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Report No: PAD2884

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED CREDIT
IN THE AMOUNT OF SDR 21.8 MILLION
(US$30.5 MILLION EQUIVALENT)

AND A
PROPOSED GRANT
IN THE AMOUNT OF SDR 14.7 MILLION
(US$20.5 MILLION EQUIVALENT)

TO THE

SOLOMON ISLANDS

FOR A

SOLOMON ISLANDS ROADS AND AVIATION PROJECT
UNDER THE PACIFIC AVIATION INVESTMENT PROGRAM

(MARCH 7, 2019)

Transport & Digital Development Global Practice
East Asia And Pacific Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective January 31, 2019)

Currency Unit	=	
	=	US$1
US$1.4007	=	SDR 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Victoria Kwakwa
Country Director:	Michel Kerf
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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
ADS-B	Automatic Dependent Surveillance-Broadcast
AGL	Airfield Ground Lighting
ARAP	Abbreviated Resettlement Action Plan
ATC	Air Traffic Control
AWOS	Automatic Weather Observation System
CAASI	Civil Aviation Authority of Solomon Islands
CERC	Contingent Emergency Response Component
CO_2	Carbon Dioxide
CPF	Country Partnership Framework
CPIU	Central Project Implementation Unit
DBST	Double Bituminous Surface Treatments
DFAT	Department of Foreign Affairs and Trade
DME	Distance Measuring Equipment
EIRR	Economic Internal Rate of Return
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FM	Financial Management
GBV	Gender- Based Violence
GDP	Gross Domestic Product
GPN	Global Practice Note
GPS	Global Positioning System
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HIR	Honiara International Airport
IA	Implementing Agency
ICAO	International Civil Aviation Organization
ICR	Implementation Completion and Results Report
IDA	International Development Association
IFC	International Finance Corporation
IMF	International Monetary Fund
IPF	Investment Project Finance
JICA	Japan International Cooperation Agency
LBES	Labor-Based, Equipment-Supported
LMMA	Locally Managed Marine Areas
MCA	Ministry of Communications and Aviation
MFAT	Ministry of Foreign Affairs and Trade
MID	Ministry of Infrastructure Development

MOFT	Ministry of Finance and Treasury
MRIMP	Malaita Road Improvement and Maintenance Program
MTTAP	Medium Term Transport Action Plan
MUA	Munda Airport
NDB	Non-Directional Beacon
NDS	National Development Strategy
NFD	National Fisheries Development
NGO	Non-Governmental Organization
NPV	Net Present Value
NSC	National Steering Committee
NTF	National Transport Fund
NTP	National Transport Plan
O&M	Operation and Maintenance
OHS	Occupation Health and Safety
OPRC	Output- and Performance-based Road Contract
PAD	Project Appraisal Document
PAIP	Pacific Aviation Investment Program
PASO	Pacific Aviation Safety Office
PCERP	Post-Conflict of Emergency Rehabilitation Project
PDO	Project Development Objective
PIC	Pacific Island Country
PNG	Papua New Guinea
POM	Program Operations Manual
PPSD	Project Procurement Strategy for Development
PRIF	Pacific Region Infrastructure Facility
PSC	Program Steering Committee
PST	Project Support Team
QBS	Quality Based Selection
QCBS	Quality and Cost Based Selection
RAI	Rural Access Indicator
RED	Roads Economic Decision
RFB	Request for Bid
RFQ	Request for Quote
RFS	Rescue and Fire Service
RPEC	Regional Procurement Evaluation Committee
RSSAT	Road Safety Screening and Appraisal Tool
SCD	Systematic Country Diagnostic
SCF	Standard Conversion Factor
SDR	Special Drawing Rights
SIACL	Solomon Islands Airport Corporation Limited
SIG	Solomon Islands Government
SIRAP	Solomon Islands Roads and Aviation Project

SIRIP	Solomon Islands Road Improvement Project
SIRIP II	Second Road Improvement (Sector) Project
SITAMS	Solomon Islands Transport Asset Management System
SOP	Series of Project
SORT	Systematic Operations Risk-rating Tool
STEP	Systematic Tracking of Exchanges in Procurement
STIIP	Sustainable Transport Infrastructure Improvement Program
TAL	Tonga Airports Limited
TFSU	Technical and Fiduciary Services Unit
TIMS	Transport Infrastructure Management Services
TMP	Traffic Management Plan
TSDP	Transport Sector Development Project
US$	United States Dollar
USOAP	Universal Safety Oversight Audit Program
UXO	Unexploded Ordnance
VAC	Violence against Children
VSAT	Very Small Aperture Terminal
WB	World Bank

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Solomon Islands	Solomon Islands Roads and Aviation Project	
Project ID	**Financing Instrument**	**Environmental Assessment Category**
P166622	Investment Project Financing	B-Partial Assessment

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[✓] Series of Projects (SOP)	[✓] Fragile State(s)
[ ] Disbursement-linked Indicators (DLIs)	[✓] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
28-Mar-2019	31-Dec-2024
Bank/IFC Collaboration	**Joint Level**
Yes	Complementary or Interdependent project requiring active coordination

Proposed Development Objective(s)

Improve operational safety and oversight of air transport and associated infrastructure, strengthen the sustainability and climate resilience of the Project Roads, and in the event of an Eligible Crisis or Emergency, to provide an immediate response to the Eligible Crisis or Emergency.

Components

Component Name	Cost (US$, millions)
Component A: Honiara and Munda Airports Infrastructure Investments	33.75
Component B: Malaita Road Improvement and Maintenance Program	15.22
Component C: Institutional Strengthening	2.93
Component D: Project Implementation Support	2.70
Component E: Contingent Emergency Response	0.00

Organizations

Borrower:	Solomon Islands
Implementing Agency:	Ministry of Communication and Aviation Ministry of Finance and Treasury Ministry of Infrastructure Development

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	54.60
Total Financing	54.60
of which IBRD/IDA	51.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	51.00
IDA Credit	30.50
IDA Grant	20.50

Non-World Bank Group Financing

Counterpart Funding	3.60

Borrower/Recipient	3.60

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
National PBA	18.50	8.50	0.00	27.00
Regional	12.00	12.00	0.00	24.00
Total	**30.50**	**20.50**	**0.00**	**51.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2019	2020	2021	2022	2023	2024	2025
Annual	0.06	2.79	4.03	7.27	12.08	17.22	7.55
Cumulative	0.06	2.85	6.88	14.15	26.23	43.45	51.00

INSTITUTIONAL DATA

Practice Area (Lead)

Transport

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

Gender Tag

Does the project plan to undertake any of the following?	
a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF	Yes
b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment	Yes
c. Include Indicators in results framework to monitor outcomes from actions identified in (b)	Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Other	
10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	✓	
Performance Standards for Private Sector Activities OP/BP 4.03		✓
Natural Habitats OP/BP 4.04	✓	
Forests OP/BP 4.36		✓
Pest Management OP 4.09		✓

Physical Cultural Resources OP/BP 4.11		✓
Indigenous Peoples OP/BP 4.10	✓	
Involuntary Resettlement OP/BP 4.12	✓	
Safety of Dams OP/BP 4.37		✓
Projects on International Waterways OP/BP 7.50		✓
Projects in Disputed Areas OP/BP 7.60		✓

Legal Covenants

Sections and Description
The Recipient shall maintain, in collaboration with the Program Countries, until the Closing Date, a Program Steering Committee, with a mandate, composition and resources satisfactory to the Association. (Section I.A.1 of Schedule 2 to the Financing Agreement)

Sections and Description
To ensure proper oversight of the Project at the national level, the Recipient shall establish, by not later than three (3) months after the Effective Date (or such other date which the Association has confirmed in writing to the Recipient is reasonable and acceptable under the circumstances, as determined by the Association in its sole discretion) and maintain until the Closing Date, a National Steering Committee with a mandate, composition and resources satisfactory to the Association. (Section I.A.2 of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall, in collaboration with the other Program Countries, ensure that the Regional Procurement Evaluation Committee, is maintained throughout the Project implementation period, comprised of representatives the Program Countries, TAL (through TFSU) and PASO to be responsible for, inter alia, evaluating regional level procurement activities under the Project. (Section I.A.3 of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall ensure that the Project is carried out in accordance with the Operations Manual. (Section I.C of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall establish, by not later than three (3) months after the Effective Date (or such other date which the Association has confirmed in writing to the Recipient is reasonable and acceptable under the circumstances, as determined by the Association in its sole discretion) and maintain until the Closing Date, a Project Support Team within the Ministry of Communication and Aviation, with a mandate, composition and resources satisfactory to the Association, to: (a) implement the project; (b) represent the Recipient on the Regional Procurement Evaluation; (c) report to the Permanent Secretary of the Ministry of Communication and Aviation; and (d) be comprised of, inter alia: (i) a project manager; (ii) a deputy project manager; (iii) a national safeguards specialist; (iv) a community liaison officer; (v) a project accountant; and (vi) an administrative assistant. (Section I.A.4 of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall maintain, until the Closing Date, a Service Agreement with TAL, with terms and conditions satisfactory to the Association. (Section I.B.1 of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall ensure that the Project is implemented in accordance with the Annual Work Plans and Budgets approved by the Association for the respective fiscal year, and inform the Association prior to making or allowing to be made any change to the Annual Work Plans and Budgets. (Section I.D of Schedule 2 to the Financing Agreement)

Sections and Description
The Recipient shall maintain, until the Closing Date, a focal point within the Ministry of Communication and Aviation, with terms of reference, qualificaitons and experience satisfactory to the Association. (Section I.A.5 of Schedule 2 to the Financing Agreement)

The Recipient shall maintain, until the Closing Date, a focal point within the Ministry of Infrastructure Development, with terms of reference, qualificaitons and experience satisfactory to the Association. (Section I.A.6 of Schedule 2 to the Financing Agreement)

Sections and Description
Without limitation of the provisions of Section 5.03 of the General Conditions, the Recipient shall allocate adequate funds to cover the full cost of financing Part 2(b) of the Project. To this end, the Recipient shall ensure that by no later than June 30, 2020, counterpart financing in an amount of not less than three million six hundred thousand Dollars ($3,600,000) shall be either: (a) deposited in a separate bank account acceptable to the Association; or (b) shall be otherwise allocated in a manner acceptable to the Association.

Conditions

Type	Description
Disbursement	No withdrawal shall be made for Emergency Expenditures under Category (2) unless and until the Association is satisfied that all the conditions set forth in Section III.B.1(b) of Schedule 2 to the Financing Agreement have been met in respect of the said Emergency Expenditures. (Section III.B.1(b) of Schedule 2 to the Financing Agreement)

I. STRATEGIC CONTEXT

1. This Project Appraisal Document (PAD) seeks the approval of the Executive Directors to provide an International Development Association (IDA) credit in the amount of SDR 21.8 million (US$30.5 million equivalent) and an IDA grant in the amount of SDR 14.7 million (US$20.5 million equivalent)[1] to the Solomon Islands in support of the Solomon Islands Roads and Aviation Project (SIRAP). This will be complemented by US$3.6 million counterpart funding from the Solomon Islands Government (SIG).[2]

2. **Series of Project Objective and Phases.** The aviation element of SIRAP is the fourth phase of the US$226 million 'Pacific Aviation Investment Program' (PAIP) Series of Projects (SOP) financed by the World Bank, with support from donor partners Australia and New Zealand. PAIP is investing in infrastructure, capacity development, and regulatory oversight to improve operational safety and oversight of international air transport infrastructure. The program, originally financed through an Adaptable Program Loan, was approved in December 2011. Prior phases of the program include Kiribati, Tonga, and Tuvalu (Phase I), Samoa (Phase II), and Vanuatu (Phase III).[3] The 'Pacific Aviation Safety Office' (PASO) reform project is also part of PAIP. The Solomon Islands was identified at the onset as a potential participant in PAIP, it meets the PAIP eligibility criteria, and will benefit from the breadth of information and experience accumulated under PAIP.

A. Country Context

3. The Solomon Islands is the Pacific's largest archipelagic nation, extending some 1,500 km from east to west and consisting of nearly 1,000 islands, the largest of which include Guadalcanal, Malaita, and New Georgia (in Western Province). The country is bordered by Papua New Guinea (PNG) to the west, Nauru to the north, Tuvalu and Fiji to the east, and Vanuatu to the south. It has an estimated population of 611,343 in 2017, the third largest in the Pacific following PNG and Fiji. Over 70 percent of the country's population, dispersed across some 90 inhabited islands, resides in Malaita Province, Guadalcanal Province, Western Province, and Capital Territory of Honiara. The country has among the lowest population densities in the world.

4. **The Solomon Islands has seen significant economic growth over the last decades.** In the 2000s, the economy measured by gross domestic product (GDP) grew at an average rate of 2.8 percent per year, and this pace further accelerated in the 2010s, averaging at 4.7 percent per year for the period 2010–2016. The key contributors to this economic progress were a growth in services, as well as forestry and logging sectors. In fact, the percentage of GDP increased by 9.1 percent in services, and 2.4 percent in forestry and logging sectors in 2003–2016. In the coming years, the economy in the Solomon Islands is expected to continue growing: according to the October 2018 forecast by the International Monetary Fund (IMF), the GDP is expected to increase at an annualized average rate of 2.9 percent in 2018–2023.

[1] The national IDA allocation for SIRAP is US$27 million. The project will leverage a further US$24 million from regional IDA for the international aviation activities given the wider benefits of improved regional connectivity. The 50:50 ratio for grants and credits is applied for the Solomon Islands IDA financing; however, in agreement with SIG some projects will be fully funded via grants, thus the ratio for the entire SIRAP will be 40:60 grant to credit. The financing is therefore: National IDA Credit: US$18.5 million; National IDA Grant: US$8.5 million; Regional IDA Credit: US$12 million; and, Regional IDA Grant: US$12 million.

[2] This is to cover the costs of the Fiu bridge which is on the main road between the airport and Auki town and is in urgent need for replacement. The bridge will be procured by the project using financing from National Transport Fund (NTF), with the supervision undertaken by the SIRAP supervision consultant.

[3] See Map in Annex 6 for the airports included in PAIP.

5. Aggregate poverty has declined since the tensions;[4] however, a high proportion of Solomon Islanders are vulnerable to falling into poverty.[5] The poverty rate, based on the national poverty line, has reduced from 22 percent in 2005/06 to 14 percent in 2012/13, implying that some 45,000 people were lifted out of poverty over that period. Despite the improvement, the wellbeing of Solomon Islanders is highly vulnerable to frequent shocks. In fact, poverty remains extensive in the country, with 12.7 percent of the people still living below the national poverty line. The country ranks 152nd out of 189 on the 2017 United Nations Human Development Index, placing it in the 'low human development' category.

6. **The Solomon Islands is highly susceptible to climate change and natural disasters.** Located in the Pacific Ring of Fire and within the Pacific cyclone belt, the country is highly prone to natural disasters such as earthquakes, volcanic eruptions, cyclones, tsunamis, coastal and river flooding and landslides. Given its location and physical characteristics, it suffers from extreme events associated with climate vulnerability, including sea level rise, storm surges, and increased precipitation and flooding. The April 2014 flash floods were one of the strongest on record and closed Honiara Airport for eight days. Many significant earthquakes have occurred in the past, including the December 2016 earthquake of magnitude 7.8 that struck some 130 km from Honiara. With climate change it is anticipated that average annual and seasonal rainfall will increase over the course of the 21st century, and extreme rainfall days are likely to occur more often.[6] In addition, the intensity and frequency of days of extreme heat are projected to increase in Solomon Islands over the course of this century.[7] The Solomon Islands' susceptibility to natural disasters make transportation a critical pillar in the country's economic and social development.

B. Sectoral and Institutional Context

Aviation

7. The Solomon Islands has a total of 28 airports and airfields: 10 are government-owned including Honiara, Munda and Gizo, and 18 are community-owned including Auki on Malaita Island. The Ministry of Communication and Aviation (MCA) is responsible for aviation policy development, strategic planning, development works, and operation and maintenance (O&M) of the airports, while the Civil Aviation Authority of Solomon Islands (CAASI) is responsible for safety and security regulation.

8. As the only international airport in the country, Honiara International Airport (HIR) plays an essential role for Solomon Islands, linking it to Australia, Fiji, Kiribati, Nauru, PNG and Vanuatu through international flights, while also connecting the capital to outer islands as the national hub. The upgrading of HIR has been given priority in the recent national plans. The airport infrastructure and facilities are outdated, poorly maintained and do not meet market expectations. The condition of the apron and taxiway at the airport has deteriorated. Any disruptions to flights due to safety concern would have a major impact to the economy.

9. The aviation sector in the Solomon Islands has suffered due to the lack of investment, and no clear vision and strategy regarding the opportunities and investments required to bring the sector into a more sustainable position. For

[4] The tensions emerged from 1998 to 2003 as a result of grievances between the local Guadalcanal landowners and migrants, predominantly from Malaita, drawn by economic opportunities. Violent clashes involving rival militant groups led to two hundred deaths, displacement of thousands, and the widespread destruction of property. While often characterized as an ethnic conflict, the tensions had multiple political and economic causes, including the disproportionate concentration of economic development in and around Honiara compared to the rest of the country.

[5] The World Bank, *Solomon Islands Systematic Country Diagnostic (Report No. 115425-SB)*, June 2017.

[6] Pacific Climate Change Science Program: Current and Future Climate of the Solomon Islands. *https://www.pacificclimatechangescience.org/wp-content/uploads/2013/06/13_PCCSP_Solomon_Islands_8pp.pdf*

[7] Pacific Climate Change Science Program: Current and Future Climate of the Solomon Islands.

some years, aviation reform has been underway with the assistance of New Zealand's Ministry of Foreign Affairs and Trade (MFAT) to improve the operational efficiency of major airports. The reform agenda includes separation of O&M responsibilities from MCA. In June 2016, SIG established Solomon Islands Airport Corporation Limited (SIACL), a state-owned enterprise under MCA. It is planned that Honiara, Munda and Gizo Airports be transferred from MCA into SIACL's management sometime in 2019. This will see a dedicated operator responsible for the delivery of airport services in a compliant manner. SIG is proposing an initial capital injection under budget approval which should see SIACL operational by the end of 2019. CAASI has also identified a need to adapt the New Zealand Civil Aviation Rules to better meet the specific requirements of the Solomon Islands—something which will be supported by SIRAP.

