essential goods and services. Through its Strategy 2020, ADB established three strategic agendas to guide its work up to 2020: inclusive economic growth, environmentally sustainable growth, and regional integration.<sup>1</sup> Delivering safe, efficient, and reliable transport systems across the Pacific region is essential to driving progress in each of these core areas.

The *Pacific Transport Update 2017* provides an overview of ADB's technical assistance (TA) and lending activities in the Pacific region. It highlights the impacts and outcomes of initiatives completed in 2016 and active in 2017, and describes activities slated for implementation in the years to come.



<sup>1</sup> ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

## Regional

ADB's Pacific developing member countries (DMCs) are scattered across 30 million square kilometers (km<sup>2</sup>) of ocean—or one third of the earth's surface—and their combined landmass represents less than 2% of this total.<sup>2</sup> The remote, archipelagic geography of most Pacific DMCs, paired with their small and often dispersed populations, creates a unique set of challenges for connecting people, goods, and services across the region. At the same time, Pacific DMCs are among the most vulnerable countries in the world to the effects of natural disasters and climate change. There is a pronounced need to increase connectivity across the region, and to ensure that infrastructure is built and managed to endure.

ADB's Pacific DMCs have made considerable progress toward increasing connectivity. However, a number of challenges remain to be addressed. Limited financial resources and institutional capacity contribute to transport sector development that has not kept pace with demand and, in many cases, lack of maintenance contributes to the rapid degradation of existing assets. Ensuring that transport networks across the region meet the needs of generations today, and that they continue to effectively connect people with goods and opportunities, requires a comprehensive, sustainable development approach.

ADB is working with governments, development partners, communities, and businesses in its Pacific DMCs to build and upgrade key transport infrastructure, and to ensure that local stakeholders have the capacity to manage and maintain assets. This supports safer, more efficient, and reliable transport services in order to connect people with the goods and opportunities they need to thrive.

Ongoing assistance focus on improving intermodal links by upgrading roads, ports, and airports. A TA is building capacity and helping reform institutions to enhance safety and service delivery, and to support high-quality and long-term operation and maintenance. ADB's work with domestic and regional stakeholders is also strengthening trade, as well as responding to, and preparing for, the effects of climate change to support a more resilient, prosperous Pacific community.

Increasing the climate resilience of infrastructure and institutions bears associated incremental costs. However, adaptation measures cost significantly less than reconstruction. ADB's Pacific DMCs regularly request support in climate and disaster risk management (DRM), and in accessing climate financing. As a response, ADB has incorporated climate risk management as a standard practice in its investments, and is facilitating access to climate financing.

### Box 1: Connecting the Pacific Community with a Sustainable Transport System

A safer, more efficient, and reliable transport sector in the Pacific can improve the quality of life and drive economic growth. Connecting people with essential goods, services, and opportunities—like food, education, health care, and jobs—empowers them to develop themselves and the communities they live in. The key to unlocking the Pacific community's vast human capital is ensuring that its people and businesses have access to the resources and opportunities they need.

A well-planned, well-maintained, and sustainable transport sector provides these linkages, and ensures that they are available for generations to come. A sustainable transport system helps meet the access and development needs of people, communities, and businesses in a manner consistent with human and environmental health. A sustainable transport system also supports a competitive economy and more equitable development.

In the Pacific context, improving intermodal transport can help overcome the challenges of high import costs and limited access to goods, services, markets, and opportunities, which result from the region's challenging geography and limited resources. Building and upgrading assets to withstand extreme weather conditions increase the resilience of Pacific communities to the effects of climate change, while ensuring sufficient routine and periodic maintenance supports their financial and physical sustainability. Designing infrastructure assets with considerations for key safety, social, and environmental factors supports favorable integration into the communities they serve.

Source: Asian Development Bank. 2010 *Sustainable Transport Initiative: Operational Plan*. Manila.

At their meeting in May 2015, governors of Pacific DMCs requested support for increasing access to climate financing, and in building capacity in DRM. The TA for Strengthening Climate and Disaster Resilience of Investments in the Pacific is ADB's response to this request, and will (i) incorporate climate change and DRM considerations into project designs; (ii) strengthen capacity to integrate climate change considerations into government planning processes; (iii) increase access to climate change financing; and (iv) strengthen the capacity of Pacific DMCs to negotiate climate change agreements, for the Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC).

The TA will increase the resilience of infrastructure, communities, and investments in the region by promoting a higher degree of knowledge-sharing and integration of climate

<sup>2</sup> ADB's 14 Pacific DMCs comprise the Cook Islands, Fiji, Kiribati, the Marshall Islands, the Federated States of Micronesia, Nauru, Palau, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tonga, Tuvalu, and Vanuatu.

### STRENGTHENING CLIMATE AND DISASTER RESILIENCE OF INVESTMENTS IN THE PACIFIC

The technical assistance is building capacity to access climate finance, and to prepare for and respond to disasters.

Executing agency	Asian Development Bank, Pacific Department
Project officer	James Roop
Status	Active
Funding by source:	
Asian Development Bank Technical Assistance Special Fund	\$2.00 million
<b>Total amount</b>	<b>\$2.00 million</b>

change and DRM considerations into the development process. It will also provide logistical and financial assistance to the Government of Fiji to support its Presidency for the 23rd session of the COP.

The TA for **Trade and Transport Facilitation in the Pacific** aims to improve the trade competitiveness of Pacific DMCs by identifying hard and soft infrastructure required to reduce the time and cost associated with importing and exporting goods, thereby supporting a more prosperous Pacific.

The TA is conducting a regional analysis to examine trade and transport linkages, and provide insights on where and how Pacific DMCs can respond to specific bottlenecks. Building on assessment activities, the TA will strengthen national capacity to plan and implement further investments and policies to strengthen trade competitiveness.

Activities will be undertaken in eight Pacific DMCs: Fiji, Papua New Guinea, Samoa, Timor-Leste, Tonga, Vanuatu, Solomon Islands, and Tuvalu. These Pacific DMCs were selected based on their governments' interest in trade and transport facilitation, and potential synergies with ADB's current

### Box 3: Connecting Goods and Economies Across the Pacific:

Improving trade and transport logistics across the Pacific can reduce the cost of doing business, increase private sector access to international markets, and support economic growth at the regional and national levels. Currently, weak trade and transport logistics performance is a key factor constraining interregional and intraregional trade growth in the Pacific—contributing to high import and export costs and slow processing times. Overcoming these obstacles can significantly reduce the cost of goods, and facilitate private sector growth.

To improve competitiveness of trade, and to facilitate the movement of people and goods, the Asian Development Bank's Pacific developing member countries are working to strategically reform, modernize, and strengthen institutions, and to invest in trade-related infrastructure. The Asian Development Bank is supporting this work by helping to identify specific bottlenecks, and working with stakeholders across sectors to overcome them.

### TRADE AND TRANSPORT FACILITATION IN THE PACIFIC

The technical assistance will address transport and logistical bottlenecks to reduce time and costs associated with doing trade in the Pacific.

Executing agency	Asian Development Bank, Pacific Department
Project officer	Alexandra Pamela Chiang
Status	Active
Funding by source:	
Asian Development Bank Technical Assistance Special Fund	\$1.00 million
Japan Fund for Poverty Reduction	\$2.00 million
<b>Total amount</b>	<b>\$3.00 million</b>

### Box 2: Building a More Resilient Pacific Transport Sector

Pacific island nations are among the most vulnerable countries in the world to the effects of natural disasters. Their small size, remoteness, and placement in volcanically active, cyclone-prone areas expose them to the effects of severe weather and seismic events, while their archipelagic and low lying topography increases the potential impacts of sea level rise. Changing weather patterns can affect primary economic activity, including agriculture and tourism, while a single disaster event has the potential to erode years of development gains by damaging infrastructure, affecting livelihoods, and diverting resources away toward reconstruction.

At the same time, communities across the Pacific have limited capacity to manage risks and respond to crises. Resilient transport infrastructure is critical to responding to the effects of climate change, as it provides access to all essential goods and services and also linkages for emergency response. However, transport assets across the Pacific are highly vulnerable to the effects of natural disasters. As such, designing transport infrastructure to be more resilient to severe weather events, and building institutional capacity to manage and respond to disasters, are key strategies for mitigating negative impacts on communities and infrastructure.



Interisland boat trip at Port in Honiara.

ADB Photo

maritime, aviation, and land transport operations.<sup>3</sup> Specific activities under the TA include:

- (i) institutionalizing tools to assess the efficiency of trade and logistics, by measuring the time and costs associated with trading along specific routes;
- (ii) building a model to correlate trade volume with transport flows, and developing strategies and investment plans to increase efficiency; and
- (iii) providing training for relevant authorities to prepare investments that will improve logistics and modernize customs procedures.

The TA is supporting interregional and intraregional trade by building knowledge of best practices, and by increasing access to the data needed to inform corresponding policy decisions and investments.

As countries across the Pacific work to increase transport sector infrastructure and improve service delivery, efficient project preparation and investment planning is essential to ensure successful development activities across the transport sector. The TA for **Strengthening Domestic Transport Connectivity in the Pacific** will provide support for project preparation for investments that focus on improving domestic transport connectivity in a number of Pacific DMCs. The TA

#### STRENGTHENING DOMESTIC TRANSPORT CONNECTIVITY IN THE PACIFIC

The technical assistance will provide policy support and help Pacific developing member countries plan investments to improve domestic transport infrastructure and services.

Executing agency	Asian Development Bank
Project officer	David Ling
Status	Active

#### Funding by source:

Asian Development Bank Technical Assistance Special Fund	\$2.00 million
<b>Total amount</b>	<b>\$2.00 million</b>

is currently focused on Solomon Islands, Tonga, and Vanuatu, but could be scaled up to address similar needs in neighboring Pacific DMCs. In addition to supporting preparation of investments, the TA will also provide advisory support to advance national transport sector policies.

<sup>3</sup> The TA was designed in response to needs identified at a regional workshop with Pacific DMCs held in Suva in April 2013.



## Fiji

Fiji is a South Pacific archipelagic nation with 110 inhabited islands and a land area of 18,300 km<sup>2</sup>. Approximately 90% of its 860,000 residents live on the three main islands of Taveuni, Vanua Levu, and Viti Levu, and about half of the population lives in rural areas. Improving Fiji's transport infrastructure will increase access to economic opportunities and services for rural populations, and improve domestic and international trade.

Currently, unreliable transport connectivity constrains movement of people and goods, depresses productive rural activity, and impedes growth of the tourism industry. Further investment in the transport sector, with a focus on vulnerable groups—including rural communities, women, youth, and the elderly—and climate change resilience, is building a foundation for inclusive growth by increasing access to markets and services.

ADB is supporting connectivity across Fiji by helping the government to plan and implement a pipeline of transport works. TA and lending activities are building institutional capacity alongside new assets to improve transport services and ensure that infrastructure is both physically and financially sustained.

### PORTS DEVELOPMENT MASTER PLAN IN FIJI

The technical assistance provided strategic direction for expanding Fiji's port infrastructure and improving service delivery.

Executing agency	Ministry of Finance
Project officer	David Ling
Status	Completed in June 2017

#### Funding by source:

Asian Development Bank Technical Assistance Special Fund	\$0.20 million
<b>Total amount</b>	<b>\$0.20 million</b>

Enhancing port infrastructure and operations can leverage Fiji's strategic geographic positioning to help it become a regional transshipment hub. Current limiting factors include (i) limited berth capacity; (ii) limited container terminal capacity; and (iii) a stringent regulatory environment, which causes many ship operators to prefer transshipment through alternate ports. Expanding port infrastructure and addressing operational and regulatory constraints are key measures for increasing transshipments and expanding the domestic economy.

### TRANSPORT SECTOR PLANNING AND MANAGEMENT

The technical assistance aligned government and development partner activities to support well-planned transport sector investments and development.

Executing agency	Ministry of Finance
Project officer	David Ling
Status	Completed in March 2017

#### Funding by source:

Asian Development Bank Technical Assistance Special Fund	\$0.80 million
<b>Total amount</b>	<b>\$0.80 million</b>

The TA for a **Ports Development Master Plan in Fiji** was implemented to provide strategic direction for expanding Fiji's port infrastructure. It conducted a demand assessment and port utilization study, and oversaw production of a 7-year action plan for developing Fiji's six ports. Current terminal capacity in Suva alone is about 90,000 twenty-foot equivalent units (TEUs) per year (2.8 hectares [ha]). With short-term improvements recommended in the TA, the amount of terminal yard space can be increased to 3.5 ha within the existing constrained site—bringing terminal capacity up to 125,000 TEUs per year. This capacity is expected to be met by 2025, as demand increases to 175,000 TEUs per year in 2040, which would require terminal space of 5 ha.

The TA will increase transport efficiency and help establish the country's role as a transshipment hub, both in the short and long term. Improved port infrastructure supports Fiji's broader transport sector goals, and will help drive socioeconomic growth.