10. The upgrading of Honiara will be done by SIG with the support of the World Bank and Japan International Cooperation Agency (JICA). JICA signed a Grant Agreement with SIG in June 2018 to provide grant aid of up to 4,364 million yen (US$39.4 million) for the improvement of HIR. The investments for JICA financing include: (i) rehabilitation of the existing taxiway and apron; (ii) expansion of the international/domestic apron; (iii) construction of a new connecting taxiway; (iv) installation of new apron and taxiway lighting system; (v) renovation of the existing international terminal building; (vi) construction of an international departure passenger terminal building; (vii) construction of a flood protection dike; and, (viii) other investments such as the installation of relevant equipment (e.g., X-ray scanner) and the rehabilitation of the existing drainage systems. It is planned that the JICA project will be completed in September 2021. SIRAP will complement JICA's investments, ensuring that the airport meets all regulatory compliance requirements.

11. SIG has placed the upgrading of Munda Airport (MUA) to handle international flights as a high priority in the National Transport Plan (NTP) 2017–2036 and the Medium Term Transport Action Plan (MTTAP) 2017–2021. Located in New Georgia Island, Western Province, Munda's upgrading will contribute to tourism development and support the fish processing at Noro, some 12 km away. Munda also provides an alternative emergency airport for HIR. This is particularly important since each international flight destined to Honiara is required to carry extra fuel in case of an emergency landing at the nearest international airport in Santo, Vanuatu. MFAT has financed improvements to Munda to facilitate upgrading of the airport status, and the road to Noro. The proposed investments on this project would complement those by MFAT by helping Munda handle international operations, with an appropriate level of safety and facilities.

Roads

12. The road network in Solomon Islands is publicly owned and operated. It is made up of approximately 1,500 km of roads: some 625 km (42 percent) are classified as main roads, 523 km (35 percent) are feeder roads, and 346 km (23 percent) as access roads. Three-quarters of the road network (including all the sealed roads) are in just three provinces: Guadalcanal (including the Capital Territory of Honiara), Malaita and Western Province. Only 184 km (29 percent) of the main road network (comprising 12 percent of the overall network) is sealed. Overall, 15 percent of the network is in fair to good condition, comprising 56 percent (104 km) of the sealed network and 11 percent (146 km) of the unsealed (gravel road) network. Nearly 80 percent of all bridges are also located in the above-mentioned three provinces. Two-thirds of these bridges are simple log and timber bridges that require regular replacement. The National Development Strategy (NDS) 2016–2035 sets targets for the proportion of the road network in maintainable condition to be increased to 85 percent by 2015 and towards 90 percent by 2020, but without any maintenance strategy to achieve these outcomes. Historically there has been only minimal maintenance leading to poor road and bridge conditions. The government is now more focused on maintaining and improving the current road network, although this does not yet happen in a structured manner.

13. The Ministry of Infrastructure Development (MID) is responsible for developing and managing the road network, road transport services and road safety. The overall plans for the development of the road network are set out in the

NTP 2017–2036 and the MTTAP 2017–2021. The Transport Infrastructure Management Services (TIMS) Department of MID is responsible for programming, design and implementation of road infrastructure maintenance and new works (including main, feeder and access roads). It is also responsible for asset management and the Solomon Islands Transport Asset Management System (SITAMS). TIMS is responsible for implementing a program of road works set out in the MTTAP and funded through the National Transport Fund (NTF) three-year action plans and the SIG annual budget. A Central Project Implementation Unit (CPIU) embedded within the structure of TIMS includes international and local consultants who provide management and technical support for these activities.

14. For the proposed World Bank support to the road sector, SIG has given priority to Malaita which is the largest province in Solomon Islands, accounting for some 27 percent of the national population, 26 percent of the country's road network, and 43 percent of the country's bridges. There is a clear need for investment in Malaita's road network: only 4 percent of Malaita Province's roads are sealed, almost exclusively located in and around Auki town, compared to 21 percent for Guadalcanal Province and Western Province, and 33 percent for the Capital Territory of Honiara. Only 23 percent[8] of the bridges are concrete or steel bridges, compared with 40 percent in Western and Guadalcanal provinces and 62 percent for the Capital Territory of Honiara.

15. Over half the road network in Malaita is formed by 230 km of main roads[9] (North, East and South Road) that connect 19 of the 33 wards and provide access to 70 percent of the province's population (see Map in Annex 6). The importance of the three main roads on Malaita is reflected in the NTP 2017–2036 and the MTTAP 2017–2021. While the Asian Development Bank (ADB) and the Australian Department for Foreign Affairs and Trade (DFAT) have in the past assisted with the improvement of road and bridge infrastructure in Malaita, both the sealed and unsealed roads are not adequately maintained, and only half the network is considered maintainable. This poor condition is exacerbated by the increased rainfall volume and intensities associated with climate change, leading to temporary road closures and delays to users. Beyond climate induced delays, the condition has a dramatic impact on residents as public transport is predominantly in the back of open trucks that are better able to cope with the poor road conditions than vans or buses. Speeds are low, and connectivity is often lost.

16. **National Transport Fund (NTF).** NTF was established in 2009 with the support of ADB and DFAT to provide a single reliable source of funds for transport sector investment covering all modes in the Solomon Islands. The original intention was that SIG and all donors would deposit their funds into NTF. The donor funds would be pooled with SIG funds and then allocated to projects approved by the NTF Board. The projects were to be selected from the NTP and the MTTAP. However, donors would have the ability to 'ring fence' funds and request that they be spent only on projects nominated by the donor. To date only the ADB and DFAT have used NTF, with MFAT and JICA activities being financed outside NTF.

17. As noted in Annex 1, NTF has had issues fully implementing its donor financed work programs in 2016 and 2017. It was therefore decided that SIRAP would operate in a similar manner to JICA and MFAT projects with its own financial management and procurement processes independent of NTF. To assist NTF, the project has included capacity building activities, particularly around long-term planning and asset management.

[8] The remaining 77 percent of bridges on Malaita are simple log bridges, most with a timber deck.

[9] The SIG Roads Act provides for the declaration of public roads along with a fixed road reserve of 15 meters either side of the center line. During the development of the SIRAP Safeguards Documents the declarations for part of the main road network were found, with the records for the declaration of the rest of the Project network not readily available. An investigation has been triggered by MID to locate those records to ensure that the entire road network covered by this Project has been declared as a public road network under the Roads Act. **The SIRAP Malaita road upgrade works will only be undertaken on public roads which have been declared and gazetted under the SIG Roads Act.** To date, declarations of the road from Auki–Malu'u–Kawilibesi–Fouia Road (approx. 112 km known as the northern road) and the Gwaunaru'u Aerodrome Road have been located. The declarations for the Auki–Huahui (the southern road) and the Dala–Atori road (the eastern road), approximately 118 km of road combined, have yet to be verified.

C. Relevance to Higher Level Objectives

18. SIRAP is aligned with the World Bank Group's Country Partnership Framework (CPF) for Solomon Islands for FY2018–FY2023 (Report No. 122600-SB). The CPF is organized around three focus areas: (i) strengthening the foundations of well-being; (ii) promoting inclusive and sustainable growth; and, (iii) managing uneven development. The proposed project aligns well with the second and third areas. Addressing critical roads and airport infrastructure improves connectivity—essential for growth—, reduces costs associated with transport, and mitigates the exclusion engendered by uneven development across the Solomon Islands. It is also vital to improving service delivery to underserved communities, as this will enable greater access to markets and improve living conditions in rural areas.

19. Furthermore, the benefits of greater regional cooperation and global integration are maximized through a project that will strengthen the air transport regulatory environment and improve aviation safety and security to international standards.

20. The proposed project is also consistent with the NDS 2016–2035, NTP 2017–2036, and MTTAP 2017–2021. SIRAP supports the NDS's objectives, in particular sustainable and inclusive economic growth, access improvement to health and education, and resilient and environmentally sustainable development with effective disaster risk management. The project also contributes to the NTP 2017–2036, of which the investment program is centered on rehabilitation and maintenance of existing infrastructure, as well as improvement of transport network resilience. The proposed investments are also aligned with the priority projects listed in the MTTAP 2017–2021.

21. SIRAP will also contribute to the implementation of the Nationally Determined Contributions of Solomon Islands as well as its Climate Change Policy 2012–2017, National Action Plan for Adaptation, particularly in terms of building climate proofing infrastructure, and adapting to long-term climate impact in all development sectors.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

22. Improve operational safety and oversight of air transport and associated infrastructure, strengthen the sustainability and climate resilience of the Project Roads, and in the event of an Eligible Crisis or Emergency, to provide an immediate response to the Eligible Crisis or Emergency.

PDO Level Indicators

23. Progress will be measured against the following proposed PDO-level results indicators:

(a) Airport Certification according to ICAO safety and security standards at Honiara and Munda Airports (Yes/No)
(b) State requirements for safety and security non-compliance reach global ICAO average (Percentage)
(c) Modernization of air traffic management achieved
(d) Implementation of recommended PASO annual work plan (Percentage)
(e) Identified climate resilient investments constructed and in use (Number)
(f) Percentage of paved roads on Malaita main roads in very good or good condition (Percentage)
(g) Percentage of gravel roads on Malaita main roads in good or fair condition (Percentage)

(h) CERC Manual adopted by SIG with appropriate training on activating and implementing

B. Project Components

24. **Component A: Honiara and Munda Airports Infrastructure Investments (est. US$33.75 million, including national IDA US$11.25 million and regional IDA US$22.50 million[10])**

(a) **Subcomponent A1: Honiara Airport Investment Program (US$17.64 million).** To improve operational safety and overall infrastructure resilience to climate change at Honiara, this activity will include: (i) 5 cm overlay of existing runway (including pavement strength testing and drainage improvements) [11]; (ii) installation of airfield ground lighting for runway (AGL); (iii) construction of rescue fire service (RFS) vehicle station; (iv) installation of Automatic Weather Observation System (AWOS); (v) installation of Very Small Aperture Terminal (VSAT) communications systems; (vi) installation of Automatic Dependent Surveillance-Broadcast (ADS-B) ground stations and aircraft equipage; and, (vii) provision of equipment for improved power supply. The investments will also include consulting services for design and supervision of runway works, AGL, and the RFS station.[12]

(b) **Subcomponent A2: Munda Airport Investment Program (US$15.96 million).** To enable Munda to receive international flights with an enhanced resilience to climatic disasters, the following investments are anticipated: (i) 2.5 cm overlay of existing runway (including pavement strength testing); (ii) construction of a new terminal building, cargo facilities with an integrated flight service tower;[13] (iii) installation of VSAT communications systems; (iv) installation of ADS-B ground stations; and, (v) procurement of passenger handling equipment. In addition, the investments will include the consulting services for the concept design of the terminal building.

(c) **Subcomponent A3: UXO Surveys (US$0.15 million).** The presence of unexploded ordnance (UXO) from the Second World War is a risk at both airports.[14] The activities include: (i) UXO Specialist to develop technical requirements for UXO survey and removal, undertake technical reviews of all UXO Contractor pre-project documentation, and oversee the work of the UXO Contractor; and, (ii) UXO Contractor to conduct UXO survey and removal of any identified UXO as required at Honiara and Munda airports.

25. **Component B: Malaita Road Improvement and Maintenance Program (est. US$15.22 million, including national IDA US$11.62 million and SIG US$3.6 million).** The proposed investments are all for existing roads and focused at improving their climate resiliency. All activities proposed under this component aim to improve the climate resilience of the Malaita road network through a combination of specific spot improvements and overall system condition strengthening via adaptive maintenance measures. Investments include: (i) resealing the existing sealed roads in Malaita (approx. 17 km);[15] (ii) replacing the existing Fiu bridge in Auki;[16] (iii) upgrading of three existing bridges (two log bridges and one steel truss bridge) on the Auki–Dala section (possibly to modular bridges with geosynthetic

[10] All costs include contingencies and taxes, assumed to be 15 percent of the project costs. See Table 4 for estimated costs for each activity.
[11] The existing pavement is displaying oxidation and cracking which allows water to permeate the pavement. Given the increased volume and intensity of rainfall associated with climate change, failing to overlay will lead to accelerated pavement deterioration.
[12] There will be one consulting assignment, so the same consultant will also supervise Munda, as well as design and supervise the road works.
[13] As noted in Annex 2, the new terminal will be constructed using 'green' technologies to minimize its environmental footprint.
[14] When MFAT undertook pavement works at Munda, the UXO survey was reported to have removed 4,260 UXO of a size greater than a 20-mm projectile from the 47.2-hectare site, as well as 6,511 rounds of small arms ammunition—i.e., just over 225 UXO per hectare.
[15] These roads are past the end of their service life and beginning to fail with major potholing. Failure to climate proof these roads will see the failure rate greatly accelerate.
[16] SIG will provide US$3.6 million to cover the costs of the Fiu bridge. The bridge will be procured by the project using financing from NTF, with the supervision undertaken by the SIRAP supervision consultant.

reinforced soil abutments); (iv) upgrading key vulnerable spots to enhance overall network resilience;[17] (v) multi-year contracts for routine maintenance[18] (approx. 232 km), grading and regravelling of unpaved main roads (approx. 210 km); and, (vi) road safety infrastructure improvements (e.g., speed humps, footpaths). The activities will also include road surveys, and design and supervision of road work (including geotechnical investigations).

26. In addition, civil works will have appropriate road safety enhancements with a focus on vulnerable road users. There will be specific project activities to create opportunities for women (e.g., improved facilities at Dala market, improved access and basic washing facilities at the locations of the three new bridges, and prioritized employment opportunities for women in the multi-year maintenance contracts). The investments will be accompanied by consulting services for design and supervision, as well as a Technical Auditor for enhanced quality control. This auditor will also review the aviation runway works.

27. **Component C: Institutional Strengthening (est. US$2.93 million, including national IDA US$1.92 million and regional IDA US$1.01 million)**

(a) **Subcomponent C1: Aviation Sector Support (US$1.52 million).** This includes: (i) training needs analysis; (ii) airport operational training; (iii) airport regulatory training; (iv) preparation of a strategic plan for the sustainability of Solomon Airlines (i.e., airline strategy review); (v) airport master planning studies for both Honiara and Munda Airports; (vi) preparation of an aviation sector strategy; (vii) technical support to CAASI to improve safety and security oversight; and, (viii) technical support so SIACL for strengthening capabilities for airport management and operation.

(b) **Subcomponent C2: Road Sector Support (US$1.29 million).** This includes: (i) support for planning and asset management; (ii) improvements to project management; (iii) improvement of road safety capacity; (iv) activities to address gender-based violence (GBV);[19] (v) operational training for MID staff; and, (vi) establishment and capacity building of an MID office in Malaita to improve works supervisions.

(c) **Subcomponent C3: Preparation for Auki Gwaunaru'u Airport Infrastructure Investments (US$0.12 million).** There is a clear need for an all-weather airstrip at Auki Gwaunaru'u Airport, however, the airport was closed for some years due to a land dispute and was reopened in 2017. This activity would finance key preparation activities to lay the foundation for future paving, including undertaking of stakeholder engagement and consultations as well as preparation of safeguards documents, and preliminary design (once land issues have been resolved).

28. **Component D: Project Implementation Support (est. US$2.70 million, including national IDA US$2.21 million and regional IDA US$0.49 million).** A Project Support Team (PST) will be located in MCA, providing support to both MCA and MID for project preparation and implementation (including the training to prepare for emergency response activities under Component E). In addition, the existing PAIP Technical and Fiduciary Services Unit (TFSU) will provide support to the PST for procurement, financial management, safeguards, contract management, monitoring and evaluation, audit, communications subscription for VSAT, and technical guidance, particularly for aviation matters. Two key recruitments will be for a community liaison officer and national safeguards specialist to support the Malaita road program.

[17] This spot upgrading may be to the road carriageway, adjacent drains, slopes, as well as coastal or river training protection. For example, it may include paving of steep sections of gravel roads with associated drainage improvements.

[18] Routine maintenance includes regular clearing of drainage ditches, culverts, and bridges, cutting vegetation along the road, removing small landslides (<10m^3), repairing the road shoulder, repairing unsealed road surface (potholes, ruts, rills), repairing sealed road surfaces (sealing cracks, joints, potholes), and repairing dry-stone and gabion retaining walls.

[19] Although included under the road component, GBV activities will also be done for the aviation investments. However, the bulk of the effort will be on Malaita, particularly with regard to employment for women.

29. **Component E: Contingent Emergency Response (US$0 million).** This zero-dollar contingent emergency response component (CERC) is designed to provide swift response in the event of an Eligible Crisis or Emergency,[20] by enabling the government to request the World Bank to reallocate project funds to support emergency response and reconstruction.

C. Project Beneficiaries

30. **Aviation component beneficiaries.** The main beneficiaries of the aviation component will be: (i) the population of the Solomon Islands who will benefit from improved international air travel connections not interrupted due to inadequate or unsafe infrastructure, and improved reliability of aviation infrastructure in the event of a national disaster where airports are essential to the emergency response, as well as being capable of serving as a base of operations for search and rescue efforts; (ii) individual travelers, air freight users, including cargo owners, airlines, forwarders, and logistics companies who will benefit through the provision of safer international and domestic air travel, and more efficient operations in the airport terminals; and, (iii) the population of Munda who will benefit from the economic development opportunities that will arise from international flights directly to Munda—particularly with regard to tourism and the potential export of fresh tuna.

31. **Road component beneficiaries.** The main beneficiaries of the road component will be the nearly 110,000 people (18 percent of the total population) living in the 19 wards connected by the three main roads included under the project, as well as up to 15,000 in five additional wards that connect to the main road network by boat. These people will benefit from improved road access to markets and services in Auki and onward connections to Honiara, with better road conditions resulting in reduced travel times and lower public transport costs. Public transport options will also be improved, with closed vans and buses complementing the open trucks on some routes. These benefits will be sustained throughout the maintenance period and beyond, as new multi-year maintenance approaches are introduced and the new MID office in Malaita will be trained to continue and replicate the approach.

32. **Employment**. The proposed introduction of multi-year maintenance contracts will provide the opportunity of community labor for routine maintenance. Contractors will be required to hire local workers, with an estimated 40,000 person-days of employment to be created during the project period (based on 50 person-days/km/year), benefitting approximately 200 people, at least 50 percent of whom will be women (see below).

33. **Gender**. Gender gaps represent significant development challenges in the Solomon Islands. These gender issues are addressed within SIRAP in two different ways: creating economic opportunities and addressing GBV.

34. **Economic opportunities.** Women in the Solomon Islands are routinely excluded from economic opportunities. Women's labor force participation (62.4 percent) is significantly lower than men's (80.3 percent), and 76.2 percent of employed women are involved in subsistence work.[21] Women living in the Auki–Dala corridor regularly travel to the market in Auki to sell their produce and will benefit directly from the reduced transport costs. Even beyond the Auki–Dala corridor, women will benefit from the reduced transport costs and travel times, although this will not be as pronounced. The project will also provide improved facilities at Dala market, to the north of the road to be upgraded under the project, benefitting the women who sell their produce to road users travelling the North and East Roads. The bridge locations along the main roads are used by women for washing, and the project will construct improved access (e.g., stairs) and basic washing facilities at the locations of the three new bridges. Regarding the employment opportunities in the multi-year maintenance contracts, at least half the number of person-days (approximately 20,000 person-days) and related labor payments will go to women, benefitting an estimated 100 women throughout Malaita.

[20] Defined as "an event that has caused, or is likely to imminently cause, a major adverse economic and/or social impact associated with natural or man-made crises or disasters", OP/BP 8.00, *Rapid Response to Crises and Emergencies.*
[21] World Bank (2018): *https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=IN-SB*.

Equal payment to men and women will be ensured under the maintenance contracts. Enhancing women's economic opportunities will also contribute to reducing risks of GBV – particularly exploitation and trafficking - outlined below.

35. **Gender-Based Violence (GBV).** High GBV prevalence, combined with low levels of help-seeking behavior, has been identified as a key gender gap that the project will address. Sixty-four percent of ever-partnered women aged 15-49 report experiencing physical and/or sexual violence by an intimate partner. Eighteen percent of women aged 15-49 report experiencing sexual violence by someone other than an intimate partner.[22] Sexual exploitation of girls including prostitution, child marriage, child pornography and trafficking are significant problems.[23] Help seeking behavior is estimated to be low across the country - 82 percent of women and girls experiencing violence have not reported to formal support services, and 70 percent have not told anyone at all[24] - and services for survivors are limited, of variable quality, and difficult to access in many areas. Beyond the most direct and immediate impact on the survivor herself, GBV has significant economic, social and development costs; it is directly linked to increased costs in healthcare, social services and policing, deters women from seeking certain kinds of employment; leads to increased absenteeism, decreased labor-force participation for women, reduced productivity and lower earnings; and prevents women and girls from fully engaging in their families, communities and broader development processes.[25]

36. Having identified high rates of GBV, and related low levels of help-seeking behavior as an important social issue affecting women and girls in disproportionate numbers, the project will act to increase the number of GBV survivors seeking care and support services. Several factors have been identified as contributing to the low levels of help-seeking behavior in Malaita: limited support services (and in particular the lack of counselling and case management services); low levels of community understanding of GBV causes, consequences and relevant legislation (for example the Family Protection Act); and stigma and lack of community support around reporting GBV cases.

37. The project will collaborate with the Ministry of Women, Youth, Children and Family Affairs and development partners including DFAT to improve availability of counselling and case management services in Malaita province, including through training and support to local non-governmental organizations (NGOs). The project will improve awareness of GBV and relevant legislation, and promote community support for reporting of violence, through a comprehensive, targeted community awareness-raising strategy conducted by a local NGO service provider. Details are outlined in the project's GBV, VAC and Trafficking Strategy of which more information is provided in Annex 4. Through increased awareness and understanding of the GBV and the Family Protection Act, enhanced community knowledge of and support for service providers and reporting, and improved service availability and quality, the project will contribute to an increase in help-seeking on the part of GBV survivors.

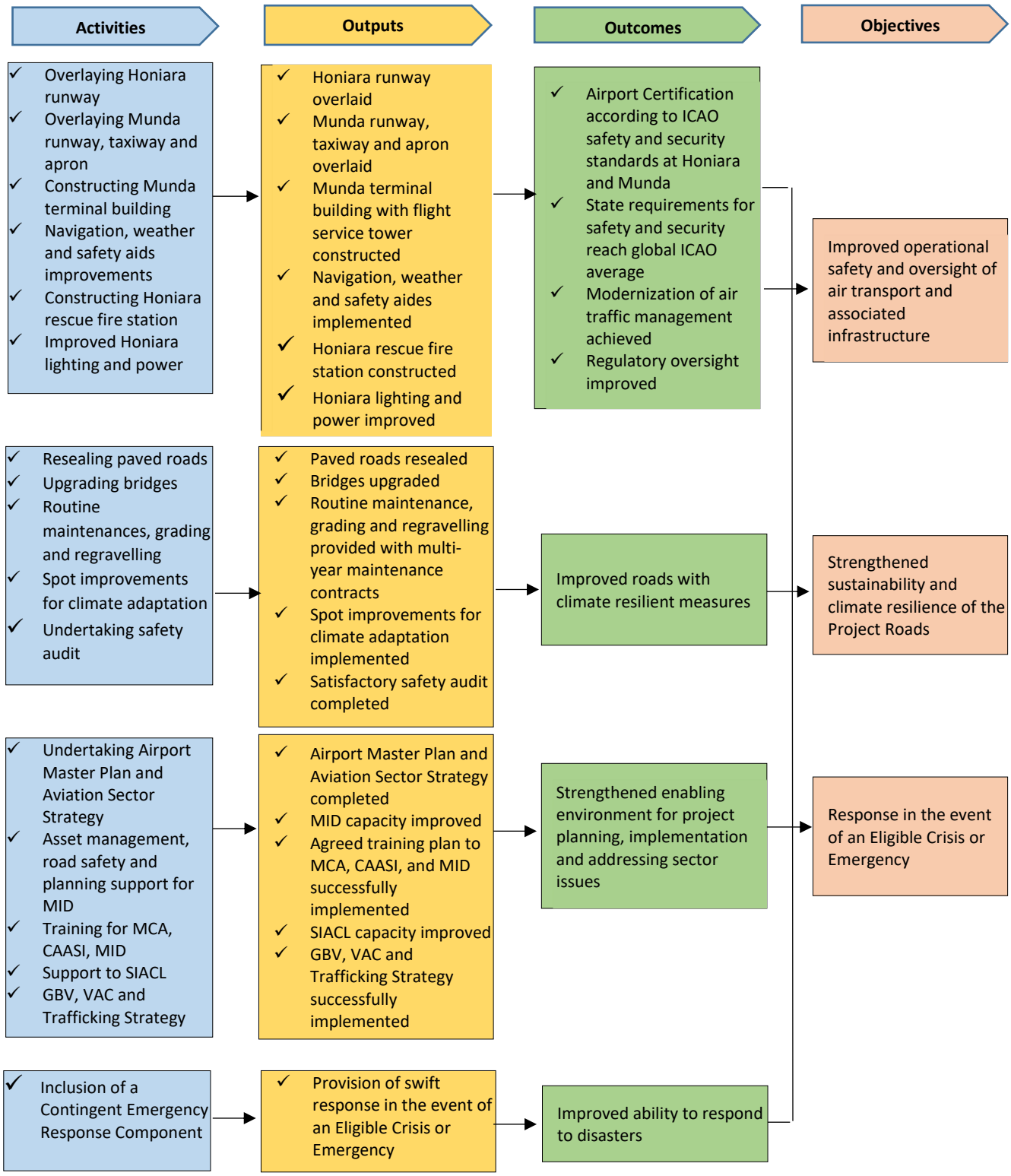
38. This impact on the gender gap will be measured through the use of two indicators in the Results Framework: "Availability of social services within an accessible distance", and "Increase in number of survivors seeking help in Malaita Province".

D. Results Chain

39. To develop the results chain for SIRAP, a theory of change approach was adopted and is illustrated in Figure 1.

[22] World Bank. Gender-based Violence in Timor-Leste, Papua New Guinea and the Pacific Islands – Country Overviews. October 2016.
[23] United Nations Development Fund for Women (2010). Ending Violence Against Women & Girls: Evidence, Data and Knowledge in the Pacific Island Countries: Literature Review and Annotated Bibliography. Fiji: UNIFEM Pacific
[24] Secretariat of the Pacific Community (2009). Solomon Islands Family Health and Safety Study: a study on violence against women and children. Report prepared by the Secretariat of the Pacific Community for Ministry of Women, Youth & Children's Affairs and National Statistics Office, Solomon Islands.
[25] World Bank (2016). Gender-Based Violence in the Pacific: Pacific Island Countries.

Figure 1: Theory of Change Chain for SIRAP



E. Rationale for Bank Involvement and Role of Partners

40. As noted earlier, the SIRAP aviation component is the fourth phase of the ongoing US$226 million PAIP and SIRAP will benefit from the work to date. Aviation investments identical to those proposed in SIRAP have been completed, or are underway, in the other five PAIP countries so the project will benefit from the procurement and implementation experiences. The project has already benefited from the support of the TFSU which prepared the safeguard documents and assisted in project preparation. They will provide support to both MCA and MID in implementation.

41. Private sector financing is not available to undertake an aviation and road sector project of this nature in the Solomon Islands. Honiara and Munda Airports are owned by the government through MCA, and Malaita Road is maintained by MID using labor employed by private contractors. Thus, the proposed investments for airports are the responsibility of MCA, while those for roads are the responsibility of MID. Public sector financing is the appropriate vehicle for financing the proposed road works because the construction costs cannot be recovered through tariffs.

42. **The World Bank's role is justified because of the project's economic and social benefits.** The World Bank's engagement in the Solomon Islands' transport sector adds value in several areas, including: (i) bringing global experience of transport infrastructure investments and associated technical assistance; (ii) participating in sector related donor coordination; (iii) providing best practices in climate resilient transport solutions; and, (iv) helping SIG address environmental and social safeguard issues, including GBV. Transferring this expertise will be key to supporting the government to prepare and implement the proposed project efficiently and effectively.

43. **SIRAP will complement JICA's ongoing investments to improve Honiara International Airport**, ensuring the airport meets all regulatory compliance requirements. JICA has historically provided grant assistance to rehabilitate HIR. The major investments included the Project for Henderson International Airport Development (1996–1998), which constructed an international terminal building and provided asphalt concrete pavement for apron and taxiway; and the Project for Restoration of International Airport (2004–2005), which provided 10 cm asphalt concrete overlay pavement for the runway (2,200 m x 45 m) and replaced airfield lighting. In June 2018, JICA signed the Grant Agreement with SIG to conduct the US$39.4 million 'Project for the Improvement of the Honiara International Airport' (2018–2021), which will mainly upgrade and expand the taxiway and apron, terminal buildings, as well as provide a flood protection dike. The World Bank's investments in runway resurfacing, and aviation sector support will support the JICA's investments, ensuring that the airport meets the ICAO safety and security standards. JICA will also benefit from the UXO surveys proposed under the project as they will ensure a safe working area for both donor financed investments, however, the two projects are not linked from a safeguards perspective.

44. **The proposed project will complement MFAT's investments at MUA** by ensuring that the airport achieves full international operations. To unlock the Solomon Islands' tourism potential and fishing industry by creating conditions for economic growth, MFAT has supported the country's aviation sector by funding major rehabilitation work at regional airports including Munda, and aviation sector reform including the pending establishment of SIACL for airport management. For Munda, MFAT has invested in major upgrading work to make Munda an alternate international airport, including a runway resealing, the installation of runway lighting, the replacement of a non-directional (radio) beacon (NDB)/distance measuring equipment (DME),[26] the set-up of a container based control room for Air Traffic Control (ATC) services, the installation of a new airport perimeter fence, and the construction of an RFS station for two rescue fire vehicles. The proposed SIRAP investments at Munda will complement MFAT's by ensuring Munda can receive international flights, with an appropriate level of safety and facilities.

[26] An NDB is a radio transmitter at a known location, used as navigational aid. DME is a transponder-based radio navigation technology that measures slant range distance. These installations serve as a back-up instrument approach system to the existing GPS approaches to Munda Airport.

45. The World Bank's support through SIRAP will compliment ADB and DFAT's extensive support to the Solomon Islands' transport sector. ADB and DFAT have provided various assistance in the transport sector, including the Post-Conflict of Emergency Rehabilitation Project (PCERP, 2001–2008), the Solomon Islands Road Improvement Project (SIRIP, 2007–2013), the Second Road Improvement (Sector) Project (SIRIP II, 2010–2015), and the Transport Sector Development Project (TSDP, 2011–2017). They are currently assisting the implementation of the Sustainable Transport Infrastructure Improvement Program (STIIP, 2016–2021), with an objective of supporting the government's priorities under the NTP for improved transport infrastructure for nationwide access to social services and inclusive growth. SIRAP will contribute to the program by focusing on the government's high priorities in the NTP and MTTAP, while also providing the project implementation support and institutional strengthening component that will help strengthen the government's capacity for project implementation.

F. Lessons Learned and Reflected in the Project Design

46. The aviation investments draw upon the experiences of PAIP which has invested in similar activities since 2012 in Kiribati, Samoa, Tonga, Tuvalu and Vanuatu. This Series of Projects structure enables the replication and scaling up of a regional program across countries, within a common objective and framework and built upon the lessons learned from previous phases. Lessons learned specifically applicable to this program include:

- There is a commonality towards technical requirements for airports and the previous PAIP procurements were used to guide the technical requirements on SIRAP. The environmental challenges related to aviation are also similar—such as sourcing of appropriate materials, occupational health and safety when undertaking civil works at an operational aerodrome, management of labor influx—and these were drawn upon in preparing the Environmental and Social Management Plan (ESMP).
- There is high variability in the cost of runway investments. Analyses of the priced bills of quantities for runway procurements in Kiribati, Tonga and Tuvalu showed that contractors did not adopt a consistent approach towards pricing their bids. The estimate for the SIRAP runway works was prepared based on a detailed analysis of bid prices from the recent awards. However, even with this it may be necessary to reprioritize investments should the bid prices come in higher than estimated.[27]
- Introduction of regional communications, navigation and surveillance systems creates regional spillovers. The standardization of equipment across the region provides the potential for economies of scale in the purchase, installation and maintenance of equipment, thereby facilitating the sustainability of assets. SIRAP will therefore use the same specifications wherever practical as the other PAIP countries.
- TFSU has proved to be an efficient way of sharing experience in the aviation sector between countries facing similar challenges. It has facilitated bulk procurement for countries participating in PAIP and the effective mobilization of scarce aviation expertise required by PAIP countries.
- Enforcing adherence to safeguard requirements can be a challenge, even when the contractual requirements are clear. This will be addressed by using an Environmental Performance Bond, and other potential remedies.
- PAIP experiences in GBV and VAC risk mitigation and response will be integrated into this project.

[27] As an example of the range of bid prices for runway bids, the December 2016 bids to rehabilitate the runway, apron and related infrastructure at Bauerfield Airport in Vanuatu ranged from US$27.9 million to US$64.3 million—for the same civil works activities and scope of work.

47. For roads, recent projects—particularly in Kiribati, Samoa and Tonga[28]—have provided several valuable lessons:

- To address the climate change risks, it is necessary to ensure appropriate standards for constructing and maintaining roads and bridges are adopted. The project will draw upon recent work such as the 2014 Vanuatu 'Resilient Roads Manual', as well as other good practice,[29] to improve the overall resiliency of the investments, as well as to build capacity in MID.
- Activities to address climate change need to be done in a holistic manner, including through infrastructure, legislative policies, technology, access to information and capacity building (human resources, technical and financial capacity) within a range of key government roles and institutions.
- Poor contract management has impacted the timeliness and quality of deliverables by consultants, including: (i) the unplanned expiry of contracts; (ii) untimely and poor-quality deliverables; and, (iii) difficulties with consultants' staff inputs. This will be monitored through project management indicators.
- Previous work in Malaita have been managed from Honiara; however, the project will establish a presence in Malaita to not only closely supervise the activities, but to develop local capacity and facilitate sustainability.
- The project has been designed to help generate employment opportunities, particularly for women, and to provide both contractors and workers long-term certainty of employment which will enable them to make long-term investment decisions.
- Land access and supply of aggregate can be a major impediment to project progress. All investments are planned within the right of way, and paving solutions will be based on local aggregate availability and properties. The project will employ a Community Liaison Officer based in Malaita to ensure that the community is appropriately engaged and involved with the project. A National Safeguards Specialist based in Honiara will help coordinate with the Community Liaison Officer in Malaita to ensure that safeguards documents are addressed accordingly.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

48. Annex 1 gives details on the implementation arrangements. The executing agency will be the Ministry of Finance and Treasury (MOFT). As the project includes both aviation and roads components, implementation will be managed jointly by the respective ministries. MCA will be the implementing agency (IA) for the aviation component. MID will be the IA for the road component. Each IA have appointed a 'focal point' who will be the IA's direct liaison with the PST. The Permanent Secretary of MCA will be the ultimate point of contact for the PST and the World Bank Implementation Support Team.

49. Since the bulk of the project investments are with MCA, they will house the PST to manage both the aviation and road investments, supported by the TFSU (see Annex 1). The PST will be responsible on a day to day basis, for technical, financial management (FM), procurement, and safeguards matters that will support both the aviation and road component, reporting to the MCA and MID focal points.

[28] As well as the ongoing MID work in the sector in the Solomon Islands financed through NTF and implemented by TIMS.
[29] Including the Draft MID Guidance Manual Climate Change Adaption in the Transport Sector 2016; recent work in Samoa under the 'Enhancing the Climate Resilience of the West Coast Road' project.

50. To build local capacity, some of the PST road component team will be based at Auki, on Malaita. They will be joined by a mix of MID TIMS staff seconded from the TIMS office in Honiara (including a TIMS Engineer who will act as the project manager for the component), and international and local consultants funded by the project. These will include the consultants for road engineering design and construction supervision.

51. A National Steering Committee (NSC) will guide and manage the implementation of the project (see Annex 1).

B. Results Monitoring and Evaluation Arrangements

52. Project monitoring and evaluation (M&E) will be the responsibility of the PST. The PST will prepare project reports for each quarter, in collaboration with MID, MCA and supported by the TFSU. These will be submitted to MOFT for review and then submitted by MOFT to the World Bank. The TFSU will incorporate elements of the aviation reporting to the overall PAIP reports that they prepare. These reports will track progress in terms of distribution of inputs, disbursement of funds, and achievement of targeted indicators as outlined in the Results Framework (Section VI). The key instrument for evaluating SIRAP will be the indicators identified within the Results Framework.

C. Sustainability

53. **Borrower's commitment and ownership.** SIG has demonstrated strong commitment and ownership of the project. It decided to raise its 2018 annual borrowing limit for SIRAP in May 2018 following the unanimous support and recommendations by the Debt Management Advisory Committee.

54. Maintenance is a concern for the whole road network in the Solomon Islands, if the accessibility and connectivity provided by the road network is to be sustained. The proposed approach for Malaita with securely funded, long-term maintenance contracts will help ensure that the road network receives the maintenance that is required. The introduction of new technologies with a focus on climate resiliency strengthening will further enhance the sustainability of the network. SIRAP will support improved asset management through improving the existing asset management system and associated data collection techniques. Maintenance informed by the asset management planning system will contribute to enhancing the longevity of the road network as well as helping to effectively cope with increasing climate risks through a preemptive management approach.