The TA for **Transport Sector Planning and Management** was designed to support coordination between national authorities, development partners, and the private sector, and to provide a long-term vision for developing Fiji's transport sector. The TA produced a comprehensive transport sector assessment, as well as land and maritime transport policies, which were launched by the Ministry of Infrastructure and Transport in July 2016.

The TA also produced Fiji's 20-Year National Transport Infrastructure Investment Plan (FTIIP), which will guide financing to improve the country's transport infrastructure. FTIIP sets out the investment policy, priorities, and projected investments in road networks and maritime transport infrastructure over the period from 2017 to 2036.



### TRANSPORT INFRASTRUCTURE INVESTMENT SECTOR PROJECT<sup>a</sup> AND TECHNICAL ASSISTANCE FOR STRENGTHENING TRANSPORT COORDINATION CAPACITY

The project is upgrading land and maritime transport infrastructure, and the technical assistance is building capacity to ensure it is managed and maintained sustainably.

Executing agency	Ministry of Economy
Project officer	David Ling
Status	Active
Funding by source:	
Asian Development Bank ordinary capital resources	\$100.00 million
International Bank for Reconstruction and Development	\$50.00 million
Asian Development Bank Technical Assistance Special Fund	\$0.70 million
<b>Total amount</b>	<b>\$150.70 million</b>

<sup>a</sup> Formerly titled Bridge Replacement Project.

The **Transport Infrastructure Investment Sector Project** is building on TA activities and is improving access to socioeconomic opportunities by upgrading and rehabilitating land and maritime transport infrastructure. The project will finance a series of subprojects prioritized by FTIIP and FRA, strengthen the institutional capacity to prioritize investments, and ensure timely and high-quality maintenance of transport infrastructure.

Physical works will include repair, rehabilitation, reconstruction, and upgrading of up to 100 kilometers (km) of existing roads, 30 bridges, and 6 rural jetties. The project will also improve pedestrian access and safety along roads and bridges, by installing safety furniture and streetlights, and incorporate gender-sensitive design.

The corresponding TA for **Strengthening Transport Coordination Capacity** is building the capacity of government staff in the areas of road safety, and design and construction standards. It is also preparing a Sustainable Transport roadmap, to help Fiji meet its Nationally Determined Contributions in the transport sector.

### Box 4: Sustaining Infrastructure in the Region

Providing regular maintenance for transport infrastructure extends its economic life, and creates opportunities for local businesses and communities to engage in the development process. Although many Pacific island countries have (or once had) adequate transport infrastructure to meet their connectivity needs, lack of financial and human resource allocations have led to the deterioration of transport infrastructure. This requires costly rehabilitation, which can be avoided in the future by improving maintenance practices. Maintaining infrastructure is less costly than rebuilding it.

In parallel to its lending activities in the Pacific transport sector, the Asian Development Bank supports project sustainability by building domestic capacity and implementing ongoing infrastructure maintenance beyond project completion. By engaging local governments, businesses, and communities, the Asian Development Bank is supporting its Pacific developing member countries to increase the physical and financial sustainability of its transport sector.

## Kiribati

Kiribati is a small, remote country composed of 33 islands, spread across 3.5 million km<sup>2</sup> of ocean—distance from major markets leads to high external transport costs. The majority of Kiribati's economic activity takes place in the public sector, which accounts for approximately 50% of gross domestic product (GDP) and 80% of formal employment. As a result, Kiribati's development priorities focus on generating employment opportunities, fostering greater environmental and fiscal sustainability, and reducing poverty.

ADB is supporting national goals by helping to develop key infrastructure assets, and by strengthening domestic capacity to manage and maintain them. A safe and efficient roadway system is essential to connecting Kiribati's population to economic opportunities and social services—particularly on the capital, Tarawa—and maintenance programs can generate new jobs.

Tarawa has a population density of 4,000 people per square kilometer, and houses 56,300 people (or 55% of the national population). Communities on the island are linked to each other—and the international airport—by a single paved road with three causeways, which runs from east to west. Urban development along the central road corridor, particularly in the main urban center of Betio, provides opportunities for cash employment and access to essential social services. However, by 2010, South Tarawa's main roadway had served its economic life, and was in critical need of repairs.



A major road in Tarawa.

### ROAD REHABILITATION PROJECT

The project rehabilitated land transport that connected communities with goods, services, and employment opportunities.

Executing agency	Ministry of Finance and Economic Development
Project officer	Jude Kohlhase
Status	Complete in 2017
Funding by source:	
Asian Development Bank ordinary capital resources (concessional loan)	\$12.00 million
Asian Development Fund Special Funds resources (grant)	\$9.00 million
Asian Development Fund Special Funds resources (grant)	\$2.40 million
International Bank for Reconstruction and Development (grant)	\$26.97 million
Government of Australia through the Pacific Region Infrastructure Facility and the Australia-Pacific Islands Partnership (grant)	\$18.86 million
<b>Total amount</b>	<b>\$69.23 million</b>

The **Road Rehabilitation Project** was designed to respond to these needs, and has helped coordinate development partner support to improve the road network on South Tarawa. The project oversaw the rehabilitation of 37.5 km of pavement, and included installation of safety feature, including speed bumps, street lighting, and signage; it also installed more than 50 km of footpaths. Two additional financing packages have been utilized to increase the scope of the project, and have rehabilitated an additional 7.8 km of paved main roads and 0.5 km of unpaved feeder roads.

### Box 5: Improving Safety and Security across Pacific Roads, Waterways, and Airways

Sustainable transport systems help support the safety and security of the people and communities they connect. Addressing safety dimensions of the Pacific transport sector requires a comprehensive approach to increasing awareness, improving physical assets, and strengthening institutional capacity. Safety and security considerations include roadways, and extend to maritime and aviation transport.

Virtually all transport operations of the Asian Development Bank in its Pacific developing member countries incorporate safety dimensions into project design and implementation. These activities include (i) increasing awareness of roadway safety to reduce accidents and protect pedestrians; (ii) building the capacity of maritime and aviation authorities to support compliance with international safety and security standards and best practices; (iii) improving the physical conditions of roads, ports, and airports; and (iv) installing and commissioning new safety equipment, including roadway safety furniture, pedestrian walkways, navigational aids for maritime transport, and safety fencing and fire trucks at airports.

By integrating safety considerations into project design and implementation, the Asian Development Bank is able to leverage its relationships with governments, communities, and the private sector to support comprehensive improvements to transport safety in the Pacific.

Local subcontractors have been trained and engaged to perform ongoing maintenance on the roadway. This will help ensure long-term sustainability of physical works, and create added value by generating local jobs. The project has helped increase access to a safe, sustainable, and well-maintained roadway, which is improving socioeconomic conditions for the people of South Tarawa.

## Nauru

Nauru is a small island country with a land area of 21 km<sup>2</sup> and a population of about 11,300 people. With limited water and agricultural resources, Nauru is entirely dependent on imports, with about 95% of essential goods, including food and medical supplies, arriving by sea. Aiwo Port is Nauru's main gateway for regional and international trade, and is therefore a critical lifeline for the country.

Currently, Aiwo port cannot accommodate large shipping vessels, and containers are transferred offshore one at a time, by barges, to and from the harbor. In rough weather, unloading approximately 200 containers can take anywhere from a few days to several weeks (currently, average ship days for cargo ships are 21 days and 3 days for fuel tankers). The construction of berthing and storage facilities can significantly increase port efficiency and transport safety in Nauru and, in turn, reduce import costs and facilitate trade. New facilities can also reduce CO<sub>2</sub> emissions from fuel tankers and cargo ships by more than 11,000 tons per year.

### SUSTAINABLE AND CLIMATE RESILIENT CONNECTIVITY IN NAURU<sup>a</sup>

The project is improving port infrastructure and facilities, and is making trade safer and more efficient.

Executing agency	Ministry of Finance
Project officer	Pivithuru Indrawansa
Status	Active
Funding by source:	
Asian Development Bank Technical Assistance Special Fund (project preparatory technical assistance)	\$0.90 million
Asian Development Fund (project design advance)	\$3.00 million
Asian Development Fund (grant)	\$21.30 million
Government of Australia for the proposed ensuing project	\$14.08 million
Green Climate Fund for the proposed ensuing project	\$26.91 million
Government of Nauru for the proposed ensuing project	\$17.30 million
Government of Australia for reforms of Nauru Port Authority	\$2.60 million
<b>Total amount</b>	<b>\$86.09 million</b>

<sup>a</sup> Formerly Port Development Project

The **Sustainable and Climate Resilient Connectivity in Nauru** project is improving port operations in Nauru by building a wharf, excavating into a reef to form a berth channel and breakwater at Aiwo, reconstructing port buildings and the container storage area, and strengthening the institutional capacity of the Nauru Port Authority. These activities will reduce wait times for shipping vessels, reduce CO<sub>2</sub> emissions, reduce import costs, and greatly increase the safety of people and goods.

The project's outputs include (i) assessment (and removal, if necessary) of unexploded ordnances; (ii) demolition and safe disposal of existing port buildings; (iii) construction and commissioning of a wharf, berth channel, and breakwater to the north of the existing Aiwo harbor; (iv) construction of port facilities, including office buildings, a gatehouse, workshop, container storage area, and fencing; and (v) capacity building for Nauru Port Authority.

As of October 2017, the feasibility studies covering due diligence and detailed engineering designs had been completed, and the Green Climate Fund had approved a funding application to support the project. The project will support a more affordable and reliable supply of imported goods by making port operations safer, more efficient, and more reliable.



Fishing at a port in Nauru.

## Papua New Guinea

Papua New Guinea (PNG) is ADB’s largest Pacific DMC in terms of landmass, population, and GDP. In 2016, its population was estimated to be 8,151,300 people, spread across 20 administrative provinces on the main island of New Guinea—which houses half of the nation’s population—and several smaller island groups. More than 85% of PNG’s population lives in rural areas, and the country’s rugged terrain and limited infrastructure constrain the provision of basic goods and services. Improving intermodal transport can greatly increase access to employment opportunities and social services, while bolstering economic growth.

ADB is helping PNG to deliver safer and more efficient transport between rural areas, urban centers, and international destinations. Ongoing lending activities focus on developing sustainable road networks, ensuring that aviation facilities meet international safety standards, and that ports have sufficient capacity to meet the needs of PNG’s growing, export-driven economy. TA is complementing lending activities by helping to increase the capacity of public and private sector institutions to plan, build, and maintain resilient transport infrastructure.

### LAKE PORT DEVELOPMENT PROJECT

The project increased the capacity of Papua New Guinea’s largest international port.

Executing agency	Independent Public Business Corporation
Project officer	David Hill
Status	Completed in June 2016
Funding by source:	
Asian Development Bank ordinary capital resources	\$60.00 million
Asian Development Fund	\$38.42 million
Asian Development Bank ordinary capital resources add	\$84.98 million
Asian Development Fund (additional financing)	\$4.06 million
<b>Total amount</b>	<b>\$187.46 million</b>

Lae Port is PNG’s largest and busiest port; it is connected to New Guinea’s hinterlands with a dedicated roadway system, and serves as the nation’s primary gateway for international and domestic trade. Efficient and reliable operation of the port is essential for PNG’s continued economic growth.

The **Lae Port Development Project** was launched in December 2007 in response to increasing congestion and

### Box 6: Complementing Lae Port Infrastructure with Community Development

In addition to physical works on port facilities, the project supported efforts to increase livelihood opportunities for people in communities affected by port construction. The Japan Fund for Poverty Reduction provided a \$1.20 million grant, which supported efforts in two components—infrastructure and livelihoods.

The infrastructure portion of the grant funded upgrades to local schools, as well as the construction of health clinics and water systems in surrounding communities. The livelihoods component of the grant provided training and microfinance opportunities to support new businesses and local entrepreneurs.

The grant allowed the Puseka farmers to build ponds for inland fishing, and provided fish-aggregating devices to three coastal villages. The inland ponds range from 200 square meters to 600 square meters in size, and have the capacity to hold 1,000–3,000 fish. Approximately 70,000 tilapia fingerlings were distributed to selected communities, with the majority of catch shared among community members, and the remainder sold in nearby markets.

wait times affecting the port’s users. The project was designed to increase export capacity and trade efficiency to provide adequate connectivity in both the immediate and long term.

Physical works included the construction of a tidal basin, multipurpose berth, container terminal, and ancillary facilities such as storage areas, roads, and drainage; all facilities were fitted with appropriate electricity and sewerage services. The new facilities have successfully reduced congestion—providing capacity for an additional 160 ship calls, and increasing the port’s capacity by approximately 2 million revenue tons per year. The project also provided education programs to minimize the spread of HIV in the area.