55. In the aviation sector, the separation of the regulator (CAASI) from the operator (MCA) has already put the country on the path towards sustainability. This will be further cemented when MCA separates their O&M activities as recommended from the work financed by MFAT. The institutional strengthening and training activities will provide the framework required for sustainable sector management and the skilled local staff to manage aviation infrastructure. SIG has already established an appropriate and sustainable financing mechanism for the sector.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis (if applicable)

Technical

56. **Climate change and disaster risks.** A screening of the proposed project for short- and long-term climate change and disaster risks was undertaken using the World Bank Climate and Disaster Risk Screening Tool. The Solomon Islands has been identified as one of the most vulnerable to the adverse impacts of climate change. This vulnerability is in large part because most of the population lives within 1.5 km of the coastline, rendering a considerable portion of the

country's economy, infrastructure, and livelihoods vulnerable to changes in climate (Climate Risk and Adaptation Country Profile, 2011). Key risks to the project outcome and service delivery include sea level rise, storm surges, and increased precipitation, flooding, and hot waves. The proposed works will improve the climate resilience of infrastructure from future extreme weather events, and provide support for improved maintenance practices.[30] Capacity building, long-term strategic planning and the inclusion of emergency protocols (i.e., CERC. See Annex 5 for details on CERC) will further help to reduce the impacts of future climate related extreme events. Building this resilience is of particular relevance for women and girls, who experience a disproportionate level of impact from climate change and disasters.[31]

57. **Climate vulnerability of the airports in Solomon Islands.** Being in a harsh tropical environment in Solomon Islands, changing climate casts increasing risks to infrastructure assets at airports. The increasing number of days of heat waves in the country will exacerbate the deterioration of paved infrastructures, especially for runways and tarmac, which will push airport infrastructure to the limits of its operating capacity. This means more heat resilient materials need to be used for all pavements in these airports to prevent risks of melting. The deterioration of runways, if not repaired and maintained properly, will potentially lead to 'Foreign Object Damage' to aircraft, which is extremely dangerous and must be avoided. Furthermore, infrastructure in all low-lying airports in Solomon Islands is frequently challenged by storm surges and cyclones with increasing frequency and intensity, and is likely to be more exposed with continuous sea level rise. Water overflowing the drain systems and flooding the airfield or access to the airport often results in the downgrading of the level of services of the airport, as demonstrated by the airport closure in April 2014 due to partial submergence of the airport areas by floodwater. This requires all airports to improve the drainage system and enhance weather/meteorological monitoring and dissemination. The improvements under this project will help reduce the impact of climate change and natural disasters on targeted airports by strengthening the pavement, improving drainage, and strengthening the effectiveness of weather operation stations.

58. **Aviation – Honiara.** The country's main and currently only international airport is HIR, formerly called Henderson Field. It was built during World War II with an original runway of about 3,000 m. The runway was later shortened to 2,200 m with a width of 45 m and paved, which allows for operation of single aisle aircraft, such as Airbus 320 and Boeing 737. A control tower was built, and in 1997, JICA assisted the construction of an airport international terminal building, and still serves today. The project activities will include:[32]

- **Runway resurfacing.** The project will undertake pavement strength testing to confirm the appropriate localized thicknesses of the proposed 5 cm asphalt concrete overlay of the existing runway. This will enhance the resilience of runway infrastructure against increasing heat waves and the risk of melting and accelerated deterioration.
- **RFS fire station.** A new three-bay fire station to house the RFS vehicles and associated equipment.

[30] To ensure greater climate resilience of the Project Roads, climate change will be incorporated into the designs. Bridge levels and cross sections will consider the foreseen increase in river flows. Culvert cross sections will be increased in relation to expected increases in rainfall duration and intensity. Resealing of the road will avoid damage by rainfall and runoff water. Sealing on steep slopes will include sealed shoulders and lined drains to avoid damage by erosion and undercutting of the pavement. Slope stabilization and river training measures will be introduced to protect the road against landslides and cuts. Maintenance activities will pay attention to ensuring the proper working of the drainage system.

[31] United Nations Entity for Gender Equality and the Empowerment of Women, 'Climate Change, Disasters and Gender-Based Violence in the Pacific', Fiji.

[32] The project also identified the need to replace the HIR control tower. The existing control tower is old, and after a powerful 7.8 magnitude earthquake in 2016 cracking appeared in three of the four structural columns and in a beam. Coupled with numerous deficiencies from a usability and occupational health point of view, it is considered to have reached the end of its service life and should be replaced, with appropriate upgrades to its equipment. In the event that funding comes available during the life of the Project, a restructuring may be considered to include this activity. The economic analysis includes this activity in the calculations.

- **Improved operational equipment.** The investments are in keeping with investments to date in other PAIP countries, to provide:
    - Automatic Dependent Surveillance - Broadcast (ADS-B) to improve surveillance capabilities and support aircraft equipage for aircraft on the Solomon Island's registry which do not have ADS-B;
    - Ground-to-ground VSAT communications network will enable stable and modernized communications services critical for the operational safety of airline operations;
    - Automated weather observation stations (AWOS) to enable improved accuracy and efficiency of weather/meteorological monitoring and dissemination to inform the airport operation and preparedness to increasing extreme climatic events such as tropic cyclone and extreme rainfalls;
    - Stand-by generators for the airfield ground lighting (JICA are providing for the other airfield elements); and,
    - Equipment to ensure that HIR can cater for persons with disabilities.
- **UXO survey.** A survey will be done of the entire area where civil works are to be undertaken—including the apron, taxiways and terminal precinct—to confirm that there are no UXO and, if UXO are found, to safely remove them for demolition.
- **Pavement strength test.** The project will undertake pavement strength testing to confirm the assessment of the 2018 MFAT study regarding the strength of the pavement for regular international flights. The test will take into account the increased days of extreme temperature and heat waves in Solomon Islands, and the level of endurance the pavement needed to adapt.

59. **Aviation – Munda.** MUA is located approximately 200 Nautical miles (370 km) Northwest of Honiara. Built during World War II, it consists of one paved 30 m wide runway with a length of 1,800 m. There are concrete overrun areas of 150 m each end, which can be used for take-off roll. As such, the total runway length for take-off can be considered 2,100 m, which allows operating single aisle aircraft, such as an Airbus 320 and Boeing 737. MFAT has supported major improvements to MUA so that it can act as an emergency aircraft alternate airport to Honiara including sealing of the runway, the installation of runway lighting, navigational aids, the set-up of a container-based control room for ATC services, the installation of a new airport perimeter fence, the supply of two emergency fire vehicles and a station. The proposed investments will render MUA compliant with international standards, which includes instrument and night capabilities. They will complement those by MFAT and enable international flights:

- **Overlay of runway.** The project will undertake pavement strength testing to confirm the appropriate localized thicknesses for the proposed non-structural 2.5 cm asphaltic concrete overlay of the runway, taxiway and apron, with the apron potentially using cement concrete. This will enhance the resilience of runway infrastructure against increasing heat waves and the risk of melting and accelerated deterioration.
- **Terminal building with flight service tower.** The project will finance a new terminal capable of processing international flights and cargo, with an integrated flight service tower for ATC services. The terminal will be similar to those already financed under PAIP for Kiribati and Tuvalu and include green engineering features to minimize the environmental impact. Green engineering measures are expected to significantly increase the energy efficiency of the terminal as well as reducing overall energy demand through innovative materials or architectural design. Details are provided in Annex 2.
- **Improved operational equipment** in keeping with investments to date in other PAIP countries.
    - ADS-B to improve surveillance capabilities;

  - VSAT communications network will enable stable and modernized communications services critical for the operational safety of airline operations;
  - Ground handling equipment for passengers with disabilities; and,
  - Equipment to ensure that MUA can cater for persons with disabilities.

- **UXO survey.** A survey will be done of the terminal construction area to identify and remove UXO. While the earlier MFAT work removed UXO from the runway area, it is likely that there will be UXO at the terminal location.
- **Pavement strength test.** The project will undertake pavement strength testing to confirm the assessment of the 2018 MFAT study regarding the strength of the pavement for regular international flights. The test will take into account the increased days of extreme temperature and heat waves in Solomon Islands, and the level of endurance the pavement needed to adapt.

60. International Finance Corporation (IFC) and the SIRAP team are working together to explore the opportunity of private sector involvement through a cold storage facility or facilities for direct freight services at Munda through investment clients Sol Tuna and National Fisheries Development (NFD) and consultation with Solomon Airlines. Initial feedback is positive, IFC will convene the SIRAP team, Airlines Management and NFD/SolTuna for feedback. IFC's Tourism Investment Pre-Feasibility Study will feed into this project by identifying gaps, main public and private players and other potential investors in Western Province.

61. **Climate vulnerability of the Malaita road network.** Road network in Solomon Islands is increasingly impacted by more frequent and intense extreme climatic disasters, especially tropical cyclones, extreme rainfalls, and flooding. This trend is expected to continue and further exacerbated over the course of the 21st century. The overall conditions of the road network in Malaita is much poor and therefore extremely vulnerable to climatic disasters compared with the main island Guadalcanal[33] – 96 percent of the road network is unsealed and is easily eroded by rainfall runoff and damaged by vehicles. This is further exacerbated by the fact that Malaita has a steep topography, which results in the rapid deterioration of the roads on the island – in fact, unsealed roads may deteriorate within a single rainy season. The road network on Malaita also has a very large number of bridges (namely half of all the bridges in the country are on Malaita). These are mostly timber bridges, many of which are in a state of disrepair or have already collapsed, posing a threat to continued accessibility on the island. Increasing rainfall intensities are only worsening the situation.

62. A lack of regular maintenance such as resealing, regravelling and so forth further compounds the situation as the existing drainage system gets blocked and deformations to the road surface prohibit water from safely flowing away from the road. A recent assessment of the main road network found an urgent need for resealing of the existing sealed sections, new sealing of the highly trafficked Dala–Auki–Bina corridor and the steep sections in the remainder of the network, as well as a need for more regular grading of the unsealed sections. It also found over 20 percent of bridges to need urgent repairs or replacement.

63. **Malaita Road Improvement and Maintenance Program (MRIMP).** In light of the vulnerability described above, SIRAP has selected main roads for upgrading and maintenance that have a high priority under the NTP 2017–2036 and the MTTAP 2017–2021. They carry the most traffic and connect over half the province's wards and 70 percent of its population. The project will improve the overall climate resilience of the targeted road assets through the resealing of the existing sealed sections, upgrading of bridges, spot improvements, and maintenance for the entire main road

[33] During preparation, in May 2018 an assessment was made of the 232 km of main roads (including 103 bridges and wet crossings), identifying priority investments for the MRIMP.

network. The activities include:[34]

- **Resealing the existing sealed roads (approx. 17 km) on Malaita.** Much of the existing sealed road network on Malaita is nearing, or beyond, its service life and requires a reseal to preserve the asset. This activity will undertake appropriate spot repairs, drainage improvements, and reseal the network.
- **Replacing the existing Fiu bridge in Auki.** SIG will provide US$3.6 million to cover the costs for replacing the Fiu bridge. The bridge will be procured by the project using financing from NTF, with the supervision undertaken by the SIRAP supervision consultant.
- **Upgrading of bridges on Auki–Dala corridor.** The project will replace two log bridges and one steel truss bridge on the corridor, potentially pilot testing the use of modular bridges which offer advantages, particularly in post-disaster situations.
- **Upgrading key vulnerable spots to enhance overall network resilience.** On the remaining network, to keep it operational in rainy weather or to preserve the asset, there is a need to provide improvements to address climate vulnerability, for example paving sections on steep slopes as well as enhanced drainage and slope stabilization to protect the road.
- **Grading and resheeting of gravel roads.** For the remaining approximately 210 km of gravel roads, the project will finance two contracts of four-year duration for contractors to maintain the roads to a certain level of service.
- **Routine maintenance contracts.** The project will finance contracts for routine maintenance to be executed on all 232 km of main roads to meet specific service standards. These will be included with the grading contracts.
- **Road safety.** A road safety audit will be used to identify areas for road safety infrastructure improvements on Malaita. The findings will inform the designs, or lead to localized investments. A post-construction audit will validate that the road safety goals were achieved. Provision for pedestrians and persons with disabilities will be considered. Separately, the institutional strengthening activities will improve MID's capacity with regard to improving road safety on their projects.

64. **People with disabilities.** The project will seek to improve the design of transport infrastructure investments in the Solomon Islands to better consider the needs of people with disabilities using the Accessibility Screening Tools developed by the Pacific Region Infrastructure Facility (PRIF).[35] The screening tools are in the form of checklists designed for each transport subsectors including aviation, and road and pedestrian infrastructure. They will be used to assess designs before construction to ensure that new infrastructure is designed and built to be accessible and usable by people with disabilities. The project will also provide equipment to MUA to support the transport of persons with disabilities (such equipment is already available at Honiara).

65. **Technical assistance.** In consultation with SIG and the implementing agencies, technical assistance activities were

[34] Having preserved the existing paved roads and addressed critical sections for improving climate resilience, for Malaita's ongoing development, the extension of the seal to Dala is important as this is a very heavily trafficked road serving a large population. As a first step towards sealing the Auki–Dala corridor, the section to the third replacement bridge (approx. 7 km) should be upgraded to have either a bituminous or cement concrete (e.g., geo-cell) surface. The improvements should also address climate vulnerability by improving drainage and slope stabilization. In the event that funding becomes available during the life of the Project, the Project may be restructured to include this activity.

[35] PRIF, Improving Accessibility in Transport Infrastructure Projects in the Pacific Islands (2016). *https://www.theprif.org/documents/regional/transport-land/improving-accessibility-transport-infrastructure-projects-pacific*

identified which will assist SIG to overcome current weakness:

- **Airline strategy review.** This will review the strategic options of Solomon Airlines to help SIG to decide on the long-term outlook. These options will include some forms of international partnerships with other carriers, and the possibility of privatization of the international, domestic or both operations;
- **Airports master plan.** This will review the main airports (Honiara and Munda), addressing all relevant matters for operation, and define the necessary infrastructure and layout for future planned operations;
- **Aviation sector strategy.** This strategy will define the broader objectives for the sector, but also provide an inventory of the domestic airport infrastructure, and their development potential and priorities;
- **Technical support to CAASI.** CAASI has been endeavoring to improve its performance which is below average based on the ICAO Universal Safety Oversight Audit Program (USOAP). These activities, such as adapting their civil aviation regulations to better reflect the Solomon Island's needs, will assist CAASI to develop its capacity, and improve its USOAP scores;
- **Training.** A training needs assessment will be done for MID, MCA, PST and CAASI and be used to develop an effective training program to improve technical capacity;
- **Support for planning and asset management.** Consultants to assist MID with its investment planning and asset management program, including upgrading its current asset management system and data collection processes;
- **Project management support.** Assistance to MID and NTF with improving their management of projects;
- **Road safety.** Road safety capacity building program in MID;
- **Addressing GBV.** Activities to address GBV, both to reduce the induced risk by the project, and address the existing underlying situation; and,
- **Technical Auditor.** To provide independent audits during construction of the contractors and supervision consultant's work.

66. **Road safety.** The Malaita road investments were screened with the World Bank's draft Road Safety Screening and Appraisal Tool (RSSAT). The project will result in increased speeds, and the tool indicates an increased risk of fatalities. To ensure that these risks are mitigated, the project will undertake a road safety audit before the design process commences, and also of the designs. It will be repeated post-construction. It is proposed that the project will aim to: (i) reduce minor roadside hazards; (ii) have speed control for 25-50 percent of the project length (e.g., speed humps); and, (iii) consider how to reduce risk for vulnerable road users (e.g., pedestrians, cyclists). In addition, the capacity of MID to consider road safety in their projects will be enhanced through the technical assistance program.

67. **Rural Access Indicator (RAI).** The RAI – i.e., the proportion of the rural population living within 2 km of an all-season road – was calculated as 33 percent for Malaita. It is not anticipated to change as the project will not construct new roads and the activities will both: preserve the existing paved roads; and, serve to increase the reliability of access by reducing climate induced closures.

Economic Analysis

68. **Overall.** The results of the economic analysis are summarized in Table 1, indicating that the difference between "with-project" and "without-project" cases yield the Economic International Rate of Return (EIRR) of 36.0 percent and the Net Present Value (NPV) of US$68.1 million for the overall investments under SIRAP. The discount rate is 6 percent

and with Standard Conversion Factor (SCF) of 0.87. The detailed analysis for aviation and road components are explained below.

Table 1: Results of Economic Analysis

		Base Case	Benefits -20%	Costs +20%	Benefits -20% and Costs +20%
Aviation	**EIRR (%)**	36.9%	24.8%	26.9%	16.2%
	NPV (US$ million)	$39.6	$26.5	$34.4	$21.3
Roads	**EIRR (%)**	32.8%	28.2%	29.0%	24.9%
	NPV (US$ million)	$28.4	$21.7	$27.4	$20.6
Total	**EIRR (%)**	36.0%	22.3%	24.1%	14.1%
	NPV (US$ million)	$68.1	$37.6	$55.5	$25.1

69. To examine the impact of changes in key variables on the EIRR and NPV estimate, a sensitivity analysis was conducted. For the overall project, the EIRR is estimated at 14.1 percent and the NPV at US$25.1 million in the low case that the project benefits decrease by 20 percent and the project costs increase by 20 percent. These results indicate that should there be changes in key variables, its impact would not be significant. They confirm the economic rationale for the project.

70. **Aviation.** For HIR, the economic analysis was undertaken in a similar manner to the other PAIP countries (see Annex 3). Failure to address the runway condition will result in the cessation of international air services, possibly as early as 2021. The withdrawal of air services would have a critical impact on travel and tourism, and other negative economic impacts. For MUA, it is assumed that the benefit of undertaking the major investments include savings of: (i) passenger time; (ii) passenger cost; and, (iii) cost for carrying extra fuel.

71. The overall EIRR of the Honiara and Munda Airports infrastructure investments is 36.9 percent and the NPV is US$39.6 million. The EIRR of the HIR infrastructure investments is 61.7 percent and the NPV is US$20.0 million, while the EIRR of MUA infrastructure investments is 20.9 percent and the NPV is US$19.6 million.

72. **Roads.** As described in Annex 3, a Cost Benefit Analysis was conducted for the Project Roads using the Roads Economic Decision (RED)[36] Model that computes annual road agency and users' costs for each project alternative over the evaluation period. The quantities of resources consumed, and vehicle speeds are calculated first and then multiplied by unit costs to obtain total vehicle operating costs and travel time costs and CO_2 emissions. The resources consumed, and vehicle speeds are related to traffic volume and composition, and road surface type, geometric characteristics, and roughness.

73. The overall EIRR of the Malaita Road infrastructure investments is 32.8 percent and the NPV is US$28.4 million corresponding to a B/C ratio of 2.9. Normal traffic benefits account for 97.4 percent of the project benefits, generated traffic benefits for 2.4 percent, and CO_2 emissions benefits for 0.2 percent. High economic returns for grading works are expected because these works reduce greatly the roughness of unpaved roads with a low-cost investment.

74. **GHG accounting:** The total gross Carbon Dioxide (CO_2) emissions over the 20-year evaluation period under the without-project scenario are estimated at 59,220 tons and under the with-project scenario at 55,580 tons resulting in a net decrease of CO_2 emissions of about 3,640 tons, or 182 tons per year. The reduction in GHG emissions can be attributed to the reduction on fuel consumption due to the increase of vehicle speeds with the project.

[36] RED is a software tool for the analysis and appraisal of road maintenance, improvements and investment decisions on low volume roads.

B. Fiduciary

(i) Financial Management

75. The financial management assessment was carried out in accordance with the "Principles Based Financial Management Practice Manual" issued by the Board on March 1, 2010 which states with respect to projects financed by the World Bank, the grantee is required to maintain appropriate implementation arrangements – which include accounting, financial reporting, and auditing systems – adequate to ensure they can provide the World Bank with accurate and timely information regarding the project resources and expenditures.

76. The initial financial management risk is rated "Substantial"; however, it could be reduced to "Moderate" with the implementation of the following mitigation measures:

- Hiring of a suitably qualified project accountant to maintain the project financial records;
- The Program Operations Manual (POM) includes a section on FM outlining references to Solomon Islands FM requirements and specific World Bank FM requirements; and,
- The signed Service Agreement between SIG and TAL,[37] which outlines FM roles and responsibilities of the parties and enables TFSU to provide support to the PST, including oversight of project FM arrangements.

77. Overall, subject to the successful implementation of the mitigating measures, the financial management arrangements satisfy the financial management requirements stipulated in OP/BP 10.00.

(ii) Procurement

78. Annex 1 provides full details on project procurement arrangements, including an initial summary procurement plan. Procurement for SIRAP will be carried out in accordance with the World Bank Procurement Regulations for Investment Project Financing (IPF) borrowers (Procurement Regulations), July 2016 (revised November 2017 and August 2018), as well as the provisions stipulated in the Financing Agreement.

79. MCA and MID will be supported by the PST and the TFSU. The TFSU has satisfactorily managed PAIP procurement activities to date and has sufficient capacity to manage these aspects under the project. The TFSU is responsible for procurement handling, monitoring and consolidated reporting of PAIP. The POM, updated to include implementation arrangements for SIRAP, includes processes and procedures for handling procurement in accordance with World Bank policies. The project will make use of the World Bank's Systematic Tracking of Exchanges in Procurement (STEP) system which is used already for all other PAIP projects.

80. A procurement risk assessment of the two IAs (MCA and MID) has been carried out and the overall procurement risk rating is "Substantial". The key procurement risk area is contract management as this has proved problematic throughout PAIP. The project will have through the TFSU the support of an International Procurement Specialist and other procurement specialists to support the IAs and to mitigate risks. A draft Procurement Plan has been prepared for the Preparation Advance covering the key project preparatory activities. The Project Procurement Plan has been

[37] A Service Agreement between SIG and TAL to engage the TFSU, which has been supporting PAIP, as well as providing country specific, project-level guidance on key implementation matters, has been signed. The Service Agreement defines the functions of TFSU in financial management, procurement, contract management, reporting and other activities. Reporting arrangements will be managed in coordination with the TFSU, which has carried out PAIP financial management to date and has sufficient capacity to manage these aspects under the project. The project will have an accountant stationed in the PST. The TFSU, which includes a Financial Manager and two experienced project accountants, will support the PST accountant. The TFSU is responsible for FM monitoring and consolidated reporting of PAIP. The PAIP POM includes the Program FM Manual which will be used for SIRAP.

prepared and is detailed in the Project Procurement Strategy for Development (PPSD).

C. Safeguards

81. As described in Annex 4, the project triggers four World Bank safeguard policies: (i) Environmental Assessment (OP/BP 4.01); (ii) Natural Habitats (OP/BP 4.04); (iii) Indigenous Peoples (OP/BP 4.10); and, (iv) Involuntary Resettlement (OP/BP 4.12). SIRAP is a Category B project under the World Bank environmental and social screening guidelines. The project has prepared two types of safeguard instruments: An Environmental and Social Management Framework (ESMF) for the 'unknown' spot improvements for climate resiliency and 210 km grading and regravelling of unpaved main roads, and Environmental and Social Management Plans (ESMPs) for (a) Resealing the existing sealed 17 km roads in Malaita; (b) Honiara Airport Improvement Program; and, (c) Munda Airport Improvement Program. These ESMF and ESMPs have included environmental and social assessment and identified the overall management plan for ensuring that the project benefits are realized and risks are mitigated in line with the World Bank Safeguard Operational Policies. Public consultations on the ESMPs started in Malaita in mid-August 2018, and will continue. The ESMF and ESMPs were disclosed in country and through the World Bank's external website on February 4, 2019 and January 22, 2019 respectively. SIRAP also uses the PAIP ESMF which was disclosed on October 8, 2013.[38]

82. The activities proposed are not likely to cause significant or irreversible environmental impacts. Potential major environmental impacts and risks are limited to the following categories:

(a) **Construction-related activities:** noise, dust, waste disposal, hazardous substance and materials, management of storm water and community and workers health and safety. These impacts can be readily managed through standard mitigation measures, Code of Conducts for occupation health and safety (OHS), good engineering designs, and good practices for civil construction and transport-related impacts.

(b) **The sourcing of construction materials:** noise emissions, dust, water management, slope stability, quarry limits and associated risks in aggregate importation (if applicable). These can be managed through the implementation of Code of Practice for quarry operations, and ensuring materials such as aggregate and equipment meet strict biosecurity precautions and clearance for imported materials.

(c) **Transport impacts along haul routes associated with heavy vehicles:** noise, dust, road safety, road surface condition. These can be managed through the establishment of a robust Traffic Management Plan.

83. **Gender-Based Violence (GBV) and Violence against Children (VAC).** The project was screened for the **induced** GBV impacts from the project using the World Bank's 'GBV Risk Assessment Tool' and was classified within the "Moderate Risk" category; the project activities will likely result in labor influx (both foreign and national) to some areas as well as introduction or increase in salaried labor. This has the potential to shift community power dynamics, increase risks of intimate partner violence, and increase risks of sexual abuse, exploitation and trafficking of women and children. Community consultations have highlighted potential risks of increased access to logging sites in promoting sexual exploitation, the close proximity of schools and health centers to construction areas, and the many women and girls travelling long distances on the road as risks during the project period. In addition, the significant distance from services of much of the Malaita project areas means the ability to monitor GBV risks and ensure adequate referral is limited.

[38] *https://hubs.worldbank.org/docs/ImageBank/Pages/DocProfile.aspx?nodeid=19243074*. The ESMF would be used in the event that there is land acquisition, which is not currently envisaged.

84. SIRAP will therefore implement the recommendations of the 2018 Good Practice Note (GPN) 'Recommendations for Addressing Gender-Based Violence in Investment Project Financing Involving Major Civil Works'.[39] These recommendations are incorporated in the GBV, VAC and Trafficking Strategy, which builds on previous experience within the Pacific under PAIP. This strategy consists of three pillars: (i) Needs Assessment; (ii) Prevention; and, (iii) Support Services. See Annex 4 for more details on this and how the GPN's recommendations for actions during preparation have been addressed.

85. As part of the Results Framework, the following indicators have been included to track the implementation of the Strategy: "Successful implementation of the GBV, VAC and Trafficking Strategy"; "Availability of social services within an accessible distance", and "Increase in number of survivors seeking help in Malaita Province".

86. **Occupational Health and Safety (OHS).** All civil works activities will call for contractors to implement appropriate standards for OHS, and submit an OHS Management Plan as part of their contractor's ESMP. The OHS Management Plan will include issues such as workers compensation, first aid services, sanitation and hygiene at the work place, use of personal protective equipment (PPE), site safety and accidents as well as implementation of traffic management plan during construction. The OHS Management Plan will be reviewed and cleared by the supervision consultant, who will then monitor its implementation. There will be strict requirements for reporting on OHS issues, with serious issues and fatalities reported to the World Bank within 24 hours. The contractors will be required to submit monthly reports on leading and lagging OHS indicators, and the supervision consultant on its oversight.

87. **Grievance Redress Mechanisms.** Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, because of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, visit www.inspectionpanel.org.

88. The SIRAP GRM will ensure appropriate channels and response for GBV cases, as outlined in Annex 1.

V. KEY RISKS

89. **Overall risk rating – Substantial.** The risk ratings for the project have been identified using the Systematic Operations Risk Rating Tool (SORT). The overall implementation risk rating is Substantial. The most relevant risks and associated risk management measures are:

(a) **Political and Governance.** Changes of prime ministers are common in the Solomon Islands; the country has had seven changes of leadership in the last ten years. Although the current government position remains assured, it would be vulnerable as the election approaches (the next general election is scheduled for April 2019). Moreover, the country has witnessed high-level corruption in similar operations. To mitigate the risk, the proposed project has focused on the government's priorities in the development strategy and relevant plans, and will design the timeline considering the election. There will also be close World Bank supervision focusing on transparency and adherence to World Bank procedures.

[39] Recommendations for Addressing Gender-Based Violence in Investment Project Financing Involving Major Civil Works. World Bank. October 2018. *http://pubdocs.worldbank.org/en/399881538336159607/Good-Practice-Note-Addressing-Gender-Based-Violence.pdf*

(b) **Institutional Capacity.** Weak capacity in the public sector poses a risk that could impede the implementation of the proposed project. This risk is exacerbated as the project involves multiple agencies and activities in three separate locations. This risk will be mitigated through the support of the TFSU and PST during project preparation and implementation, but SIG faces significant institutional limitations.

(c) **Fiduciary.** There is also limited institutional capacity of the implementing agencies to manage budgeting, procurement, contract management, and accounting, and the small pool of local expertise in the World Bank procurement processes poses a substantial fiduciary risk for the project. To manage this risk, the TFSU will provide necessary support around project management, procurement, and financial management.

(d) **Stakeholders.** ADB and DFAT have raised concerns about the funds for SIRAP not being channeled through NTF, noting that the project would likely weaken the fund by creating a parallel implementation arrangement. JICA and MFAT also do not channel through NTF and have parallel implementation. As noted by the NTF Board, NTF is not functioning efficiently and is unable to spend the funds allocated to it. To manage these concerns, the project includes activities in the road sector to strengthen the current road sector asset management and implementation arrangements which will also benefit NTF investments.

(e) **Social.** Although the aviation components will be relatively low risk, risks will exist in terms of land due to the sourcing of construction materials, especially for HIR where substantial pavement works are proposed. Materials sourcing areas and access routes will be part of the project's area of influence and will be assessed in project safeguard instruments. The road component will present relatively higher risks. The Solomon Islands has complex land holding arrangements and accessing land and addressing compensation for loss of assets is difficult, so it will be important to address these issues effectively, with a central focus on the road component in Malaita. Early and ongoing citizen engagement will be key to understanding the social and land related issues and to identifying deliverable mitigation measures to manage these risks. The ESMP consultations began in Malaita in August 2018 and the ESMP contains a schedule of the ongoing consultation plan. ADB has undertaken work in this space in the Solomon Islands and there are some community participants with reasonable capacity; however, the complexities lay with the underlying land holding arrangements. Experience in PNG and elsewhere has shown that other key aspects such as compensation; material sourcing; community impacts and community safety need to be closely managed. Environmental and Social assessment and management will need to be proportionate to the scale and nature of impacts. To this end, an ESMF and three ESMPs (one for each airport and one for Malaita roads) which include assessment, management and monitoring plans were prepared.

VI. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Solomon Islands

Solomon Islands Roads and Aviation Project

Project Development Objectives(s)

Improve operational safety and oversight of air transport and associated infrastructure, strengthen the sustainability and climate resilience of the Project Roads, and in the event of an Eligible Crisis or Emergency, to provide an immediate response to the Eligible Crisis or Emergency.

Project Development Objective Indicators

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Improve operational safety and oversight of air transport and associated infrastructure								
Airport Certification according to ICAO safety and security standards at Honiara and Munda Airports (Yes/No)		No	No	No	No	No	Yes	Yes
State requirements for safety and security non-compliance reach global ICAO average (Percentage)		66.48	66.48	66.48	66.48	66.48	32.52	32.52
Modernization of air traffic management achieved (Text)		No VSAT or ADS-B	No VSAT or ADS-B	No VSAT or ADS-B	VSAT and ADS-B partially operational	VSAT and ADS-B fully operational	VSAT and ADS-B fully operational	VSAT and ADS-B fully operational
Implementation of recommended PASO annual work plan (Percentage)		0.00	0.00	0.00	40.00	60.00	80.00	80.00

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Strengthen the sustainability and climate resilience of the Project Roads								
Identified climate resilient investments constructed and in use (Number)		0.00	0.00	3.00	5.00	5.00	5.00	5.00
Percentage of paved roads on Malaita main roads in very good or good condition (Percentage)		0.00	0.00	100.00	100.00	100.00	100.00	100.00
Percentage of gravel roads on Malaita main roads in good or fair condition (Percentage)		10.00	10.00	10.00	50.00	50.00	50.00	50.00
Provide an immediate response to Eligible Crisis or Emergency								
CERC Manual adopted by SIG with appropriate training on activating and implementing (Yes/No)		No	No	Yes	Yes	Yes	Yes	Yes

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Component A: Honiara and Munda Airports Infrastructure Investments								
Navigation and safety aids in line with implementation schedule (Percentage)		0.00	0.00	0.00	50.00	100.00	100.00	100.00

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Resurfacing of Honiara Airport pavement in line with implementation schedule (Percentage)		0.00	0.00	50.00	100.00	100.00	100.00	100.00
Resurfacing of Munda Airport pavement in line with implementation schedule (Percentage)		0.00	0.00	50.00	100.00	100.00	100.00	100.00
Completion of new terminal and flight services center at Munda Airport (Percentage)		0.00	0.00	0.00	50.00	75.00	100.00	100.00
Equipment and systems standardized with regional standards (Number)		0.00	0.00	0.00	2.00	4.00	5.00	5.00
Component B: Malaita Road Improvement and Maintenance Program								
Roads rehabilitated (CRI) (Kilometers)		0.00	0.00	17.00	17.00	17.00	17.00	17.00
Roads rehabilitated - rural (CRI) (Kilometers)		0.00	0.00	15.00	15.00	15.00	15.00	15.00
Roads rehabilitated - non-rural (CRI) (Kilometers)		0.00	0.00	2.00	2.00	2.00	2.00	2.00
Number of multi-year maitenance contracts awarded for Malaita roads (Number)		0.00	0.00	0.00	2.00	2.00	2.00	2.00
Bridge upgraded (Number)		0.00	0.00	3.00	4.00	4.00	4.00	4.00
Satisfactory post-construction road safety audit (Yes/No)		No	No	Yes	Yes	Yes	Yes	Yes
Local employment in routine road maintenance		0.00	0.00	0.00	40,000.00	40,000.00	40,000.00	40,000.00

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
(person-days) (Number)								
Component C: Institutional Strengthening								
Airport Master Plan, Sector Strategy and Airline Strategy in line with implementation schedule (Percentage)		0.00	50.00	75.00	100.00	100.00	100.00	100.00
Successful implementation of agreed training plan (Text)		No training	Training commenced	Training commenced	Training commenced	Training commenced	Training commenced	Training plan completed
Asset Management System updated and used for preparing investment program (Yes/No)		No	No	Yes	Yes	Yes	Yes	Yes
Component D: Project Implementation Support								
Percentage of procurement activities completed (i.e., contracts signed) by the planned dates set in the approved procurement plan in STEP (Percentage)		0.00	80.00	80.00	80.00	80.00	80.00	80.00
Percentage of contracts completed within their original forecast delivery date (Percentage)		0.00	80.00	80.00	80.00	80.00	80.00	80.00
Open Contracting used to publicize procurement data and updated on a monthly basis (Yes/No)		No	Yes	Yes	Yes	Yes	Yes	Yes
Unqualified audit with the time specified under the Legal Agreement (Yes/No)		No	Yes	Yes	Yes	Yes	Yes	Yes

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Gender								
Number of person days worked by women in routine maintenance activities (person-days) (Number)		0.00	0.00	0.00	20,000.00	20,000.00	20,000.00	20,000.00
Successful implementation of the GBV, VAC and Trafficking Strategy and Action Plan (Yes/No)		No	Yes	Yes	Yes	Yes	Yes	Yes
Number of training courses related to GBV delivered (Number)		0.00	2.00	5.00	5.00	5.00	5.00	5.00
Availability of social services within an accessible distance (Number)		2.00	2.00	3.00	6.00	6.00	6.00	6.00
Increase in number of survivors seeking help in Malaita Province (Percentage)		0.00	0.00	5.00	5.00	10.00	10.00	10.00
Citizen Engagement								
Grievances responded and/or resolved within the stipulated service standards (Percentage)		0.00	75.00	75.00	75.00	75.00	75.00	75.00
Project-supported organization(s) publishing periodic reports on GRM and how issues were resolved [including resolution rates] (Yes/No)		No	Yes	Yes	Yes	Yes	Yes	Yes
Component E: CERC								

Indicator Name	DLI	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Adoption of CERC Manual (Yes/No)		No	No	Yes	Yes	Yes	Yes	Yes

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Airport Certification according to ICAO safety and security standards at Honiara and Munda Airports	ICAO review of airport operations	At end of implementation	ICAO	ICAO mission to visit and conduct review	MCA
State requirements for safety and security non-compliance reach global ICAO average	ICAO review of CAASI and Solomon Islands operations	At end of implementation	ICAO	ICAO mission to visit and conduct review	MCA
Modernization of air traffic management achieved	Implementation of ADS/B and VSAT systems	At end of implementation	MCA	Acceptance reports that equipment are fully operational	MCA
Implementation of recommended PASO annual work plan	CAASI implements the recommended PASO annual work plan using funding from existing aviation revenues	Continuous	Report from MCA confirming implementation	PASO Annual Workplan Report	MCA

Identified climate resilient investments constructed and in use	Spot improvements to road sections to address climate issues.	Continuous	Supervision consultant's progress reports	Reviewing reports	MID
Percentage of paved roads on Malaita main roads in very good or good condition	Condition rating of the Malaita main road network based on visual assessment methodology stored on file.	Annual	Supervision consultant's progress reports	Reviewing reports	MID
Percentage of gravel roads on Malaita main roads in good or fair condition	Condition rating of the Malaita main road network based on visual assessment methodology stored on file.	Annual	Supervision consultant's progress reports	Reviewing reports	MID
CERC Manual adopted by SIG with appropriate training on activating and implementing	Adoption of CERC Manual	Once	CERC Manual	Quarterly reports	PST with assistance of TFSU