Resilient infrastructure can play a vital role in ensuring food security and the timely delivery of essential goods. PNG’s economy and population are highly vulnerable to the effects of climate change and severe weather events. At the same time, there is a current lack of technical, physical, and financial capacity to plan for and cope with severe weather events. This is particularly true of small coastal villages, which represent approximately 800,000 Papua New Guineans and rely on small ports for the timely delivery of perishable food.

These factors underpin the need to build capacity to cope with the effects of climate change, and to enhance the resilience



Lae Port.

of island and atoll communities. The key steps for doing so include increasing the productivity of agricultural resources, ensuring access to water and sanitation, improving food processing and storage, and strengthening port infrastructure to withstand severe weather events.

- (ii) developing knowledge products and adaptation tools;
- (iii) fostering a better understanding of climate change vulnerabilities and adaptation options;
- (iv) increasing adaptive capacity at the sectorial, national, district, and community levels; and
- (v) developing climate-resilient infrastructure.

#### ADDITIONAL FINANCING TO BUILDING RESILIENCE TO CLIMATE CHANGE<sup>a</sup>

The project will build domestic capacity to plan for and respond to climate change, and support resilient infrastructure development.

Executing agency	Office of Climate Change and Development
Project officer	James Roop
Status	Proposed for 2017
Funding by source:	
Cofinancing	\$6.12 million
<b>Total amount</b>	<b>\$6.12 million</b>

<sup>a</sup> Formerly Alotao Port Climate Proofing Project.

The **Additional Financing to Building Resilience to Climate Change** project will support PNG's transition to a climate-resilient development path by:

- (i) increasing access to financial resources dedicated to adaptation;

The project will increase resilience to the impacts of climate variability. It will accomplish this by building the capacity of communities, government agencies, and civil society to plan for and respond to the effects of climate change. This will make pilot investments in sustainable fisheries and food security initiatives in nine vulnerable communities. It will also prepare vulnerability assessments and adaptation plans in targeted communities, and design an enabling framework for climate-resilient infrastructure.

The safe and efficient management of PNG's coastal transport infrastructure directly affects the access of coastal communities to economic opportunities and essential goods and services. As ADB and the Government of PNG work to foster sustainable and resilient socioeconomic growth, the country's maritime infrastructure needs modern navigational safety technology and information resources to ensure safe vessel operation.

The Government of PNG has made significant progress to strengthen maritime safety. The establishment of the National Maritime Safety Authority has improved maintenance of existing safety equipment—namely, navigational aids—and has driven community engagement in monitoring lighthouses and other remote assets.

## MARITIME AND WATERWAYS SAFETY PROJECT

The project is increase access to maritime information, and providing new assets to support maritime safety.

Executing agency	National Maritime Safety Authority
Project officer	David Hill
Status	Active
Funding by source:	
Asian Development Bank ordinary capital resources (concessional loan)	\$36.79 million
<b>Total amount</b>	<b>\$36.79 million</b>

The **Maritime and Waterways Safety Project** is building on the National Maritime Safety Authority's success, and is (i) replacing 99 existing navigational aids, install additional 33 units, and engage rural communities to provide ongoing maintenance; (ii) enhancing the safety information infrastructure by developing new navigational charts and extending the automatic identification network; and (iii) improving maritime safety practices in communities of varying sizes by providing training and safety-awareness campaigns.

By improving the environment for safer maritime transport, the project is producing benefits for rural and remote populations, the wider national population, and regional stakeholders participating in maritime trade. Coastal shipping, which affects 65% of PNG's poor population, will be safer and more efficient, and passenger capacity will increase. Domestic benefits include greater access to goods, services,

and economic opportunity, and the region will benefit from safer, more efficient trade.

The Highlands region is a major contributor to the PNG economy through its agricultural and mineral exports.<sup>4</sup> It is also home to 40% of the country's population, who rely almost entirely on the road network for movement of people and goods. The government and its development partners have invested significantly in improving the road network. However, a lack of regular maintenance has led to an overall degradation of the Highlands core road network (HCRN).

In order for the HCRN to provide an effective link between people, goods, and socioeconomic opportunities, there is a need to improve degraded portions of the network, and to ensure that routine maintenance is carried out along serviceable portions of the road system. Improvements to and regular maintenance of the HCRN can increase economic productivity of the Highlands region, drive more inclusive growth, and improve roadway safety.

The **Highlands Region Road Improvement Investment Program** was launched in 2008 as a multitranche financing facility (MFF).<sup>5</sup> The MFF will include (i) investment projects covering improvements to about 1,400 km of the HCRN (comprising 13 segments of road) to be funded through four or more tranches; (ii) preparation and administration of long-term road maintenance contracts for the entire 2,500 km of the HCRN; (iii) support for capacity development, resource mobilization for maintenance funds, and improved road transport services; and (iv) monitoring of the socioeconomic benefits associated with ongoing improvements to and maintenance of the HCRN.



Students walking along the Banz-Ogelbeng Road.

ADB Photo

<sup>4</sup> The Highlands region of PNG comprises the provinces of Western Highlands, Jiwaka, Southern Highlands, Hela, Eastern Highlands, Enga, and Simbu.

<sup>5</sup> MFF: (i) is a flexible financing instrument that enables ADB to provide assistance programmatically; (ii) facilitates long-term partnerships and constructive dialogue on physical investments as well as nonphysical (thematic and sector) interventions; and (iii) provides critical mass, predictability, and continuity.



**HIGHLANDS REGION ROAD IMPROVEMENT INVESTMENT PROGRAM, TRANCHE 1**

Executing agency	Department of Works
Project officer	David Hill
Status	Completed in June 2016

**Funding by source:**

Asian Development Bank: ordinary capital resources (concessional loan)	\$99.42 million
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<b>Total amount</b>	<b>\$99.42 million</b>
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*Tranche 1 activities included (i) improvement to 113.7 kilometers (km) of road, (ii) preparation and launch of Papua New Guinea's National Transport Development Plan 2011–2020, (iii) arrangements for long-term road network maintenance, and (iv) capacity building for the Department of Works and the National Road Authority.*

**Physical works**

- 49.5 km of road were rehabilitated between Mendi and Kandep.
- 64.2 km of road were rehabilitated between Laiagam and Porgera.
- Rehabilitated roads consist of an 8.0 meter (m)-wide sealed carriage way with .25 m gravel shoulders on either side; all works include road safety furniture.

**HIGHLANDS REGION ROAD IMPROVEMENT INVESTMENT PROGRAM, PROJECT 2**

Executing agency	Department of Works
Project officer	David Hill
Status	Active

*Tranche 2 activities include (i) improvements to 119.0 km of road; (ii) maintenance arrangements for 500 km of the Highlands core road network; and (iii) capacity building for the National Road Safety Council, the Department of Works, and the National Road Authority.*

**Physical works:**

- 31.8 km of road are being rehabilitated between Kotna and Lapramp.
- 31.7 km of road are being rehabilitated between lalibu and Kagua.
- 55.5 km of road are being rehabilitated between Dei and Mul-Baiyer.
- The roads will provide carriageways 5.5–8.0 m wide, with double bitumen surface treatment, and gravel shoulders 0.25–0.5 m wide. All works include road safety furniture.

**HIGHLANDS REGION ROAD IMPROVEMENT INVESTMENT PROGRAM, TRANCHE 3**

Executing agency	Department of Works
Project officer	David Ling
Status	Active

**Funding by source:**

HRIP (loan)	\$19.99 million
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Asian Development Bank ordinary capital resources (concessional loan)	\$37.38 million
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Asian Development Bank ordinary capital resources	\$70.41 million
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<b>Total amount</b>	<b>\$127.78 million</b>
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*Tranche 3 activities include (i) improvements to 113.5 km of road; (ii) maintenance arrangements for 200 km of the Highlands core road network, and (iii) capacity building for the National Road Safety Council, the Department of Works, and the National Road Authority.*

**Physical works:**

- 20.0 km of road are being rehabilitated between Gewa and Gombogl.
- 28.0 km of road are being rehabilitated between Nipa and Minuhu.
- 31.5 km of road are being rehabilitated between Pangia and Wiru Loop.
- 34.0 km of road are being rehabilitated between Henganofi–Nupuru.
- The roads will provide carriageways 5.5–8.0 m wide, with double bitumen surface treatment, and gravel shoulders 0.25–0.5 m wide. All works include road safety furniture.



The program's impact will be export-driven economic growth and rural development in the Highlands region. The improved, more sustainable road network will reduce transport costs and accidents, increase connectivity between rural and urban areas, streamline access to major ports and airports, and support more equitable development. Activities under each tranche will contribute to more efficient transport and, in turn, increase access to goods, services, and opportunities across PNG.

Owing to its rugged terrain, PNG has a relatively large number of bridges for the size of its road network, it is estimated that there are over 700 roadway bridges nationwide. A large proportion of these are single-lane Bailey bridges that were used due to low-cost and fast deployment during early development stages of the national road network. Due to limited load carrying capacity, increasing traffic volume, and deterioration over time, these bridges have become a safety risk and a weak link in PNG's national road system.

The **Bridge Replacement for Improved Rural Access Project** is replacing narrow bridges on 5 of the 16 priority national roads with permanent two-lane bridges. Some of the existing modular bridges that are in good condition, which will be replaced due to size, will be reassembled on rural roads, boosting access to urban centers. The project is also developing the capacity of the Department of Works to maintain its bridge management system and improve road safety awareness in rural areas, where accident rates are high.

The project is improving road safety and increase connections to rural areas. Improved accessibility of rural road networks will open up markets, increase agricultural profitability, facilitate market chain linkage with downstream processing and export markets, and expand access to health services.

#### BRIDGE REPLACEMENT FOR IMPROVED RURAL ACCESS PROJECT

The project is replacing outdated Bailey bridges with larger ones, and reassemble modular bridges to increase mobility of rural populations.

Executing agency	Department of Works
Project officer	David Hill
Status	Active

#### Funding by source:

Asian Development Bank ordinary capital resources	\$40.00 million
Asian Development Bank ordinary capital resources (concessional loan)	\$43.20 million
<b>Total amount</b>	<b>\$83.20 million</b>

The 1,200 km long, two-lane national Highlands Highway is the central lifeline for connecting people, goods, and services across the Highlands region. It connects to the HCRN, ties together 1,800 km of regional and feeder roads, provides access to international airports and, crucially, connects the Highlands to Port Lae. At present, more than 70% of the highway is in fair or poor condition, while 90% of the road length poses safety hazards to users and pedestrians.<sup>6</sup>

The **Sustainable Highlands Highway Investment Program** will improve physical assets and safety features of the highway system, and increase its economic lifespan. It will accomplish this by introducing a comprehensive maintenance program, which will include (i) repairs, resurfacing, climate-proofing, and maintenance of 430 km of the Highland Highway; (ii) improving road safety by installing safety furniture; (iii) improving trade logistics by constructing bypasses and weighing stations; and (iv) widening and reconstructing up to 69 bridges. Capacity building for the Department of Works and other departments will increase transparency, accountability, and capacity for long-term management and maintenance of all highway assets.

The investment program will be implemented in three tranches over a 10-year period, and is predicated on the observation that the majority of road pavement failures are due to prolonged lack of maintenance, and not to inadequate structural design. As such, many sections can be restored without engaging in costly reconstruction, if corrective actions are implemented rapidly.

The investment program will (i) improve access to health and education, and raise living standards; (ii) increase opportunities for equality and prosperity in rural areas;

#### SUSTAINABLE HIGHLANDS HIGHWAY INVESTMENT PROGRAM, TRANCHE 1

The program will improve the condition of the Highlands Highway—one of the country's most important routes for transporting people and goods.

Executing agency	Department of Works
Project officer	David Hill
Status	Active

#### Funding by source:

Asian Development Bank ordinary capital resources	\$274.00 million
Asian Development Bank ordinary capital resources (concessional loan)	\$32.00 million
Government of Australia	\$11.50 million
<b>Total amount</b>	<b>\$317.50 million</b>

<sup>6</sup> Road conditions are rated on a scale of 1–5: (1) *very good*, (2) *good*, (3) *fair*, (4) *poor*, and (5) *very poor*. Roads that are rated in conditions 1–3 are considered maintainable, while conditions 4–5 require upgrades prior to being maintainable.



Mount Hagen Airport in the Western Highlands Province in Papua New Guinea.

### REGULATING AND SUSTAINING ROAD TRANSPORT

The technical assistance is strengthening institutions and improving the sustainability of investments in Papua New Guinea’s transport sector.

Executing agency	National Road Authority
Project officer	David Ling
Status	Active

#### Funding by source:

Asian Development Bank Technical Assistance Special Fund	\$0.50 million
<b>Total amount</b>	<b>\$0.50 million</b>

and (iii) support a well-integrated, safe, and financially and environmentally sustainable transport system.

PNG’s subnational network of provincial and district roads totals about 20,000 km and serves 85% of the rural population. However, rural roads often receive fewer financial and technical resources than national roads, and many are deteriorating due to neglect.