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Navigation and safety aids in line with implementation schedule	Implementation of airfield ground lighting and other aids	At end of implement ation	MCA	Acceptance reports that equipment are fully operational	MCA
Resurfacing of Honiara Airport pavement in line with implementation schedule	Overlay of Honiara Airport to improve the surface	Once	Supervision consultant's progress reports	Reviewing reports	MCA

Resurfacing of Munda Airport pavement in line with implementation schedule	Overlay of Munda Airport to improve the surface	Once	Supervision consultant's progress reports	Reviewing reports	MCA
Completion of new terminal and flight services center at Munda Airport	Construction of new Munda terminal and integrated flight services center	Once	Supervision consultant's progress reports	Reviewing reports	MCA
Equipment and systems standardized with regional standards	Introduction of regional communications, navigation and surveillance systems that create regional spillovers	At end of implement ation	MCA	Reviewing reports	MCA
Roads rehabilitated (CRI)		Continuous	Supervision consultant's progress reports	Reviewing reports	MID
Roads rehabilitated - rural (CRI)		Continuous	Supervision consultant's progress	Reviewing reports	MID
Roads rehabilitated - non-rural (CRI)		Continuous	Supervision consultant's progress reports	Reviewing reports	MID

Number of multi-year maitenance contracts awarded for Malaita roads	Implementation of multi-year maintenance contracts	Quarterly	Supervision consultant's progress reports	Reviewing reports	MID
Bridge upgraded	Replacement of three bridges and the Fiu bridge	Quarterly	Supervision consultant's progress reports	Reviewing reports	MID
Satisfactory post-construction road safety audit	Road safety audit to be undertaken post-construction to confirm road safety issues properly addressed	Once	Supervision consultant's progress reports	Reviewing reports	MID
Local employment in routine road maintenance (person-days)	The number of days people are working in routine maintenance	Quarterly	Supervision consultant's progress reports	Reviewing reports	MID
Airport Master Plan, Sector Strategy and Airline Strategy in line with implementation schedule	A Master Plan for the Honiara and Munda airports will be completed, along with an Aviation Sector Strategy, and a strategy for Solomon Airline	Once	Acceptance of final reports	Final reports	MCA
Successful implementation of agreed training plan	The project will undertake training needs assessments for the MCA, CAASI and MID. These will be used to develop an agreed training plan for each ministry and	Quarterly	Quarterly reports	Reviewing reports	MCA

	CAASI				
Asset Management System updated and used for preparing investment program	The MID's asset management system will be updated along with its data collection processes. This will be used to prepare an investment program for implementation by the MID	Continuous	Quarterly reports	Review of reports	MID
Percentage of procurement activities completed (i.e., contracts signed) by the planned dates set in the approved procurement plan in STEP	This indicator provides a measure of how effective the project is with implementing the procurement in accordance with the procurement plan and timetable as defined in STEP	Continuous	STEP	Review of STEP transaction history	PST
Percentage of contracts completed within their original forecast delivery date	This indicator is a measure of how effective the project is with managing contracts	Continuous	STEP	Review of STEP transaction history	PST
Open Contracting used to publicize procurement data and updated on a monthly basis	Open Contracting see key data on contracts such as the award amount, variations, completion dates, etc, made public, it improves the overall transparency and governance on the project.	Continuous	Project web site	Review of currency of data on Open Contracting platform	PST
Unqualified audit with the time specified under the Legal Agreement	The audit for the project is accepted without any qualifications	Annual	Audit report	Review of Audit Report	PST

Number of person days worked by women in routine maintenance activities (person-days)	The number of days women are performing routine maintenance work	Quarterly	Supervision consultant's progress reports	Reviewing reports	MID
Successful implementation of the GBV, VAC and Trafficking Strategy and Action Plan	The GBV, VAC and Trafficking Strategy and Action Plan will be used to guide the activities on the project to address GBV and violence against children.	Continuous	Quarterly Reports	Review of Quarterly Reports	Supervision Consultant
Number of training courses related to GBV delivered	The GBV, VAC and Trafficking Strategy and Action Plan calls for training programs to be conducted for workers on the project related to these issues.	Continuous	Quarterly Reports	Review of Quarterly Reports	PST
Availability of social services within an accessible distance	The number and type of organizations in a community that provide social-welfare based services, including counselling, case management and safe shelter.	Annually	Service providers	Review of service provider mapping	PST
Increase in number of survivors seeking help in Malaita Province	A measure of the increase in number of survivors (women) seeking services. Compiled monitoring data on GBV cases in the area is currently not collected, therefore the indicator is	Quarterly	Service providers	Quarterly Reports from service providers to input into Project progress report	Service providers and MID

	expressed as a percentage increase. We would expect to see an increase in reporting of GBV cases as services become more widely available.				
Grievances responded and/or resolved within the stipulated service standards	The project's grievance redress mechanism (GRM) defines service standards for responding to and ideally resolving complaints (High/Medium/Low priority 5/10/30 working days respectively)	Continuous	Project web site	Quarterly reports	PST
Project-supported organization(s) publishing periodic reports on GRM and how issues were resolved [including resolution rates]	The project web site GRM publishes aggregate and disaggregate statistics on GRM resolution rates	Continuous	Project web site	Quarterly reports	PST
Adoption of CERC Manual	A manual is prepared and formally adopted on how to trigger and implement the CERC component of the project	Once	CERC Manual	Quarterly reports	PST with assistance of TFSU

ANNEX 1: IMPLEMENTATION ARRANGEMENTS AND SUPPORT PLAN

COUNTRY: Solomon Islands
Solomon Islands Roads and Aviation Project

PROJECT INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

Management Roles and Responsibilities

1. Table 2 summarizes the management roles and responsibilities of the various participants in SIRAP and these are illustrated in Figure 12.

Table 2: SIRAP Roles and Responsibilities

Organization	Management Roles and Responsibilities
	Solomon Islands
Ministry of Finance and Treasure (MOFT) (Executing Agency)	Sign Financing Agreement Responsible for overall project execution Sign TFSU Service Agreement
Ministry of Communication and Aviation (MCA) (Implementing Agency)	Responsible for the overall implementation of the aviation components of the project Sign contracts for investment activities Provide aviation technical inputs, as required Houses the PST Provides staff for MCA PST Office Participate in regional procurement committee with support of TSFU Responsible for aviation environmental and social safeguards compliance through TFSU MCA PS participates in the PAIP Program Steering Committee to guide activities across the program.
Ministry of Infrastructure Development (MID) (Implementing Agency)	Responsible for the overall implementation of the road components of the project Sign contracts for investments activities Provide roads technical inputs, as required Provides staff for Malaita PST office Participate in regional procurement committee with support of TSFU Responsible for road environmental and social safeguards compliance through TFSU
SIRAP Project Support Team (PST)	Undertake procurement and financial management with support of TFSU and MID TIMS Monitor progress of project activities and oversees day-to-day implementation Manage contracts for all activities under SIRAP, including payments, with support from TFSU Operates the project Grievance Redress Mechanism (GRM) Operates the project web site with Open Contracting and GRM Monitor environmental and social safeguards compliance for MID and MCA Provide quarterly reports to MCA, MID and TFSU as well as project Monitoring and Evaluation data Represents SIG on PAIP Regional Procurement Evaluation Committee when procurements are for multiple countries
SIRAP National Steering Committee (NSC)	Provides oversight to the project, and PST, with obligatory responsibility to the MCA and MID ministers, and MOFT Advises national government of issues or concerns affecting project implementation and proposes remedial actions Chair represents SIG on the PAIP Program Steering Committee
Civil Aviation Authority of Solomon Islands (CAASI)	Responsible for providing technical inputs for the scope of works and services as appropriate. Participate in capacity developing activities.
	Regional Coordination
Technical and Fiduciary Services Unit (TFSU)	Supports PST in day-to-day implementation of the Project Responsible for all procurement advertising, bid document preparation and procurement processing Assists PST with bid evaluation and award Assists in the implementation of accounting procedures in the payment process Assists PST with contract monitoring and management Consolidates reports for Project reporting Responsible for PAIP Program FM, monitoring and consolidated reporting
PAIP Program Steering Committee (PSC)	Oversees and monitors overall Program implementation

	Advises the SIRAP-SC and National Steering Committees of other participating countries of any issues or concerns affecting project implementation and proposes remedial actions Resolve any disputes that may arise in the Program
Regional Procurement Evaluation Committee (RPEC)	Consists of TFSU and technical specialist from each IA. Conducts bid/proposal evaluation and make civil works contract award recommendation.
Pacific Aviation Safety Office (PASO)	Performs mandated regional oversight in Program countries

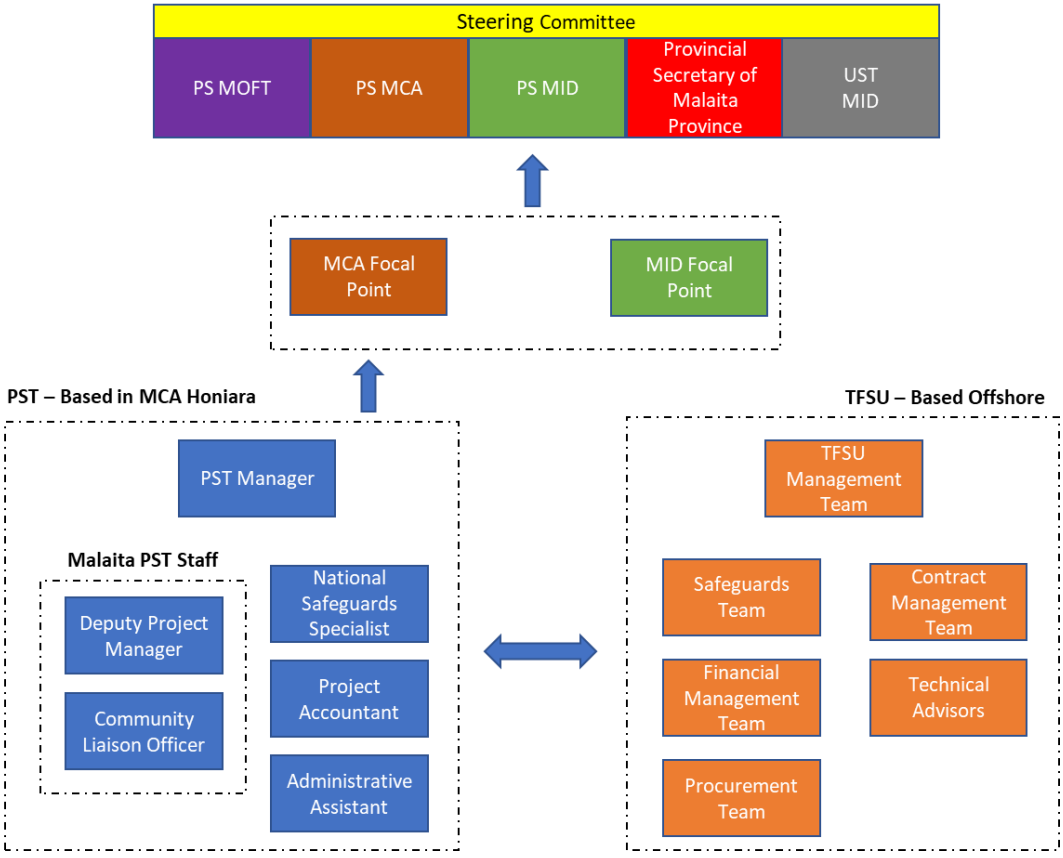


Figure 2: Implementation Arrangements

2. The executing agency is MOFT. MCA will serve as Implementing Agency (IA) for the aviation component (Component A, Subcomponents C1 and C3); MID for the road component (Component B, Subcomponent C2).[40] Each will take taking responsibility for signing contracts, monitoring implementation progress, providing authorization for contract payments under their area. When a contract applies to both ministries, MCA will sign with the approval of MID. MCA will also be responsible for signing contracts for activities benefitting CAASI.

3. The SIRAP National Steering Committee, comprised of representatives of different central and line agency members,[41] should be formed to provide overall oversight of Project implementation and of the Project and PST, and to make Project strategic decisions. It will be critical to have someone from Malaita involved. The SIRAP Steering Committee's key role will be to advise SIG and respective Ministries on issues or concerns affecting project

[40] Components 4 and 5 will be carried out by MOF, MCA, and MID.

[41] The Steering Committee will be comprised of the following Central Agency Members: (i) Permanent Secretary (PS) of MOFT (or his or her designee) ; (ii) PS of MID (or his or her designee); (iii) PS of MCA (or his or her designee) ; (iv) Provincial Secretary of Malaita Province (or his or her designee); and, (v) Undersecretary - Technical (UST) of MID (or his or her designee). The NTF secretariat will provide the secretariat support to the Steering Committee.

implementation and to propose remedial actions accordingly.

Project Support Team—PST

4. A PST reporting to PS MCA will be responsible for day-to-day project implementation, including technical aspects, procurement, financial management, reporting, monitoring and evaluation, and ensuring environmental and social safeguards compliance in accordance with the safeguards instruments. The PST will be supported by the TFSU, for which a Services Agreement was been signed on July 4, 2018 which clearly defines the support to be given (see below).

5. It is recommended that the PST have their main office in MCA, but for the road activities that there is a project office based in Malaita (see below). The activities of the main PST Office will include technical management of the aviation component, liaison with other donors and with TFSU. The PST will comprise the Project Manager, Deputy Project Manager (seconded from MID), National Safeguards Specialist, Community Liaison Officer, Project Accountant, and Administrative Assistant; and provide the base for visiting project and TFSU consultants.

6. The Malaita office would be staffed by the PST Deputy Project Manager focusing on roads and a Community Liaison Officer. This office would also be the base for the construction supervision consultants to be hired using project funds to work on individual road schemes/contracts. The rationale behind this proposal is that almost all MID staff are based in Honiara, with only some islands having a permanent MID supervisor. This is causing difficulties for the scoping and supervision of works, as travel authorizations are required that take time to process (several months between trips is the norm). This is resulting in delays in the scoping of works and the preparation of tender documents, as well as in the supervision of ongoing works and the approval of payments. Malaita is a particularly strong example, being the largest island, with the largest population and the second largest road network after Guadalcanal, but having only one MID supervisor permanently based on the island. There is no office for the supervisor, and although there is a vehicle, fuel is often lacking. Although several large contracts are being executed (and numerous LBES contracts), other MID staff visit only once every few months.

7. The project would be further enhanced were it possible for MID to re-establish a MID office in Malaita as part of the project office. Transferring an engineer and an assistant engineer from Honiara to complement the existing works supervisor, and recruiting two additional supervisors and a community liaison officer, will provide an excellent opportunity to develop new skills and capacity working alongside the supervision consultants. Potentially this office could use existing office space offered by the Malaita Provincial Government. Office furniture and equipment will be procured under the project.

8. The implementation activities are the first step in developing MRIMP approach for Malaita (which could later be replicated to cover all Provinces). Implementation will provide specific capacity building activities to improve planning and execution of works by TIMS. These include activities to make more effective use of the SITAMS Database, use of higher value multiyear maintenance contracts, and the formal establishment of a regional MID office for Malaita in Auki, with delegation of responsibility for the planning, design and supervision of works from Honiara, together with MID engineers.

9. This SIRAP team would work in parallel to similar MID teams responsible for other Provinces (Guadalcanal, Western etc.). The activities in the component will be coordinated with the programming activities and technical procedures of SIG/TIMS to the extent possible. (This is important as the overall MRIMP can only be achieved with the support of NTF and other donors). Where Bank requirements cannot be satisfactorily met using SIG procedures, Bank procedures will be used. (This applies to FM, Procurement and Safeguards). This road component team will report to the Project Manager based in MCA, and the Steering Committee responsible for the aviation and road components.

10. These implementation arrangements in the road component are designed to be capable of continued operation by MID using funds from NTF and other donors after SIRAP funds are fully expended. They are also designed to be

capable of replication in other provinces.

11. **Grievance Redress Mechanism.** The PST will operate the Project's GRM. The GRM will use the 'Grievance and Complaints Logging System' (GCLS) which has been successfully used on the PAIP to date. Figure 3 shows the complaint resolution process for the project. In accordance with the recommendations of the GPN for GBV, the GRM will have confidential processes for managing GBV complaints, including the establishment of a GBV Complaints Team (GCT) that will include a representative of the local GBV service provider. The GRM will not ask for, or record, information on more than three aspects related to the GBV incident:

(a) The nature of the complaint (what the complainant says in her/his own words without direct questioning);

(b) If, to the best of their knowledge, the perpetrator was associated with the project; and,

(c) If possible, the age and sex of the survivor.

12. The GRM will assist GBV survivors by referring them immediately to GBV Service Provider(s) for support. The participation of the GBV service provider in the GBV complaints team will ensure that a survivor-centered, safe and confidential approach is maintained throughout the management of any GRM complaints involving GBV.

Technical and Fiduciary Services Unit—TFSU

13. The PST will be supported by the TFSU, established in 2012 alongside Tonga Airports Limited (TAL) for implementing PAIP. The TFSU will work closely with MCA, MID, CAASI and the PST in accordance with the Service Agreement, to ensure that efficient and effective management and administrative practices are followed throughout project implementation. The core costs of the TFSU are divided between all five PAIP countries, and it has shown itself to be an effective implementation support mechanism.