The **Regulating and Sustaining Road Transport** TA is supporting policy and institutional reforms to improve the sustainability of investments in the road sector. The TA supports road transport regulation, financial resources management for road maintenance, and planning rural road improvements. It is also helping to build the capacity of key public and private sector stakeholders to manage and

maintain rural roads, and to engage members of the local workforce while expanding its skills pool in roadwork. The TA was designed to support ongoing and planned initiatives by key development partners in the transport sector, and contributes to safer, more efficient transport of people and goods across PNG.

PNG’s aviation industry provides essential support for tourism, business, trade, and social cohesion. However, deteriorating infrastructure and constrained institutional capacity threaten the certification of many of PNG’s airports. The Civil Aviation Authority’s development plan provides a framework for addressing existing gaps, but the agency requires technical and financial support to implement them successfully.

The **Civil Aviation Development Investment Program** is helping PNG develop a more sustainable aviation network in order to facilitate the transport of people and goods across the country’s most challenging terrain. The investment program was approved in December 2009, and comprise a total of four tranches, with a total funding allocation of approximately \$480 million. The investment program will oversee upgrades to 19 priority national airports, support institutional reform, and build public and private sector capacity to ensure the long-term maintenance of all corresponding infrastructure.

The investment program will promote socioeconomic development by providing (i) safe, efficient, reliable, and affordable aviation services; and (ii) all-weather access and increased mobility to commercial and noncommercial destinations. Project activities funded under tranche 1, tranche 2, and tranche 3 are outlined below

**CIVIL AVIATION DEVELOPMENT INVESTMENT PROGRAM, PROJECT 1**

Executing agency	National Airport Corporation
Project officer	David Hill
Status	Completed in July 2016

**Funding by source:**

Asian Development Bank ordinary capital resources	\$24.62 million
Asian Development Fund	\$46.40 million
Asian Development Fund	\$18.68 million
<b>Total amount</b>	<b>\$89.70 million</b>

*Tranche 1 comprised three major components: (i) institutional reforms to improve air traffic services and regulatory oversight; (ii) physical works and infrastructure development; and (iii) modernization of communication, navigation, surveillance, and fire safety equipment to ensure compliance with safety and security standards of the International Civil Aviation Organization.*

**Physical works:**

- Security fencing was installed around the airport boundaries at Goroka, Gurney, Hoskins, Kavieng and Wewak airports.
- Airport infrastructure, including runways, taxiways, and aprons at Port Moresby and Hoskins, was installed.
- New terminal buildings at Hoskins and Mount Hagen airports were upgraded.

**CIVIL AVIATION DEVELOPMENT INVESTMENT PROGRAM, TRANCHE 2**

Executing agency	National Airport Corporation
Project officer	Hussain Haider
Status	Active

**Funding by source:**

Asian Development Bank ordinary capital resources	\$115.00 million
Asian Development Bank ordinary capital resources (concessional loan)	\$13.48 million
<b>Total amount</b>	<b>\$128.48 million</b>

*Tranche 2 has three major components: (i) institutional strengthening and increased sustainability of operations for the reformed institutions, including the National Airports Corporation, Air Services Limited, and the Civil Aviation Safety Authority; (ii) improvement of four domestic airports, and installation of security fences at two airports; and (iii) procurement of equipment for communication, navigation, surveillance, and air traffic management; and nine fire trucks for various airports.*

**Physical works:**

- Security fencing is being installed around the airport boundaries at Buka and Momote airports.
- Airport infrastructure is being rehabilitated to varying degrees, including runways, taxiways, and aprons at Chumbu, Giura, Goroka, and Vanimo airports.

**CIVIL AVIATION DEVELOPMENT INVESTMENT PROGRAM, TRANCHE 3**

Executing agency	National Airport Corporation
Project officer	Hussain Haider
Status	Active

**Funding by source:**

Asian Development Bank ordinary capital resources	\$213.00 million
Asian Development Bank ordinary capital resources (concessional loan)	\$35.00 million
<b>Total amount</b>	<b>\$248.00 million</b>

*Tranche 3 has three major components: (i) institutional strengthening and increased sustainability of operations of the National Airports Corporation, Air Services Limited, and the Civil Aviation Safety Authority; (ii) improvement of nine domestic airports, and installation of security fences at two airports; and (iii) procurement of equipment for communication, navigation, surveillance, and air traffic management; and nine fire trucks for various airports.*

**Physical works:**

- Airport infrastructure is being rehabilitated, including runways, taxiways, aprons, and new terminal buildings at Buka, Gurney, Kavieng, Madang, Mendi, Momote, Mount Hagen, Vanimo, and Wewak airports.
- Security fencing is being installed around the airport boundaries at Kerema, Kiunga, and Tari airports.
- Market areas are being constructed to promote production and sale of local artifacts by women, within airport premises.
- A new air traffic control tower is being constructed at Mount Hagen airport; airfield lighting is being provided for safe night operations at seven national airports; and new fire stations are being constructed at Madang and Mount Hagen airports.

## Samoa

Samoa is a geographically compact country in the South Pacific, with a total landmass of 2,831 km<sup>2</sup> spread across two main islands (Savaii and Upolu) and several smaller ones. Approximately 70% of its population (188,000 residents) lives in rural areas, and the majority of the workforce is engaged in subsistence activities. Samoa's economy is dependent on its fisheries sector and agricultural products for exports, and on importing most of its fuel and basic commodities. Large distances from major international markets create high import costs and limit trade. However, relative proximity to neighboring island countries—including American Samoa, the Cook Islands, Niue, Tonga, Tokelau, and Tuvalu—creates the potential to expand Samoa's current role as a regional transshipment hub.

Maritime transport is the economic lifeline for the country and, as such, improving corresponding infrastructure and

### PORTS DEVELOPMENT MASTER PLAN

The technical assistance is helping plan investments to improve Samoa's maritime transport infrastructure and services.

Executing agency	Ministry of Finance
Project officer	Alexandra Pamela Chiang
Status	Active
<b>Funding by source:</b>	
Asian Development Bank Technical Assistance Special Fund	\$1.25 million
<b>Total amount</b>	<b>\$1.25 million</b>

services is essential for driving Samoa's economic growth. To meet the growing needs of Samoa's economy, the existing port capacity needs to be increased, and measures need to be put in place to enhance port safety. This is particularly crucial as the main port is increasingly vulnerable to climatic conditions.



ADB Photo

<sup>7</sup> Apia port was initially constructed in 1966, under the New Zealand grant aid. JICA subsequently rehabilitated the port—following cyclone damages in 1992, and built a new wharf in 1999. In 2015, JICA approved a grant to extend the wharf, rehabilitate the container yard, improve navigational safety, upgrade passenger facilities, and rehabilitate harbor tugboats to meet international operating standards.

## PORT DEVELOPMENT PROJECT

The project will construct assets to increase the capacity and safety of Apia port.

Executing agency	Ministry of Finance
Project officer	Alexandra Pamela Chiang
Status	Proposed for 2018
Funding by source:	
Asian Development Fund	\$28.43 million
<b>Total amount</b>	<b>\$28.43 million</b>

ADB's TA for **Ports Development Master Plan** is assisting the government in conducting demand assessments and ports utilization studies and swell mitigation study, and in producing an asset management plan.

The studies have found that in 2015, Apia Port handled about 25,000 TEU, 64,416 tons of petroleum, 48,138 tons of bulk cargo, 54 fishing vessels, and 15 cruise liners. By 2035, demand at Apia Port is expected to increase to 35,000 TEU, 100 fishing vessels, and 20 cruise liners per annum. In order for Samoa to keep pace with increased shipping demand, and to establish its role as a transshipment hub, it needs to expand berthing capacity and address existing safety risks.

As demand grows, Apia Port is increasingly vulnerable to sea swell. This impacts the safety of vessel operations during the wet season, and currently results in losses up to 20 ship berth days a year. The main wharf in Apia was constructed in 1966, and has since benefited from a number of upgrades and expansions.<sup>7</sup> However, further complementary investments are needed to increase the port's safety and capacity.

The studies contributed to the formulation of a 20-Year Ports Development Master Plan, which was endorsed by the cabinet on 30 June 2016. The government has since requested ADB to provide further assistance in preparing the project to improve Apia Port.

The **Port Development Project** will enhance the safety and capacity of the existing port in Apia. It will accomplish this by (i) extending the existing breakwater to protect against swell during the rainy season; (ii) enlarging the turning basin, to accommodate more vessels; and (iii) reconfiguring the port precinct and container terminal to improve efficiency. The project will complement port development forks funded by the Japan International Cooperation Agency (JICA) (footnote 6) and support safer, more efficient maritime transport.

## Solomon Islands

Solomon Islands is a large island country, with a land area of about 28,000 km<sup>2</sup> (distributed across more than 900 islands), and one of the largest maritime exclusive economic zones in the world, at 1,589,477 km<sup>2</sup>. The country's extensive multimodal network comprises 1,500 km of roads (about 150 km sealed and 1,350 km unsealed); 81 wharves; and 41 airports, nationwide. The safe and efficient operation of Solomon Islands' transport assets is essential to providing equitable access to socioeconomic opportunities.

Solomon Islands has a narrow economic base, which centers on forestry and mining; new drivers of growth are needed to place the nation on a financially sustainable development path. Some of the nation's best prospects for growth include commercialization of agriculture, and expansion of its fishery and tourism industries. The successful development of these sectors will depend largely on the country's ability to increase the connectivity of people and goods across its 300 inhabited islands.

Solomon Islands is working with ADB and its development partners to improve land, sea, and air transport, and to ensure that domestic stakeholders have the capacity to manage and maintain key assets in the future. Strengthening the existing transport network, and ensuring its long-term sustainability, will enable Solomon Islands to leverage its considerable wealth of natural and human capital to drive socioeconomic growth.

The **Transport Sector Development Project** was designed to improve access to socioeconomic opportunities by helping to rehabilitate and maintain key transport assets across Solomon Islands. It has helped achieve this goal by building the country's capacity to plan and implement transport sector projects, and by supporting an ongoing maintenance program.

## TRANSPORT SECTOR DEVELOPMENT PROJECT

The project created favorable conditions for further transport sector investments by strengthening government capacity to plan and manage infrastructure projects.

Executing agency	Ministry of Infrastructure Development
Project officer	Pivithuru Indrawansa
Status	Completed in June 2017
Funding by source:	
Asian Development Fund	\$12.00 million
Japan Fund for Poverty Reduction	\$0.80 million
<b>Total amount</b>	<b>\$12.80 million</b>

The project aimed to strengthen transport sector institutions, provide oversight for civil works prioritized in the National Transport Plan (NTP), and conduct technical and managerial capacity development for the Ministry of Infrastructure Development.

The Transport Sector Development Project (TSDP) built on the progress made by SIRIP, to establish a sector-based approach to transport infrastructure rehabilitation and maintenance. Cofinanced by ADB, Australia, and the Government of the Solomon Islands, the project channeled funds through the National Transport Fund to support implementation of the National Transport Plan. The project also supported the New Zealand funded airfields upgrades. TSDP was implemented across areas of Central, Choiseul, Guadalcanal, Honiara, Isabel, Makira, Malaita, Renbel & Bellona, Temotu and Western provinces. It rehabilitated secondary and feeder roads, rehabilitated wharves and airfields, maintained 887km of roads, maintained 16 wharves, and doubled the number of contractors capable of rehabilitation and maintenance works.

The project was completed in June 2017, and helped generate the additional benefits of poverty reduction, increased HIV/AIDS awareness and empowerment of women. These were achieved by employing local men and women in construction and maintenance activities, and by providing skills training and HIV/AIDS prevention programs in construction camps and local communities.

Interisland maritime transport is an essential service for connecting communities, goods, and social services across Solomon Islands. The provision of frequent, reliable, and safe domestic shipping services is of particular importance to rural communities, as their distance from larger domestic markets can limit access to economic opportunity and modern goods and services.

The **Domestic Maritime Support Sector Project** is being implemented to support economic inclusion of rural island communities, by improving infrastructure and increasing shipping services to remote areas. The project is overseeing the construction and rehabilitation of 13 wharves and 3 landing ramps, and is establishing a franchise shipping scheme to service areas that would otherwise be too remote to support commercially viable routes.

By July 2017, the project had completed all physical works and established eight new shipping routes, with five in operation and three awarded service contracts and expected to be in operation soon. Newly established routes have supported commerce—allowing rural communities to export copra—and increased connectivity between remote areas and larger islands.

ADB is providing TA to complement enhanced maritime infrastructure and service delivery. The TA for **Strengthening the Solomon Islands' Maritime Safety and Establishing the Solomon Islands Maritime Safety Authority (SIMSA)**

### DOMESTIC MARITIME SUPPORT SECTOR PROJECT

The project is increasing access of rural communities goods, services, markets, and opportunities by improving key maritime transport infrastructure and services.

Executing agency	Ministry of Infrastructure Development
Project officer	Dalcy Ilala Tozaka
Status	Active
Funding by source:	
Asian Development Fund	\$14.00 million
Asian Development Bank Technical Assistance Special Fund	\$1.00 million
Government of Australia	\$4.30 million
Government of New Zealand	\$5.29 million
European Commission	\$1.60 million
<b>Total amount</b>	<b>\$26.19 million</b>

### STRENGTHENING THE SOLOMON ISLANDS' MARITIME SAFETY AND ESTABLISHING THE SOLOMON ISLANDS MARITIME SAFETY AUTHORITY

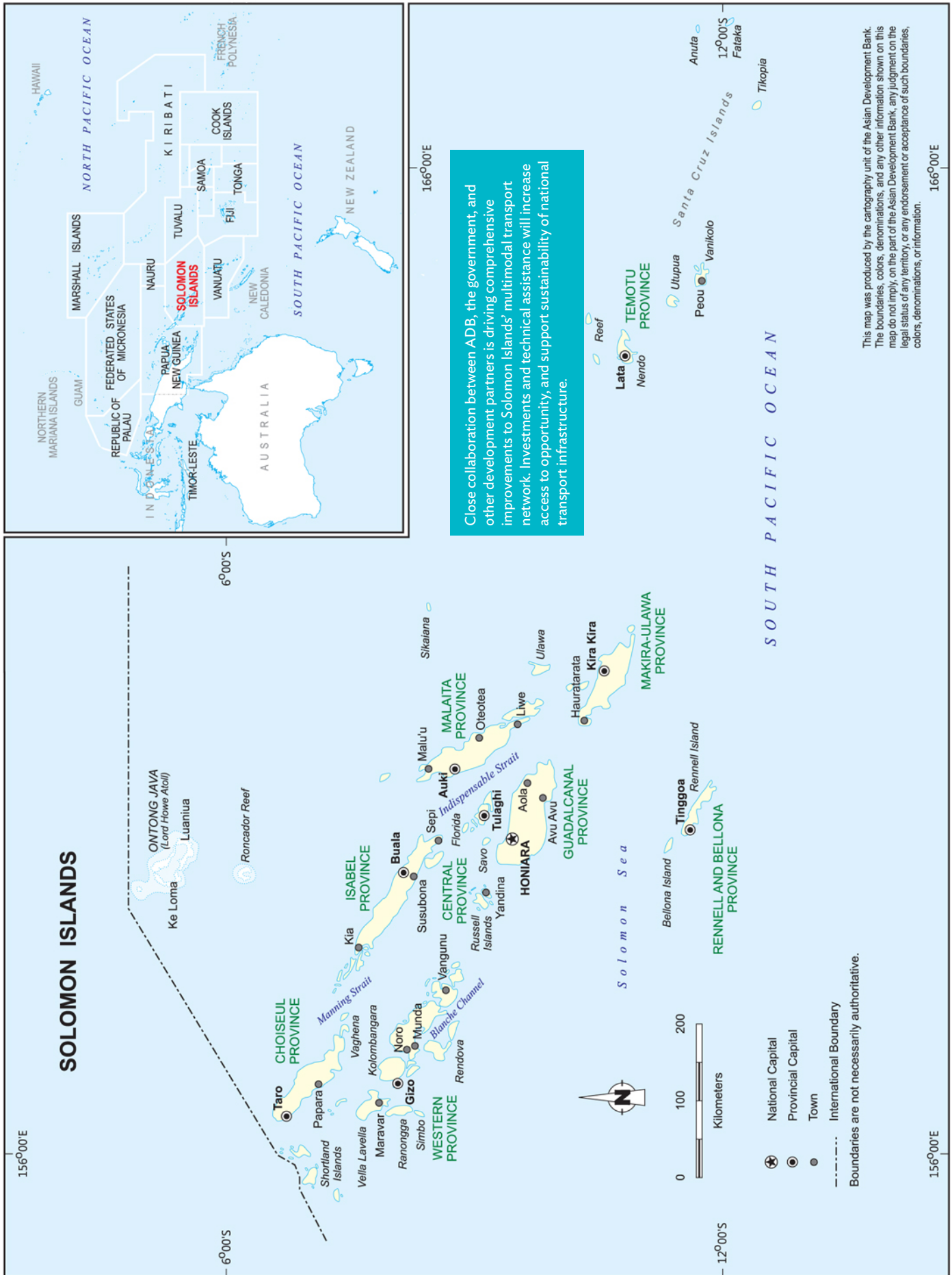
The technical assistance is reforming and building institutional capacity to support compliance with international maritime safety standards.

Executing agency	Ministry of Infrastructure Development
Project officer	Dalcy Ilala Tozaka
Status	Active
Funding by source:	
Asian Development Bank Technical Assistance Special Fund	\$0.80 million
<b>Total amount</b>	<b>\$0.80 million</b>

is providing ongoing support for institutional reform and capacity building, and will help ensure safe shipping practices and clean seas in Solomon Islands.

In 2013, Solomon Islands was found to be noncompliant with the International Ship and Port Security Code because SIMSA did not have international ship and port security officers, port state control officers, or environmental protection officers. SIMSA was, therefore, unable to conform to International Maritime Organization requirements and the United Nations Convention on the Law of the Sea (UNCLOS) obligations. As a result, it received warnings from international shipping agencies that restrictions for entry of vessels into Solomon Islands' ports would be imposed if standards were not improved. The central constraints underpinning noncompliance were lack of funding for SIMSA, and limited human resources.





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.



ADB Photo

Boats being loaded and unloaded at the Port in Honiara.

ADB's TA will support SIMSA in becoming compliant with international maritime safety standards. It will accomplish this by (i) restructuring the organization to improve its commercial standing, (ii) supporting ongoing reforms, and (iii) providing training for SIMSA staff. The TA will increase SIMSA's compliance with international maritime laws and standards, to ensure a higher level of safety and environmental protection.

On 3–5 April 2014, prolonged heavy rainfall associated with Tropical Cyclone Ita caused severe flooding in Solomon Islands. The areas worst affected were east and west Guadalcanal and the capital, Honiara. Major infrastructure such as roads, bridges, housing, and sewerage and water supply systems were damaged or destroyed—halting economic activity and severely affecting people and communities. The flooding caused 23 fatalities, displaced 10,000 people, and affected about 52,000 people overall.

In May 2014, ADB and its development partners conducted a rapid assessment of the impacts of the flash floods, and mobilized funds to respond to priority concerns. Total damage and losses were estimated at \$107.7 million, with the highest degree of damage leveled against housing (56% of damages)

#### TRANSPORT SECTOR FLOOD RECOVERY PROJECT

The project is upgrading key infrastructure affected by severe flooding, and increasing the resilience of Solomon Islands' roads and bridges.

Executing agency	Ministry of Infrastructure Development
Project officer	Nissanka A. B. Salgado
Status	Active
<b>Funding by source:</b>	
Asian Development Fund	\$6.61 million
Asian Development Bank ordinary capital resources (concessional loan)	\$5.85 million
<b>Total amount</b>	<b>\$12.46 million</b>

and transport (23% of damages, and 63% of recovery needs). The assessment identified repairs to roads and bridges as priority areas for mitigating secondary effects on people's lives and the nation's economy. ADB's support builds on experience implementing transport projects in the country, and is focused on bridges and roadways. It is complemented

by World Bank and United Nations agency support in the housing, water supply, health, and education sectors.

The **Transport Sector Flood Recovery Project** is supporting the restoration of socioeconomic activities to pre-flood levels, and leverages a “build-back-better” approach to ensure that damaged assets are rebuilt to a higher standard of climate and disaster resilience. The project is implementing 15 subprojects that will repair and replace bridges, causeways, and culverts on the Guadalcanal Main Road, in both the eastern and western directions of Honiara. Selected sites also included river training and embankment protection. Physical works are nearing completion, and support Solomon Islands’ efforts to increase resilient transport infrastructure and services.

The **Sustainable Transport Infrastructure Improvement Program** was approved in May 2016 as a results-based lending (RBL) modality.<sup>8</sup> It is designed to increase access to socioeconomic opportunities and drive inclusive growth. The program is improving the transport system by using government and development partner resources, improving country systems, and strengthening government agencies to deliver transport infrastructure.

Solomon Island’s extensive road network gives 77% of its rural population access to an all-weather road within a 2 km radius. However, in 2014, only 62% of the road network was in maintainable condition, and safety conditions were poor (footnote 6). In addition, only 33 of the total 81 ports in Solomon Islands were in maintainable condition in the same year. The program will improve as much as 40% of all maritime networks, and 50% of the road network. Its outputs include:

- (i) **Rehabilitating and maintaining transport infrastructure for all users**, with safety, gender-responsiveness, and climate- and disaster-resilient features added and improved. This output will upgrade roads and ports, and increase the proportion of roads under regular maintenance from 41% to 85% and wharves from 9% to 100%.
- (ii) **Strengthening country systems** to finance and implement the NTP. This output will increase annual government contributions to the National Transport Fund by 60%, annually update transport action plans—based on sustainability criteria such as inclusiveness, economic effectiveness, and accessibility to basic services—and improve fiduciary controls and safeguard systems.
- (iii) **Building the capacity of the Ministry of Infrastructure Development** to ensure its ability

### SUSTAINABLE TRANSPORT INFRASTRUCTURE IMPROVEMENT PROGRAM

The program is rehabilitating key transport infrastructure and supporting long-term maintenance activities to support physical and financial sustainability.

Executing agencies	Ministry of Finance and Treasury, and Ministry of Infrastructure Development
Project officer	Nissanka A. B. Salgado
Status	Active

#### Funding by source:

Asian Development Bank ordinary capital resources (concessional loan) (results-based lending)	\$21.00 million
Government of Australia	\$23.30 million
Government of Solomon Islands	\$34.40 million
<b>Total amount</b>	<b>\$78.70 million</b>

### STRENGTHENING THE CAPACITY OF THE MINISTRY OF INFRASTRUCTURE DEVELOPMENT

The technical assistance is building institutional capacity to ensure long-term infrastructure maintenance through an increased number of output-based contracts.

Executing agency	Ministry of Infrastructure Development
Project officer	Nissanka A. B. Salgado
Status	Active

#### Funding by source:

AUS	\$4.50 million
<b>Total amount</b>	<b>\$4.50 million</b>

to effectively implement and sustain the NTP, with a reduced level of TA. This output will increase the skills and qualifications of core staff, and support the organization to mobilize a greater number of output-based contracts.

The program will produce the immediate outcome of a safer, more efficient transport sector by rehabilitating degraded transport infrastructure. It will support long-term results by ensuring that domestic stakeholders have adequate resources and capacity to develop, monitor, and maintain assets.

<sup>8</sup> RBL is a performance-based form of financing, where disbursements are linked to the achievement of results, as opposed to upfront expenditures. The RBL modality was selected for this program because of its ability to (i) align infrastructure and capacity targets with donor support, to meet longer-term development goals; (ii) incentivize greater accountability to meet development goals and lower transaction costs, which can lead to more efficient public spending; and (iii) rely on country systems to deliver a well-defined and monitored program, which can support the sustainability of results beyond program completion.

## Timor-Leste

Timor-Leste is a relatively large island nation, with a population of 1.2 million people and a landmass of 14,874 km<sup>2</sup>. More than 70% of its population lives in rural areas and engages in subsistence farming, with nearly half of the population living below the national poverty line. Timor-Leste's development strategy focuses on promoting economic growth and diversification by expanding access to high-quality infrastructure.

Considerable oil reserves and corresponding extraction projects have fed continued economic growth, and the government is investing heavily in developing the country's human and physical capital. The Timor-Leste Strategic Development Plan 2011–2030 identifies an ambitious list of infrastructure projects—including transport, energy, and telecommunication—and calls for the front-loading of implementation, with more than \$3 billion budgeted for infrastructure from 2012 to 2017.

Improving connectivity across Timor-Leste can significantly increase access to essential goods and services, promote economic growth, and help ensure that development follows an equitable path. The Government of Timor-Leste is working with ADB and its development partners to rapidly increase access to key infrastructure services, and to build domestic capacity to manage investments and sustain corresponding assets.

### INFRASTRUCTURE MANAGEMENT

The technical assistance supported the Government of Timor-Leste to manage its large portfolio of infrastructure works.

Executing agency	Ministry of Infrastructure <sup>a</sup>
Project officer	Jose Perreira
Status	Completed in June 2017

#### Funding by source:

Asian Development Bank Technical Assistance Special Fund	\$1.50 million
<b>Total amount</b>	<b>\$1.50 million</b>

<sup>a</sup> Later renamed Ministry of Public Works, Transport and Communications

As Timor-Leste continues implementing comprehensive infrastructure works, the surge in projects across sectors is placing large demands on government agencies and their qualified staff, who are in short supply. The **Infrastructure Management** TA was designed to support the Government of Timor-Leste in effectively managing a widening range of projects—covering roads and bridges, water and sanitation, and power transmission—and to ensure their financial and physical sustainability.