14. The TFSU consists of the following full-time consultants:

(a) *Program Director*, responsible for coordinating the Program between participating countries and helping to manage resources and timing of the Program;

(b) *Program Manager,* responsible for day to day management of the Program and TFSU;

(c) *Finance Manager,* responsible for managing, coordinating, and overseeing the Program's financial management systems and procedures, in accordance with the Financial Management Manual (FMM) and other framework documents;

(d) *Project Accountants*, responsible for supporting the Finance Manager on procedural requirements for day to day payment processing, accounting and financial reporting and for providing financial management training, support and advice to the Project;

(e) *Contracts Manager*, responsible for day to day contract management support for the Program;

(f) *Contracts Administration Officer, to* provide assistance to the Contracts Manager in managing contracts;

(g) *Lead Procurement Specialist,* responsible for management of the Program procurement process;

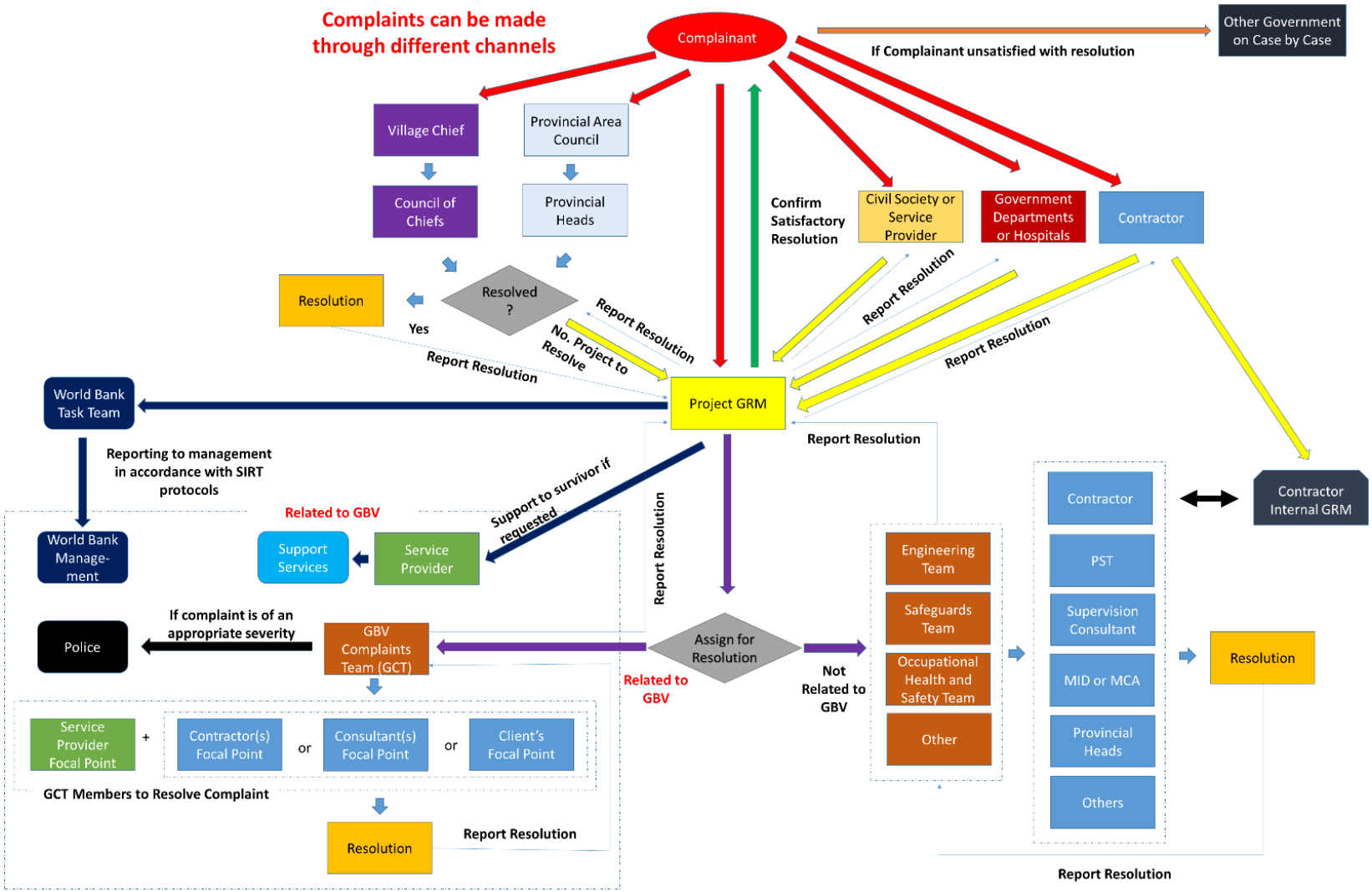


Figure 3: Project GRM Resolution Process

(h) *Procurement Officers,* to provide assistance to the Lead Procurement Specialist in managing procurement; and,

(i) *Team Assistant/Coordinator,* responsible for supporting the administration/co-ordination of the Program.

15. Part-time consultants will be periodically utilized in the following roles to provide a qualified cadre of experts to advise the Program Director and participating countries' project implementation units/agencies on relevant aspects of the Program and their respective projects:

(a) Financial Advisor;

(b) Aviation Procurement Specialist;

(c) Aviation Technical Specialists;

(d) Environmental/Safeguards Specialists;

(e) Electrical Engineer;

(f) Building/ Structural Engineer;

(g) Pavement Engineer;

(h) Aviation Safety and Regulatory Specialists; and,

(i) Architect.

16. A **Service Agreement** signed between SIG and TAL on July 4, 2018 sets forth the relationship between SIG, and TAL (through TFSU) regarding project and program implementation. The share to be financed out of the project funds proceeds for TFSU services is specified in the Service Agreement and will be the basis for invoice payments.

17. For procurement, the TFSU Service Agreement assigns TAL the responsibility, with support from PST and MCA to:

(a) Prepare bidding documents;

(b) Prepare requests for Expressions of Interest;

(c) Prepare Terms of Reference and Requests for Proposals;

(d) Prepare shortlist evaluation reports;

(e) Respond to bidder/consultant questions and clarifications of Requests for Proposals/Bidding Documents;

(f) Evaluate submissions/tenders;

(g) Prepare evaluation reports for submission to the World Bank as required;

(h) Contract negotiations; and,

(i) Coordinate contract signatures.

18. The TFSU will support the PST with establishing the necessary financial management system, training and provide the necessary assistance to the PST accountant with all matters related to FM.

19. The TFSU will provide standard reporting templates to the PST, and use the PST aviation reports for consolidated reporting to the World Bank on PAIP along with the other PAIP countries.

PAIP Regional Institutional and Implementation Arrangements

20. PAIP is led by a Program Steering Committee (PSC), comprising a representative from each of the participating

countries, a designated representative of PASO, the PAIP Director of TFSU, and others as appropriate. It meets on a quarterly basis to review and evaluate Program implementation progress. The PAIP Director chairs the PSC and the TFSU acts as Secretariat. The SIRAP Steering Committee will fulfill the same functions as the National Steering Committees (NSC) in other participating countries.

PAIP Program Administration Mechanisms

21. A **Regional Procurement Evaluation Committee** (RPEC) convenes to conduct bid/proposal evaluation and makes civil works contract award recommendations for bid packages that will be tendered for activities involving more than one country. Contracts involving only one country—which will likely be almost all under SIRAP—are managed by the individual countries. The committee consists of a TFSU representative and a technical specialist from the implementing agency of each country involved in the procurement. For SIRAP, a technical specialist/representative appointed by the PST will participate in the committee to advise on technical requirements and to conduct the evaluation of bids/proposals for related Program activities. RPEC is chaired by the PAIP Director, with the TFSU serving as Secretariat.

22. A **Program Operations Manual** (POM), which includes the Financial Management Manual, has been developed by TFSU to guide all PAIP participants, particularly implementing agencies, in the management of project activities. The PAIP POM has been updated to reflect SIRAP, and provides details on institutional roles and responsibilities for safeguards procedures, monitoring and evaluation for reporting. It describes the operating principles for the Program Steering Committees. The FM Manual and Procurement Plan guide fiduciary oversight. The Contract Management Manual describes how to manage contracts.

Financial Management, Disbursements and Procurement

23. **NTF.** As noted earlier, SIG established NTF with support from ADB and DFAT. The annual budget was SBD117 million in 2017 (US$15.4 million). JICA and MFAT also provide funding to the transport sector but do so outside of NTF. The current contributions to NTF from ADB and DFAT are for the Sustainable Transport Infrastructure Improvement Program (STIIP).

24. ADB and DFAT funding agreements include incentive mechanisms to encourage SIG to make and increase their contributions. SIG funds for NTF have not been deposited on a regular basis, but are dependent on revenue flows into Consolidated Revenue as determined by MOFT. In most recent years only some 30 percent of SIG transport expenditure for maintenance and new works from the Development Budget has been allocated to NTF for projects in the NTP, and MTTAP. The remainder has been allocated to other works that are identified by MID TIMS based on a combination of use of SITAMS, their knowledge of the network and discussions with local people. This includes routine and periodic maintenance works which are not explicitly identified by road section in the NTP and MTTAP. The net result is that a single stable funding source for transport infrastructure and services has not been provided.

25. Since the NTF Board has been unable to ensure implementation of the NTF Annual Works Plans and to spend/disburse the funds provided to it by donors in 2016 and 2017, it was decided that SIRAP would operate in a similar manner to JICA and MFAT projects with its own financial management and procurement processes independent of NTF. The project will provide technical assistance to NTF.

Financial Management

26. Overall, subject to the successful implementation of the mitigating measures, the financial management arrangements satisfy the financial management requirements stipulated in OP/BP 10.00.

27. **Implementing Agencies.** The two implementing Agencies MCA and MID both have limited capacity within their finance sections, both in staff availability and in the relevant skill set to be able to meet the FM requirements to successfully implement the project. MID has experience in the implementation of World Bank financed Projects

through the Rapid Employment Project and the new Community Access and Urban Services Enhancement Project and in both projects opted to use a project management unit to implement the FM requirements. MID also has experience working in a project with two implementing agencies as the two active World Bank financed projects where MID is an implementing agency in partnership with Honiara City Council.

28. **Budgeting Arrangements.** In consultation with the SIRAP Steering Committee, the PST will prepare and submit a project budget covering the life of the project. Based on this project budget, an annualized budget, an annual procurement plan and work plan, which outlines project activities, will be prepared to detail how the budget will be managed and expended. Details will be provided in the Program FM Manual.

29. **Accounting and Staff Arrangements.** The project accounts will need to be kept in a suitable small accounting package. While the FM review does not mandate the package to be used MYOB accounting package is widely used throughout Solomon Islands and most potential applicants for the project accountant position are likely to have experience with MYOB. Consideration should be given to the creation of separate data bases for the MCA implemented activities and MID implemented activities. The PST will include a suitably qualified project accountant who will need to be recruited and the TFSU will provide some oversight of project accounting services.

30. **Internal Controls.** Where possible, internal control procedures will be consistent with the SIG procedures under the Public Financial Management Act (2013) and accompanying Financial Instructions, which are generally sound. In addition, the SIRAP POM will have an FM section to cover specific Bank FM requirements. As with the other World Bank financed projects in the Solomon Islands, authorization and payment processes will need to be clearly segregated.

31. **Funds Flow.** As noted elsewhere, the project will not channel the funding through NTF so two segregated designated accounts (DAs) will be opened—one for MCA and one for MID expenses—at either the Central Bank of Solomon Islands (CBSI) or at an acceptable commercial bank to enable funds to flow from the World Bank to the project. If the DA is with the CBSI then the project will need to open an operational account and have a standing order for the transfer of funds to the operational account. It is recommended that the DA be in Solomon Islands Dollars.

32. **Reporting Requirements.** Quarterly Interim Unaudited Financial Reports (IFRs) will be submitted to the World Bank not later than 45 days after the end of each reporting quarter. The report will be prepared by the PST on behalf of MCA and MID, and will be reviewed by the TFSU prior to the PST submitting the report to the World Bank. The reports must include project commitments; and receipts and payments for the reporting period, year to date and cumulative figures. The format for IFRs will be agreed during initial stages of implementation.

33. **Annual Project Financial Statements (FS).** FS will cover all transactions of project components and activities. FS will be prepared in accordance generally acceptable accounting principles. FS will consist of:

(a) A Statement of Sources and Uses of Funds that includes all Cash Receipts and Payments, and payments by third parties on behalf of the entity;

(b) The Accounting Policies Adopted and Explanatory Notes. Explanatory notes should be presented in a systematic manner with items on the Statement of Cash Receipts and Payments being cross-referenced to any related information in the notes; and,

(c) A Management Assertion that IDA funds have been spent in accordance with the intended purposes as specified in the IDA Credit Agreement.

34. **External Audit Arrangements.** Annual audits of the project's financial statements will be required for the life of the project. The Auditor-General's Office (AGO), has advised the World Bank that currently, due to their limited number of staff the AGO is unable to undertake World Bank financed project audits. Until the AGO has the required staff levels to undertake project audits, it will be the responsibility of the implementing agencies to ensure the PST hire a private

audit firm to conduct annual audits. The auditors will be required to provide a detailed management letter containing their assessment of the internal controls, accounting system, and compliance with financial covenants in the Legal Agreement. The cost of the audit can be paid from project funds and the audit report will be required to be submitted within six months after the end of closing date of the project. The audited annual project Financial Statements will be made publicly available.

35. **Supervision Plan.** An FM implementation review field mission will be conducted at least once a year with additional missions early in implementation to ensure all World Bank FM requirements are met. In addition, the FM team will conduct a desk review of the quarterly IFRs and the audited annual project financial statements.

36. **Disbursements.** Withdrawal applications will be prepared by the PST on behalf of MCA or MID and MOFT will be an authorized signatory for the Withdrawal Applications. The project will be able to use any of the four disbursement methods: (i) direct payment; (ii) replenishment; (iii) reimbursement; and, (iv) special commitment. The DA will be used for relatively small disbursements related to local purchases of goods and services, project management support and operating costs.

37. It is anticipated that most disbursements will be made through direct payment to suppliers, contractors and consultants for eligible expenditures incurred. The minimum threshold for direct payment, reimbursements and special commitments and the DA ceiling will be in the disbursement letter. Replenishment applications will be submitted quarterly as a minimum but may be required on a more frequent basis.

38. Table 3 shows the project withdrawal categories.

Table 3: Project Withdrawal Categories

Category	IDA Credit Allocated (expressed in US$)	IDA Grant Allocated (expressed in US$)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Goods, works, non-consulting services, consulting services, Training, TFSU Costs, and Operating Costs for the Project	29,500,000	20,500,000	100%
(2) Emergency Expenditures under Part 5 of the Project	0	0	
(3) Refund of Preparation Advance	1,000,000	0	Amount payable pursuant to Section 2.07 (a) of the General Conditions
Total Amount	**30,500,000**	**20,500,000**	

39. **Project Preparation Advance (PPA).** A PPA in the amount of US$1 million is in place to enable SIG to undertake activities supporting project preparation that are consistent with the PDO, and which have been procured in accordance with applicable Bank procurement procedures. Activities to be financed under the PPA include: (i) conducting road surveys for Malaita Road infrastructure investments; (ii) conducting stakeholder engagement and consultations and preparation of safeguards documents required for the Project; (iii) supporting the preparation of the technical requirements for the unexploded ordnance survey and removal activities;[42] (iv) conducting surveys for

[42] The SIRAP ESMP contains the SIG's technical requirements for safe UXO removal. These requirements will be reviewed by the UXO specialist and the ESMP UXO provisions updated as appropriate.

Honiara and Munda Airports infrastructure investments, and removal of any identified unexploded ordnances as required; (v) supporting the preparation of an airline review strategy; (vi) conducting an airport master planning study; and, (vii) supporting procurement, financial management, project management, and other activities related to the preparation and implementation readiness of the Project.

Procurement

40. **Road sector procurement**. All MID works are currently contracted out. Procurement of road and wharf contracts is carried out by MID TIMS, often with consultant support from the CPIU. Bidding documents are prepared by staff of the TIMS O&M Section after an initial scoping of the works. Invitations and bid opening for contracts exceeding SBD500,000 are handled by the Central Tender Board in MOFT, with a Bid Evaluation Committee within MID appointed for assessing the bids. MID has a relatively large number of contracts, but the vast majority of these are small contracts for routine maintenance by LBES contractors (over 80 percent in case of NTF funding).

41. The procurement capacity assessment of MCA and MID identified risks related to institutional capacity and decision-making process in handling contracting procedures. The project's overall procurement risk is rated as Substantial. A key program-level mitigation measure that addresses identified capacity constraints and supports regional harmonization is the utilization of TFSU, which will be responsible for coordinating and handling all procurement activities up to contract signing, as well as support with contract management during implementation. Contract signing under the project will be the responsibility of MCA and MID. MOFT are responsible for contract signing under the PPA.

42. The following measures were agreed with SIG:

(a) A TFSU Service Agreement between SIG and TAL, outlining the roles and responsibilities in procurement and contracting processes, was signed prior to implementation;

(b) Measures to be completed at the start of the project; and,

(c) Procurement training will be provided by TFSU at the launch workshop.

43. Measures to be carried out throughout project implementation:

(a) The TFSU will be responsible for managing the procurement process, but procurement recommendations for award and other procurement decisions will be made either by RPEC (for regional packages) or MCA/MID through the PST (for Solomon Islands only packages);

(b) MCA and MID (through the PST) will be responsible for managing all project activities within their jurisdictions, including contract award and signature, monitoring implementation progress, providing authorization for contract payments and providing progress reports for consolidation by the TSFU;

(c) All procurement processes and documents will be handled by the PST, with the support of the TFSU, in accordance with World Bank procurement regulations;

(d) An appropriate procurement record keeping and monitoring system (including adequate document storage) will be established, operated and managed by PST; and,

(e) The PST will use the 'Open Procurement' and Project Management Web side in use with the other PAIP countries as part of their management.

44. Procurement for SIRAP will be carried out in accordance with the World Bank Procurement Regulations for IPF Borrowers (Procurement Regulations), July 2016 (revised November 2017 and August 2018), as well as the provisions stipulated in the Financing Agreement and procurement plan uploaded in the Systematic Tracking of Exchanges in

Procurement (STEP).

45. **Procurement of Civil Works (est. US$41.44 million).** This will include HIR and MUA runway resurfacings, a new terminal building with an integrated flight service tower at Munda Airport, road improvement and maintenance works, etc. The Request for Bid (RFB) without prequalification and Simplified Contract for Small Works/Goods, using the Request for Quote (RFQ) selection methods shall be used.

46. **Procurement of Goods (est. US$2.92 million).** This will include provisions of airport ground support equipment (for lighting, air traffic control, VSAT communication system etc.).

47. **Procurement of Consulting Services (est. US$7.75 million).** This will include recruitment of consulting firms and individual consultants to provide technical expertise for design and supervision, institutional strengthening, and project implementation.

48. **Procurement of Non-Consulting Services (est. US$0.40 million).** This will be for VSAT installation, pavement strength test, and UXO survey and removal.

49. **Procurement Plan.** The first 18 months of the overall Procurement Plan for SIRAP is shown in Table 4. The Plan will be updated, as necessary, but at least annually.