The TA produced a Strategic Results Plan to guide infrastructure works, and to ensure that new assets deliver long-lasting economic and social benefits. The TA also established a Capacity Development Framework to align the domestic workforce with the skills and qualifications required to support ongoing infrastructure works, and strengthened the overall coordination of infrastructure investments, and support the domestic workforce in developing the skills needed to manage and maintain key transport assets. It built on the principle that a strong base of human capital is essential for supporting continued service delivery to manage and maintain key infrastructure assets.

### OUR ROADS OUR FUTURE - SUPPORTING LOCAL GOVERNANCE AND COMMUNITY-BASED INFRASTRUCTURE WORKS

The project rehabilitated roads connecting rural communities, and integrated skills training and community engagement to support lasting results.

Executing agency	Ministry of Infrastructure <sup>a</sup>
Project officer	Jose Perreira
Status	Completed in October 2016

#### Funding by source:

Japan Fund for Poverty Reduction	\$3.00 million
<b>Total amount</b>	<b>\$3.00 million</b>

<sup>a</sup> Later renamed Ministry of Public Works, Transport and Communications

As a geographically compact nation, the majority of domestic transport in Timor-Leste is by land. The country's 6,000 km road network accounts for approximately 90% of passenger transport and 70% of freight. Although the majority (80%) of Timor-Leste's roads are (or were once) paved, lack of maintenance has led to considerable degradation; 70% of all national roads (1,426 km) and district roads (869 km) are rated to be in *very poor* condition, and require upgrades to make them serviceable by routine maintenance (footnote 6). ADB's support for the transport sector in Timor-Leste focuses on improving roads, and on building the capacity of domestic stakeholders to manage investments and maintain a high quality of road infrastructure in the future.

The **Our Roads Our Future - Supporting Local Governance and Community-Based Infrastructure Works** project was approved in 2009, at a time when government and donor investments in national and district roads were significant, but when allocations for smaller roads—often those connecting the poorest and most isolated communities—were minimal. The project was implemented to bridge this financing gap, and to extend the social benefits associated with safe and effective transport to remote communities. The project

### Box 7: Bridging Gender and Skills Gaps with Sustainable Transport Development

Opportunities for cash employment across the Pacific are in short supply, and women often have less access to existing opportunities than men. At the same time, contractors cite the lack of qualified domestic workers as a key constraint for implementing projects. Skills gaps represent missed opportunities for both contractors and domestic workforces. Building the skills and qualifications of domestic workers can increase equitable access to employment opportunities and reduced operating costs for contractors.

The Asian Development Bank is working with communities and contractors to bridge skills gaps across the Pacific—increasing opportunities for gainful employment, and deepening the social impacts of its investments. In order to support greater levels of gender equality and equitable participation in the work force, the Asian Development Bank's tendering process requires gender-sensitive design to increase women's participation in the workforce. The result has been deeper engagement of domestic workers in infrastructure works, and increased opportunities for women to find meaningful employment.

enhanced community stewardship of rural roads, and built local capacity to manage and maintain them.

Physical works rehabilitated an aggregated 30 km of rural feeder roads, and associated community outreach included skills training and employment opportunities for roadside communities, and capacity building for local governments. The project increased access to socioeconomic opportunities, supported community–government collaboration to provide ongoing maintenance, and fostered a heightened sense of community ownership of rural roads, which will increase the sustainability of physical works.

The Government of Timor-Leste is working closely with its development partners to plan and implement a comprehensive series of upgrades to the national road network.<sup>9</sup> In total, development partners will have supported upgrades to about 560 km (39%) of the most important sections of the national road network by the end of 2019.<sup>10</sup> Upgrades will substantially increase access to safe, efficient, and reliable transport across the country, and are complemented by capacity building to ensure that improved assets are maintained in good condition.

ADB has an ongoing commitment to support Timor-Leste's transport sector, and has supported the recent development of the road network by financing the **Road Network Development Sector Project**, the **Road Network Upgrading**

**Project**, the **Road Network Upgrading Sector Project**, and the **Dili to Baucau Highway Project**; a further **Baucau to Viqueque Highway Project** is proposed for 2017. By 2019, ADB-financed projects will have upgraded 287 km of national roads, with 100 km of the aforementioned works already completed. (Please see the map and table on the next page for detailed descriptions of physical works, by project.)

The work of ADB and its development partners in the transport sector will help drive more equitable socioeconomic growth across Timor-Leste, providing more efficient movement of people and goods to a growing number of communities. Improvements to the road network will significantly increase access to markets and essential services across the country (including health care and education), and facilitate cross-border trade with Indonesia. In addition to improving transport efficiency, physical works will increase climate resilience of the road network; corresponding community outreach and training programs will improve roadway safety, increase opportunities for formal employment, and support the ongoing maintenance of transport infrastructure.

Capacity-building and institutional reforms are also being provided for a range of stakeholders, to closely align national agencies and local communities with the ongoing roadwork. This further supports domestic capacity to manage infrastructure works and maintain transport assets, ensuring that projects and the associated infrastructure are physically and financially sustainable in the long-term.

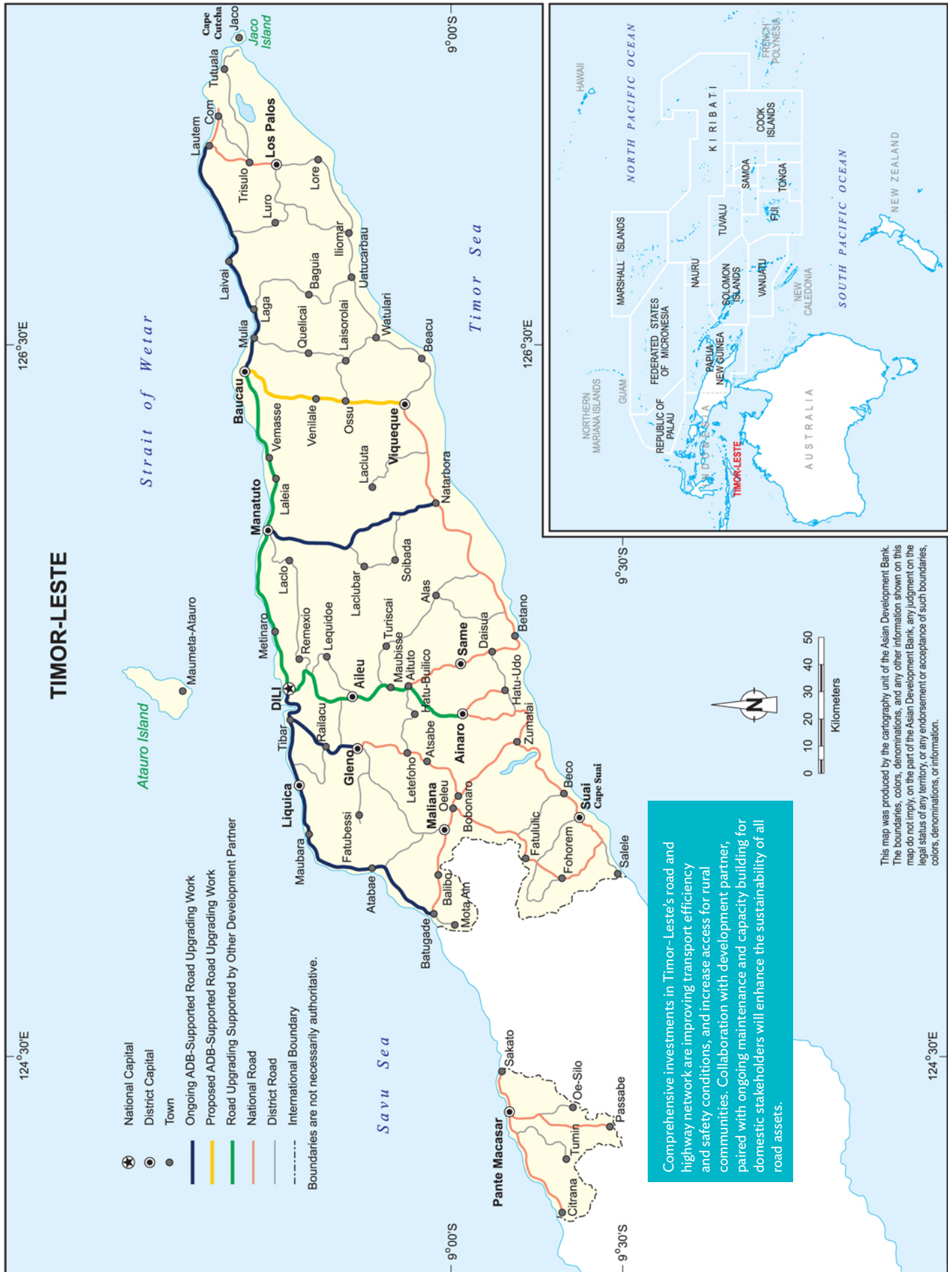


Women working along Baucau–Viqueque road.

Suzette Mitchell

<sup>9</sup> Development partners include ADB, the Government of Australia, the European Union, JICA, and the World Bank

<sup>10</sup> The Government of Australia and the European Union have focused on road rehabilitation and maintenance of secondary rural roads through the development of small-scale contractors and community involvement. These activities complement civil works on national roads, and are helping to connect remote populations to the country and its growing economy.



Comprehensive investments in Timor-Leste's road and highway network are improving transport efficiency and safety conditions, and increase access for rural communities. Collaboration with development partner, paired with ongoing maintenance and capacity building for domestic stakeholders will enhance the sustainability of all road assets.

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.

<b>ROAD NETWORK DEVELOPMENT SECTOR PROJECT</b>	
Executing agency	Ministry of Infrastructure <sup>a</sup>
Project officer	Rustam Ishenaliev
Status	Completed in May 2016
<b>Funding by source:</b>	
Asian Development Fund	\$46.00 million
<b>Total amount</b>	<b>\$46.00 million</b>
<i>The Road Network Development Sector Project upgraded continuous road lengths and incorporated climate-resilient designs on existing national roads. The project also improved routine maintenance practices to ensure physical sustainability of upgraded assets.</i>	
<b>Physical works:</b>	
<ul style="list-style-type: none"> <li>• A 40-kilometer (km) portion of the 74 km roadway connecting Liquica to Mota Ain was upgraded.</li> <li>• The 33 km of the Batugade–Balibo–Maliana road network were upgraded.</li> </ul>	
<b>ROAD NETWORK UPGRADING PROJECT</b>	
Executing agency	Council for Administration of the Infrastructure Fund (Conselho Administrativo do Fundo Infraestrutura)
Project officer	Rustam Ishenaliev
Status	Active
<b>Funding by source:</b>	
ERNUP	\$22.26 million
Asian Development Bank ordinary capital resources	\$30.85 million
Asian Development Bank ordinary capital resources (concessional loan)	\$8.43 million
Asian Development Bank ordinary capital resources	\$11.78 million
<b>Total amount</b>	<b>\$73.32 million</b>
The Road Network Upgrading Project is financing upgrades for the roads from Dili to Liquica, and from Tibar to Glen. The project is substantially increasing access to Dili from the west, and supporting feasibility studies for further upgrades to the road network. The project is also providing community outreach to increase road safety.	
<b>Physical works:</b>	
<ul style="list-style-type: none"> <li>• The 28 km of the road from Dili to Liquica are being upgraded.</li> <li>• The 31 km of the road from Tibar to Gleno are being upgraded.</li> <li>• The additional financing is enabling the construction of a 5.5 km section of the Tibar–Liquica road to a higher standard than originally envisaged, and is helping realign the Tacitolu–Tibar road to provide for increased traffic associated with the proposed development of the Tibar Bay port.</li> <li>• The proposed additional financing will allow the construction of three district feeder roads.</li> </ul>	
<b>ROAD NETWORK UPGRADING SECTOR PROJECT</b>	
Executing agency	Council for Administration of the Infrastructure Fund (Conselho Administrativo do Fundo Infraestrutura)
Project officer	Rustam Ishenaliev
Status	Active
<b>Funding by source:</b>	
GLDCF	\$4.50 million
Asian Development Bank ordinary capital resources	\$40.00 million
Asian Development Bank ordinary capital resources (concessional loan)	\$9.21 million
Asian Development Bank ordinary capital resources (additional financing)	\$53.00 million
Asian Development Bank ordinary capital resources (concessional loan) (additional financing)	\$22.56 million
<b>Total amount</b>	<b>\$129.27 million</b>

continued on next page

Table continued

The Road Network Upgrading Sector Project is improving access to the roads that service the north coast, in both the eastern and western regions of Timor-Leste. Civil works will include the north-south links from Manatuto to Natarbora, from Baucau to Viqueque, and an inland road from Lautem to Lospalos. The project is also expanding performance-based road maintenance contracts, and increasing awareness of road safety and transport-related social issues.

**Physical works:**

- The 117 km of roads are being upgraded and climate-proofed, including 81 km of priority roads from Manatuto to Natarbora.

**DILI TO BAUCAU HIGHWAY PROJECT**

Executing agency	Council for Administration of the Infrastructure Fund (Conselho Administrativo do Fundo Infraestrutura)
Project officer	Rustam Ishenaliev
Status	Active

**Funding by source:**

Asian Development Bank ordinary capital resources (concessional loan)	\$48.27 million
<b>Total amount</b>	<b>\$48.27 million</b>

The Dili to Baucau Highway Project is upgrading and climate-proofing 105 km of the national road between Dili (the nation's capital) to Baucau (the second most populous city). The highway will provide a vital link to the entire eastern half of the country. The Dili-Baucau highway is the most trafficked road outside of Dili, and handles between 1,200 and 2,000 vehicles per day. The project will also extend performance-based road maintenance contracts, and increase awareness of road safety and transport-related social issues.

**Physical works:**

- The Asian Development Bank is supporting the upgrading and climate-proofing of 56 km of road connecting the towns of Manatuto and Baucau.
- The Japan International Cooperation Agency is supporting complementary work on the 49 km road section from Dili to Manatuto.
- The upgrades are including the widening of the surface from an average 4.5 meters (m) width to 6.0 m, with 1.0 m shoulders on either side.

**BAUCAU TO VIQUEQUE HIGHWAY PROJECT**

Executing agency	Council for Administration of the Infrastructure Fund (Conselho Administrativo do Fundo Infraestrutura)
Project officer	David Ling
Status	Proposed for 2017

**Funding by source:**

Asian Development Bank ordinary capital resources	\$32.00 million
Asian Development Bank ordinary capital resources (concessional loan)	\$25.00 million
<b>Total amount</b>	<b>\$57.00 million</b>

The Baucau to Viqueque Highway Project will upgrade the national roads between Baucau and Viqueque, with considerations for better resilience to climate change and social-inclusive design. The project will also help develop a comprehensive road maintenance strategy, plan for the institutions responsible for routine and periodic maintenance, and draft legislation to establish a National Land Transport Authority.

**Physical works:**

- The 58.27 km of national roads between Baucau and Viqueque will be upgraded and climate-proofed.
- The upgrades will include widening the surface from an average 4.5 m width to 6.0 m, with 1.0 m shoulders on either side.

<sup>a</sup> Later renamed Ministry of Public Works, Transport and Communications

To help ensure sustainable urban development, ADB has assisted the government of Timor-Leste and recommended improved access to safe and efficient transport services in the nation's capital. Although Dili has a public transport system, its 12 existing Microlet routes lack adequate bus stops and shelter for users, and parking in the downtown area is largely unregulated. Furthermore, the downtown area lacks formal street crossings, which presents safety risks for pedestrians and cyclists.

The **project on Dili urban mobility** suggests safer, more efficient transport services and conditions for people in Dili. It will do so by (i) improving public transport management and facilities; (ii) assisting the government to plan and implement reforms to the downtown area, which will improve safety for pedestrians and cyclists, and support controlled parking; and (iii) help plan further development of a mass transit system.



## Tuvalu

Tuvalu is one of ADB's smallest Pacific DMCs, and consists of nine atolls spread across 680 km of ocean in the Southwest Pacific. The majority (60%) of Tuvalu's 10,000 inhabitants live in the capital, Funafuti, with the remainder distributed across its outer islands. International flights depart to and from Funafuti twice a week, and a commercial cargo ship arrives in the capital once every 3 weeks; domestic transport relies entirely on two government-owned ships. These vessels travel continuously between Funafuti, the outer islands, and Fiji, to provide essential goods and services, including food, fuel, and medical care.

Tuvalu's National Strategy for Sustainable Development, 2016–2025 calls for safer and more efficient maritime transport in order to (i) enhance economic development, especially local fisheries; (ii) improve livelihoods and safety conditions in the outer islands; and (iii) reduce migration from the outer islands to Funafuti, which is experiencing overcrowding and corresponding urban challenges.

Improving maritime transport in Tuvalu can support more equitable provision of social services, improve access to economic opportunity, and foster greater resilience to the effects of climate change.

The **Outer Island Maritime Infrastructure Project** is helping Tuvalu overcome connectivity constraints between Funafuti and the outer islands. It is doing so by improving maritime facilities on three outer islands, and by building government capacity to plan, implement, and maintain transport infrastructure in the future.

Currently, none of Tuvalu's outer islands have docking facilities to accommodate government shipping vessels, which arrive at each outer island every 2–3 weeks. As such, goods and passengers must be transferred to and from shore by small workboats. Only three of the outer islands—Vaitupu,

### OUTER ISLAND MARITIME INFRASTRUCTURE PROJECT

The project is increasing connectivity to the outer islands by upgrading and constructing new assets, and building capacity to plan and implement further transport sector projects.

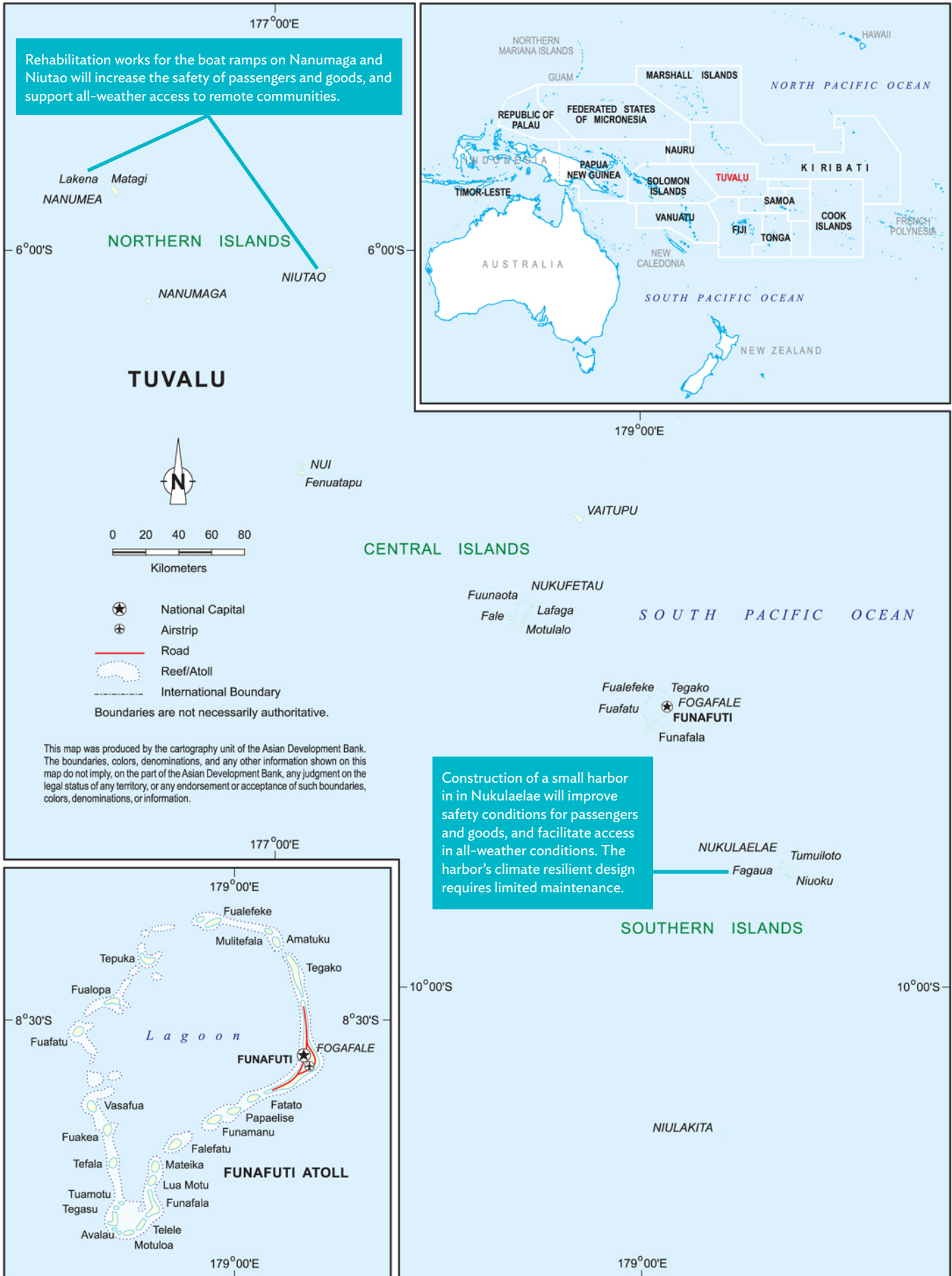
Executing agency	Ministry of Communication and Transport
Project officer	Shigehiko Muramoto
Status	Active
<b>Funding by source:</b>	
Asian Development Bank Technical Assistance Special Fund (for preparing the project)	\$0.60 million
Asian Development Fund (project grant)	\$8.30 million
Asian Development Fund (project grant)	\$3.00 million
GLDCF (Project Grant)	\$0.50 million
Asian Development Fund (for design) (project grant)	\$2.00 million
<b>Total amount</b>	<b>\$14.40 million</b>

Nanumea, and Nukufetau—possess docking facilities for smaller crafts, and they are in need of repair. Transfers between government ships and the outer islands are inefficient, unsafe, and, in many cases, cannot take place during rough waters, low tide, or at nighttime.

The project is increasing access to the outer islands by (i) constructing a small-scale harbor in Nukulaelae, and rehabilitating boat ramps on Nanumaga and Niutao; (ii) building capacity to operate, manage, and maintain these assets to support long-term sustainability; and (iii) developing a transport sector master plan to plan further sequenced investments in harbors on the outer islands, with a view toward promoting economic activity through fisheries and tourism.



Transporting cargo in Tuvalu.



## Vanuatu

Vanuatu is a western Pacific archipelago with a total landmass of 12,189 km<sup>2</sup> spread across 83 volcanic islands. Approximately 75% of its 247,000 residents live in highly dispersed rural areas, where provision of goods and services is limited. Increasing access to safe, efficient, and reliable transport services is essential for driving socioeconomic development, and for ensuring that benefits are distributed equitably across the population. Existing transport infrastructure includes a road network of about 2,300 km, 26 domestic airfields (and 3 international airports), 10 public ports and jetties on the outer islands, and 2 international ports.

In spite of existing assets, transport services are limited, and the condition of transport infrastructure is deteriorating. This is largely due to unpredictable financial allocations and limited government capacity to support routine maintenance. Vanuatu's placement on the Pacific Ring of Fire exposes the nation to heightened risk of natural disasters, and emphasizes the need to factor climate resilience into all transport sector development.

ADB is working with the Government of Vanuatu to improve and maintain physical transport assets, enhance service delivery, and increase transport safety. Collaboration with the government and its development partners is supporting increased resilience planning and response to natural disasters.

Much of Vanuatu's young and quickly growing population is migrating to urban centers in search of formal employment opportunities. The nation's capital, Port Vila, houses approximately 44,000 residents, and is the largest population center, the main commercial hub, and the seat of government. It has already expanded beyond its originally defined urban boundaries due to rapid economic development, rural-urban migration, and the proliferation of informal settlements.

Meeting Port Vila's infrastructure needs requires careful planning to ensure that transport, drainage, and sanitation services keep pace with population growth. ADB is building government capacity to plan and maintain infrastructure development that will address the interlinked urban development themes of transport and sanitation.

The **Port Vila Urban Development Project** is improving roads, drainage, and sanitation systems in the greater Port Vila area to support sustainable urban development.<sup>11</sup> The project is upgrading 13 km of roads, installing and rehabilitating a combined 14.5 km of stormwater pipes, and improving

### PORT VILA URBAN DEVELOPMENT PROJECT

The project is supporting road, drainage, and sanitation services, and is increasing resilience to flooding and other severe weather events.

Executing agency	Ministry of Finance and Economic Management
Project officer	Steve Blaik
Status	Active
Funding by source:	
Asian Development Bank ordinary capital resources (concessional loan)	\$4.33 million
GLDCF	\$2.87 million
Government of Australia	\$26.50 million
AUS	\$4.50 million
<b>Total amount</b>	<b>\$38.20 million</b>

### Box 8: Capturing Opportunities with Well-Planned Urban Development

Populations across the Asian Development Bank's Pacific developing member countries are moving to cities. This creates a new set of opportunities and challenges for the Pacific transport sector. As people migrate from dispersed island communities to urban centers, increasingly centralized populations can facilitate delivery of goods and services, and provide new opportunities for formal employment and economic growth. However, capturing these opportunities requires that urban infrastructure development keep pace with the needs of increasingly dense populations.

If growth is not planned and adequately managed, higher population densities can threaten public hygiene, and place considerable strain on the transport sector; namely, by increasing congestion and accelerating the degradation of roads and other assets. Early stage planning of infrastructure deployment and maintenance is essential for reaping the socioeconomic benefits associated with sustainable urban development.

As Pacific populations become increasingly urban, it is also important that governments and development partners allocate resources to ensure that rural populations continue to have safe and reliable access to goods, services, and economic opportunities. The Asian Development Bank's work in the Pacific transport sector is enabling stakeholders to plan sustainable urban development, while ensuring that rural populations stay connected to the goods and services they need.

<sup>11</sup> The greater Port Vila area includes the main municipality and its surrounding urban and peri-urban communities.

the drainage capacity of three catchments—significantly increasing Port Vila’s resilience to floods and the effects of climate change. In addition, the project is improving sanitation services for 4,500 households in the greater Port Vila area; training government staff to manage and maintain roads, sanitation, and drainage facilities; and leveraging training opportunities to increase employment opportunities for women.

ADB is working with public and private sector institutions to support safer, more reliable connectivity to Vanuatu’s outer islands. TA and lending activities will improve port infrastructure and build institutional capacity, thereby increasing transport services to the outer islands and enhancing safety for passengers and goods.

### INTERISLAND SHIPPING SUPPORT PROJECT

The project is constructing new maritime facilities and implementing the corresponding shipping service schemes to increase access to Vanuatu’s outer islands.

Executing agency	Ministry of Finance and Economic Management
Project officer	Pivithuru Indrawansa
Status	Active

#### Funding by source:

Asian Development Bank ordinary capital resources (concessional loan) <sup>1</sup>	\$9.23 million
Asian Development Bank ordinary capital resources (concessional loan)	\$17.15 million
Government of New Zealand	\$12.60 million
Government of New Zealand	\$4.65 million
<b>Total amount</b>	<b>\$43.63 million</b>

The **Interisland Shipping Support Project** is increasing access to socioeconomic opportunities for people on Vanuatu’s outer islands by (i) constructing a new interisland terminal in Port Vila (and undertaking associated dredging), (ii) constructing two new island wharves and three new jetties, and (iii) rehabilitating two existing outer island wharves.<sup>12</sup> All sites will be fitted with appropriate ancillary infrastructure, such as market shelters and storage areas, and be designed to endure a lifespan of 50 years. Design considerations will include climate-proofing measures and adopt a low-maintenance strategy, in recognition of limited maintenance capacity on the outer islands.

### ESTABLISHMENT OF THE MARITIME SAFETY ADMINISTRATION

The technical assistance is improving maritime safety by establishing a new entity to regulate and enforce maritime safety.

Executing agency	Ministry of Finance and Economic Management
Project officer	Pivithuru Indrawansa
Status	Active

#### Funding by source:

Asian Development Bank Technical Assistance Special Fund	\$0.50 million
Government of New Zealand	\$1.00 million
<b>Total amount</b>	<b>\$1.50 million</b>

### SUPPORTING THE VANUATU PROJECT MANAGEMENT UNIT AND THE MINISTRY OF INFRASTRUCTURE AND PUBLIC UTILITIES

The technical assistance is supporting institutional capacity to manage infrastructure projects and ensure maintenance.

Executing agency	Ministry of Finance and Economic Management
Project officer	Pivithuru Indrawansa
Status	Active

#### Funding by source:

Asian Development Bank Technical Assistance Special Fund	\$0.23 million
<b>Total amount</b>	<b>\$0.23 million</b>

The project is complementing infrastructure investments by increasing access to remote destinations. It is doing so by providing subsidies for voyages to destinations that would otherwise be commercially unviable, and by appointing people to communicate the transport needs of rural communities to private sector operators.

New and refurbished facilities will reduce wait times, provide all-weather access, and improve safety conditions for loading and unloading at ports. The shipping support schemes will further increase access to safe and reliable transport services for residents on the outer islands.<sup>13</sup>

The TA for **Establishment of the Maritime Safety Administration** is complementing increased interisland transport services by improving safety regulation and enforcement. It is increasing maritime safety by revising existing legislation, establishing the Office of the Maritime Regulator, and by building the capacity of corresponding staff to oversee

<sup>12</sup> The five outer islands are Ambae, Espiritu Santo, Malekula, Pentecost, and Tanna.

<sup>13</sup> To support financial sustainability, the subsidies will be phased out gradually as the routes become financially viable.

new regulation. The TA for **Supporting the Vanuatu Project Management Unit and the Ministry of Infrastructure and Public Utilities** is further strengthening institutional capacity and guide more effective project management. It is reviewing Vanuatu's infrastructure portfolio, and building domestic capacity to manage and maintain future projects, thereby supporting more sustainable transport sector development.

As Vanuatu increases its portfolio of transport infrastructure projects to meet the needs of its population, there is a pronounced need to increase the resilience of investments, and to strengthen domestic capacity to manage and respond to severe weather events.

Between 12 and 14 March 2015, Tropical Cyclone Pam struck Vanuatu as an extremely destructive category 5 cyclone, with wind speeds estimated at 250 km per hour and wind gusts peaking at 320 km per hour. The storm caused severe flooding and widespread damage—displacing approximately 65,000 people and compromising the livelihoods of at least 80% of Vanuatu's rural population.

A rapid post-disaster needs assessment estimated the total value of losses to be \$449.4 million, or 64.1% of Vanuatu's GDP, with recovery needs concentrated in the social sector (\$205 million for housing, health, and education) and the transport sector (estimated at \$34 million).<sup>14</sup> The damage assessment highlighted the need for swift repairs along the Efate Ring Road to minimize secondary economic impacts, and to restore connectivity to essential service centers including hospitals, schools, and markets. Efate Ring Road traverses the capital, Port Vila, and was among the transport assets most severely affected by the storm.

The **Cyclone Pam Road Reconstruction Project** is supporting government efforts to reconstruct and climate-proof national transport infrastructure. Crucially, it is reconstructing damaged portions of the Efate Ring Road, and will restore connectivity between Port Vila and communities across Efate. The project is taking a “build-back-better” approach to reconstruction, and will help restore socioeconomic activities to precyclone levels.

Physical works commenced in August 2017 and will (i) rehabilitate a 10 km road section, (ii) reconstruct 9 bridges and 9 culverts and causeway structures, and (iii) oversee ground improvement to one landslip site. The proposed additional financing will (i) rehabilitate a 6.2 km road section, (ii) reconstruct 4 bridges, and (iii) improve drainage at one road section. The project will increase climate resilience by protecting sealed pavement against erosion, improving

### CYCLONE PAM ROAD RECONSTRUCTION PROJECT

The project is reconstructing and climate-proofing road assets damaged by floods, and restoring socioeconomic activity to pre-flood levels.

Executing agency	Ministry of Finance and Economic Management
Project officer	Pivithuru Indrawansa
Status	Active
Funding by source:	
Asian Development Fund	\$7.00 million
Asian Development Fund	\$2.81 million
GLDCF	\$2.68 million
Asian Development Bank ordinary capital resources (concessional loan)	\$0.96 million
Asian Development Bank ordinary capital resources (concessional loan)	\$2.70 million
Asian Development Bank ordinary capital resources (concessional loan) (proposed additional financing)	\$4.10 million
Asian Development Fund Grant (proposed additional financing)	\$4.10 million
<b>Total amount</b>	<b>\$24.35 million</b>

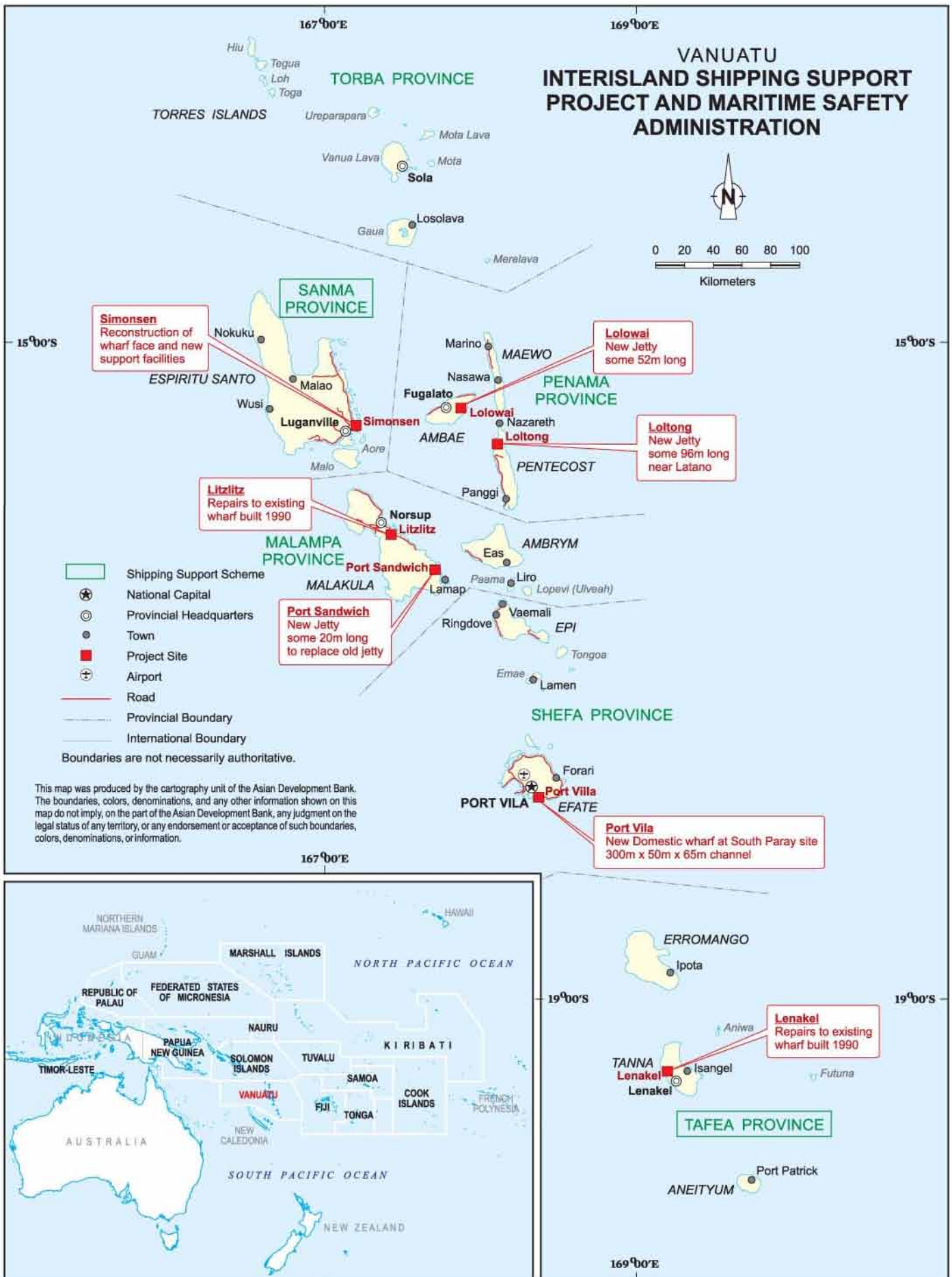
drainage, and training rivers to cope with surges. Capacity building will complement physical works by supporting the government's efforts to increase climate- and disaster-risk preparedness in rural and urban areas.

### Box 9: Delivering Impacts in the Pacific

The work of the Asian Development Bank in the Pacific transport sector focuses on constructing and upgrading key infrastructure, and on ensuring that domestic stakeholders have the capacity to manage and maintain it for generations to come. Through its technical assistance and lending activities in the Pacific transport sector, the Asian Development Bank seeks to:

- connect people to essential resources, and to each other;
- increase the resilience of communities and infrastructure;
- support economic development and the creation of jobs;
- provide safe, efficient, and reliable transport services; and
- ensure equitable access to opportunity.

<sup>14</sup> ADB and its development partners are collaborating on a range of projects to directly address social sector needs, in tandem with the transport sector work described above.





## Pacific Transport Update 2017

The Asian Development Bank (ADB) is working to assist in the development of the transport sector in 14 Pacific developing member countries (DMCs) through technical assistance, loan, and grant financing. ADB provides support for transport sector policy, investment planning, capacity building, and new capital infrastructure investment. ADB is currently implementing transport projects and technical assistance in nine Pacific DMCs—Fiji, Kiribati, Nauru, Papua New Guinea, Samoa, Solomon Islands, Timor-Leste, Tuvalu, and Vanuatu. This document provides an update of ongoing, proposed, and recently completed Pacific Transport projects and assistance for 2016.

## About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to a large share of the world's poor. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.



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