Table 4: Initial 18 Month Project Procurement Plan as of February 13, 2019

Activity Description	Cost* (US$)	Procurement Approach	Category / Selection Method
Component A: Honiara and Munda Airports Infrastructure Investments			
Runway Resurfacing (A1)	11,960,000	Open International	Civil Works **RFB**
Runway, Taxiway and Apron Resurfacing (A2)	7,935,000	Open International	Civil Works **RFB**
Design and Supervision Services for all Aviation Investments (single company - also doing roads) (A1)	2,185,000	Open International	Consulting Services **QCBS**
Airfield Ground Lighting (AGL) (A1)	1,150,000	Open International	Goods **RFB**
Rescue Fire Services Station (A1)	575,000	Open International	Civil Works **RFQ**
Automated Weather Observation Station (AWOS) (A1)	356,500	Open International	Goods **RFQ**
VSAT design and supervision, hub management (A1, A2)	207,000	Open International	Consulting Services **CQS**
VSAT hardware supply (A1, A2)	195,500	Open International	Goods **RFQ**
VSAT installation (A1, A2)	172,500	Open International	Non-Consulting Services **RFQ**
ADS-B Ground Stations (A1, A2)	230,000	Open International	Goods **RFQ**
ADS-B aircraft equipage (A1, A2)	57,500	Open International	Goods **RFQ**
Standby Generators (A1)	862,500	Open International	Goods **RFB**
Pavement Strength Test (for Honiara and Munda) (A1, A2)	115,000	Open International	Non-Consulting Services **RFQ**
Terminal Building Concept Design (A2)	57,500	Open International	Consulting Services **INDV**
Terminal Building including flight service tower (A2)	7,475,000	Open	Civil Works

		International	**RFB (Design and Build)**
Passenger Handling Equipment (A2)	63,250	Open International	Goods **RFQ**
Preparation of specifications for UXO survey and removal and oversee survey (for Honiara and Munda) (A3)	40,250	Direct	Consulting Services **INDV**
UXO survey and removal (for Honiara and Munda) (A3)	115,000	Open International	Non-Consulting Services **RFQ**
Component B: Malaita Road Improvement and Maintenance Program			
Resealing of existing sealed section (North and South Roads) (17km)	2,932,500	Open International	Civil Works **RFB**
Upgrading of bridges on the Auki-Dala section (North Road) (2 log bridges, 1 steel truss bridge)	747,500	Open International	Civil Works **RFB**
Upgrading of Fiu bridge	3,600,000	Open International	Civil Works **RFB**
Upgrading key vulnerable spots to enhance overall network resilience	2,875,000	Open International	Civil Works **RFB**
Routine maintenance and regravelling of Malaita main road network (232 km)	2,875,000	Open National	Civil Works **RFB**
Technical Auditor	115,000	Open International	Consulting Services **INDV**
Road safety improvements	460,000	Open National	Civil Works **RFQ**
Design and Supervision Services for Road Investments (single company - also doing aviation)	1,610,000	Open International	Consulting Services **QCBS**
Component C: Institutional Strengthening			
Subcomponent C1: Aviation Sector Support			
TA: Training Needs Analysis	57,500	Open International	Consulting Services **INDV**
TA: Operational Training	126,500	Open International	**IOC****
TA: Regulatory Training	126,500	Open International	**IOC**
TA: Airline Strategy Review	172,500	Open International	Consulting Services **CQS**
TA: Airport Master Planning Study	345,000	Open International	Consulting Services **CQS**
TA: Aviation Sector Strategy	345,000	Open International	Consulting Services **CQS**
TA: Technical Support to CAASI	230,000	Open International	Consulting Services **CQS**
TA: Technical Support to SIACL	115,000	Open International	Consulting Services **CQS**
Subcomponent C2: Road Sector Support			
TA: Support for planning and asset management	230,000	Open International	Consulting Services **CQS**
TA: Improving Project Management	86,250	Open International	Consulting Services **INDV**
TA: Road safety	115,000	Open International	Consulting Services **INDV**
TA: Addressing Gender-Based Violence	402,500	Open International	Consulting Services **CQS**
TA: Operational Training	172,500	Open International	**IOC**
Malaita office support	287,500	Open National	**IOC**
Subcomponent C3: Preparation of Auki Gwaunaru'u Airport Infrastructure Investments	**115,000**	Open International	Consulting Services **CQS**

Component D: Project Implementation Support			
Project Manager	862,500	Open International	Consulting Services **INDV**
National Safeguards Specialist	172,500	Open International	Consulting Services **INDV**
Community Liaison Officer	115,000	Open International	Consulting Services **INDV**
Project Accountant	115,000	Open International	Consulting Services **INDV**
Administrative Assistant	57,500	Open International	Consulting Services **INDV**
TFSU Costs	1,150,000	Open International	**IOC**
Project Support Costs	230,000	Open National	**IOC**

Notes*: These costs include contingencies and taxes. **: IOC items are also listed for budgeting.

50. **Selection of Consultant Firms.** Consulting contracts expected to cost more than US$0.3 million equivalent per contract will use the Quality and Cost Based Selection (QCBS) or Quality Based Selection (QBS) in conformity with the Consultant Guidelines. Consulting services estimated under US$0.3 million equivalent per contract may follow Selection Based on Consultants Qualifications (CQS). Under the circumstances described in paragraph 3.9 of the Consultant Guidelines, consultants may be selected and awarded on a Single-Source Selection (SSS) basis, subject to IDA's prior approval.

51. SIRAP will also support 'Open Procurement'. The Consultant responsible for supervising the execution of the works and administering the relevant contracts will disclose on the project website relevant contractual information. This includes details such as: (i) Contract information; (ii) Company; (iii) Signed Date; (iv) Intended Completion Date; (v) Contract Amount Approved; (vi) Variations/Change Orders; (vii) Payments; and, (viii) Implementation Progress (Percentage). There will also be geotagged photos showing work progress. The Consultant shall keep all information up to date on the project's public web site.

Monitoring & Evaluation

52. **Reporting.** The PST will monitor overall project implementation and performance. This includes: (i) extent to which project objectives are being achieved; (ii) administrative, physical and financial progress of project components; and, (iii) compliance with the safeguard instruments. These monitoring and reporting arrangements are described in the POM. Monitoring will continue for three years after completion of the construction program and annual reports of the results of the survey program will be prepared.

53. The PST through the TFSU will submit to IDA in a format to be agreed on: (i) quarterly contractor/consultant reports; (ii) quarterly progress reports in a format acceptable to IDA; and, (iii) annual financial audit reports.

54. The following reports will also be used for purposes of monitoring and evaluation:

(a) Quarterly/Annual progress reports submitted to the PST Steering Committee, IDA and Program donors on the fourth week after the end of a fiscal quarter/calendar year to report on completed work, work to be done in the next quarter/year-end results of implementation of the previous annual work program and plan, and recommendations, if any;

(b) Implementation Completion and Results Report; and,

(c) Reports on particular topics prepared as may be necessary.

55. Data on compliance with the ESMP will be required of, and collected by, the civil works contractors as part of their

regular duties. The costs of data collection are included in their bid. The ESMP and the project contracts contain clear remedies for actions to be taken in the event of the contractor's non-compliance with the ESMP.

56. Documentation assuring compliance with any unforeseen resettlement requirements will also be compiled by the Supervision Consultant, and handled in accordance with the ESMP and POM.

57. **Grievance Reporting Mechanism.** As noted earlier, the project will implement the GCLS, an online grievance reporting system, which publishes the following IDA indicators via a web site:

(a) Grievance registered related to delivery of project benefits by gender that are actually addressed (Percentage);

(b) Grievances responded and/or resolved within the stipulated services standards for response times; and,

(c) This system will also comply with the IDA indicator: 'Project-supported organization(s) publishing periodic reports on GRM and how issues were resolved [including resolution rates] (Yes/No)'.

Implementation Support Plan and Resource Requirements

58. **Strategy and Approach for Implementation Support.** The Strategy for implementation support is based on an assessment of the current capacities and expertise of the two implementing agencies (MCA and MID). For the road component, it is also based on the actual performance of MID in the implementation of road improvement and maintenance works in FY2016 and FY2017. The Strategy has these key elements:

(a) A focus on efficient and speedy implementation of the project components, with limited capacity building/improvement of existing systems considered necessary to achieve this objective;

(b) Given the poor ability of the NTF Board to expend the resources provided to NTF in FY2016 and FY2017, on roads and wharves, and to reduce the risks of delays in implementation, not to execute the project through NTF;

(c) For similar reasons, not to manage the implementation of the Road Component through MID TIMS/CPIU;

(d) To create a single PST with the resources adequate to manage the high-risk items, FM and Safeguards in particular;

(e) Provision of greater PST resources to aviation, given the greater technical complexity of the component and the limited experience of MCA in implementation of physical (civil) works and associated project management;

(f) Provision (fund) technical support for the planning, design and construction supervision of physical works (in order not to increase unduly the workload on MID and MCA);

(g) For the road component, to use existing MID systems and organizational arrangements to the extent possible, with additional checks as required to meet Bank requirements (as shown by FM, Procurement, Safeguard and Institutional Assessments); and,

(h) For the road component, to establish in Malaita a unit/office (ideally initially located in provincial government offices) to facilitate project implementation populated with staff from the PST and MID Malaita Unit O&M staff from TIMS Head Office in Honiara. The intention is that most of planning, design and construction supervision of physical works would be undertaken by Malaita based staff and consultants. This approach is to demonstrate the service delivery efficiency, more effective management of the network benefits gains and better service to the Malaita Provincial Government and residents of a permanent Malaita based regional MID/TIMS team. This would involve at first a de-concentration of MID

staff from Honiara, with the potential to lead later to the decentralization of decision making on certain tasks to the Malaita based staff. Capacity building is to be provided to support this approach.

59. **Implementation support plan.** This is based on previous experience and lessons learned from other road and aviation sector projects in the Pacific, as well as the Project's risk profile. The approach is to provide ongoing and regular implementation support.

60. MCA and MID, have had no/limited experience with World Bank-financed projects. Therefore, they are not familiar with Bank procedures and requirements which increases implementation risk. In addition, the Ministry of Natural Resources and Environment (MNRE) has had no recent experience with the World Bank as an IA within the road sector, which also poses an implementation risk. It is expected that additional support may be required from the World Bank, along with the PST and TFSU to ensure that there is effective coordination and capacity building support.

61. MOFT, in consultation with MCA and MID will determine the appropriate timing of semi-annual reviews, taking into consideration the availability of participants. The World Bank implementation review will cover non-technical aspects of the support including: (i) FM; (ii) procurement; (iii) implementation arrangements; and, (iv) safeguards. In addition, field visits will also be undertaken to project sites. To the greatest extent possible, the Task Team will accommodate any written request for 'as-needed' support for the Project, including fiduciary aspects.

62. Each implementation review mission will result in the production of a joint Aide-Memoire that will be discussed at a wrap-up meeting to be chaired by MOFT. It is envisaged that the Aide-Memoire will provide an overall view of the current situation relating to project implementation, including findings and observations from the World Bank. Representatives from the relevant SIG agencies will be invited to attend the kick-off, wrap-up as well as technical meetings. Furthermore, any adjustment requiring more frequent reviews will be discussed, agreed upon, and documented in the Aide-Memoire.

63. A 'mid-term' review mission will be held not later than three years after the effective date of the Project, or such other period as may be agreed with the World Bank. It is envisaged that the mid-term review will be conducted at either the halfway point of the Project period or when the funds are 50 percent disbursed, and provides an opportunity to review the Project and take stock of implementation progress. Following the mid-term review, adjustments to project support may be required, including a project restructuring and/or possible additional financing from any other sources based on the implementation experience. The Task Team will work with MOFT, MCA and MID to clarify the requirements necessary to effect any changes. Any changes to the Project that require amendments to the Financing Agreement will require a formal request from the Government's signatory to the Financing Agreement.

64. Six months prior to the closing date of the Project, the Government will commence the preparation of its Implementation Completion and Results Report (ICR). The World Bank ICR author will participate in the final implementation review and will gather the necessary information to help prepare the ICR.

65. Missions to support the implementation of SIRAP will be carried out every 3–6 months. At least once per year the missions will include technical, fiduciary and safeguards team members, who will provide input into infrastructure design and construction, carry out post reviews on contract management, review safeguards compliance, and provide formal training where required. The implementation support plan will be reviewed annually to ensure that it meets the support needs of the Project. The estimated level of annual support needed to implement SIRAP is identified in Table 5.

Table 5: Implementation Support Plan

Focus of Implementation Support

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First twelve months	Project launch and start-up	Task Team Leader Operations Officer Transport Analyst Air Transport Specialist Highway Engineer Procurement Financial Environment Social Gender Specialist Administrative Support		
12-60 months	Project implementation	Task Team Leader Operations Officer Transport Analyst Air Transport Specialist Highway Engineer Procurement Financial Environment Social Administrative Support		
Other		GBV Specialist		

Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader	8 per year	3 per year	
Operations Officer	8 per year	3 per year	
Transport Analyst	8 per year	3 per year	
Air Transport Specialist	4 per year	2 per year	
Highway Engineer	4 per year	2 per year	
Procurement Specialist	3 per year	2 per year	

FM Specialist	3 per year	2 per year
Environment Specialist	3 per year	2 per year
Social Specialist	3 per year	2 per year
Gender Specialist	3 per year	1 per year
Administrative Support	3 per year	0 per year

Partners

Name	Institution/Country	Role
Japan International Cooperation Agency (JICA)	Bilateral Development Agency	Partner in for Honiara Airport Aviation Investments (no counterpart financing)
New Zealand's Ministry of Foreign Affairs and Trade (MFAT)	Bilateral Development Agency	Partner in for Honiara & Munda Airports Aviation Investments (no counterpart financing)
Asian Development Bank (ADB)	Multilateral Development Agency	Ongoing activities in the sector of a similar nature which we will leverage and complement.
Australian Department of Foreign Affairs and Trade (DFAT)	Bilateral Development Agency	Ongoing activities in the sector of a similar nature which we will leverage and complement

ANNEX 2: DETAILED PROJECT DESCRIPTION

COUNTRY: Solomon Islands
Solomon Islands Roads and Aviation Project

A. Aviation

1. The proposed aviation investments under SIRAP are consistent with those undertaken already, or in progress, in the existing PAIP countries of Kiribati, Samoa, Tonga, Tuvalu and Vanuatu. When PAIP was originally designed, the Solomon Islands was identified as a potential participant and it has met, or agreed to meet, the three PAIP eligibility criteria to access the regional IDA funding through PAIP.

(a) **Agreement to implement PASO's recommended minimum regular scheduled safety and security oversight program for the country.** CAASI will work with PASO to confirm an appropriate work program to help address the country's safety needs.

(b) **Agreement to implement the separation of the policy/regulatory functions from airport operations.** This has been done insofar as CAASI is separated from MCA which oversee the airports. Furthermore, in June 2016, the government established SIACL, a state-owned enterprise under MCA, with the intention of taking over O&M functions of both Honiara and Munda Airports from MCA; however, transfer of the functions is expected to happen sometime in 2019 after SIACL has been capitalized by SIG.

(c) **Agreement to implement at least an AU$5 equivalent departing international passenger 'safety and security levy' which is dedicated to covering the costs of safety and security oversight, Civil Aviation Authority operations, and other safety and security related activities.** This levy is being collected, or in the process of being collected, by all PAIP countries. SIG through MCA/CAASI have agreed to allocate from their existing aviation revenues, funds to cover the safety and security oversight services provided by PASO to CAASI. The services provided by PASO on behalf of CAASI will be based on the annual work plans required to support delivery of safe and secure operations within the aviation sector of the Solomon Islands. The proposed indicator to monitor this is "Implementation of recommended PASO annual work plan".

2. The aviation activities address three key areas: (i) infrastructure investments; (ii) aviation sector reform; and, (iii) strengthening airport operations and management capacity. All three activities are critical to ensure continued or improved international air services. Effective airport management and oversight will provide a basis for the future sustainable development of the whole aviation sector. Table 6 gives details on the proposed activities. Following the table, some of the key considerations in designing the investments are given—specifically in the context of minimizing the environmental footprint.

Table 6: Detailed Description of Aviation Investment Activities

Location	Investment	Description
Honiara	Overlay of the runway	The existing runway is suffering from pavement deterioration and will be provided with an appropriate surface to extend the service life. The 2018 MFAT inspection report noted that "The structural condition of the pavement appeared sound with no signs of fatigue cracking, rutting or deformation. The shape was good and the staff said it drained well during rain." The project will therefore provide a 5 cm structural overlay, with the exact thicknesses to be confirmed by pavement strength surveys.
Munda	Overlay of the runway,	The existing pavement is not suitable for jet flights, as noted in the 2018 MFAT

	taxiway and apron	inspection report: "… if the current [Munda] chip seal surface was to remain, the regular use from an A320 aircraft will promote chip turnover and scuffing of the surface in the turning areas and accelerate flushing of the chip seal, along with the high risk of pickup of stones onto aircraft tyres. AC surfacing should be provided on the Munda runway and taxiway pavements and concrete pavement provided for the apron parking area if A320 aircraft are to operate regularly into Munda." A non-structural (2.5 cm) overlay will be applied, with the exact thicknesses to be confirmed by pavement strength surveys. The taxiway and apron will also be overlaid, with the potential for cement concrete apron area considered.
Munda	Terminal Building including flight service tower incorporated	The provision of a new terminal is required to process international passengers and cargo. The terminal will be based on the existing PAIP terminals in Kiribati, Tuvalu and conceptual design for Vanuatu. The integrated flight service tower will replace the existing containerized ATC services. The building will have 'green engineering' to minimize its environmental footprint. It will include baggage facilities for inbound/outbound flights.
Honiara	Rescue fire service (RFS) Vehicle Fire Station	A simple three-bay structure will be constructed to house the RFS vehicles and associated equipment.
Honiara	Air Traffic Control (ATC) Tower	The ATC tower has reached the end of its service life and is showing evidence of structural failure. It needs to be replaced and new equipment provided. This activity will only be financed through this Project if additional funding becomes available.
Honiara	Automatic Weather Observation Stations (AWOS)	AWOS consists of an array of meteorological sensors installed near the runway and a central computer system which will be installed in the terminal or in the tower. There are remote meteorological display screens mounted in the control towers or other suitable location. They will disseminate meteorological data verbally via VHF radio and telephone connection, and as METAR data (an international standard for reporting weather used by pilots) over appropriate communications links. Many installed under PAIP.
Honiara/Munda	VSAT (Very Small Aperture Terminal) Communications System	Reliable communications between airports is vital. PAIP is linking international airports with an integrated regional full-mesh satellite network for dedicated and secure ground-to-ground communication services for air navigation. This work complements an ICAO initiative to connect aeronautical actors in the Asia-Pacific region, and ultimately an exchange of Air Traffic Service information globally.
Honiara/Munda	Automatic Dependent Surveillance-Broadcast (ADS-B)	ADS-B represents the most advanced technology in aeronautical information available. ADS-B Out exploits an existing satellite-based GPS network, with small avionic equipment installed on aircraft that transmits the aircraft's position to ADS-B ground stations, which are relayed to ATC. ADS-B Out also improves the ability to perform life-saving Search and Rescue missions. ADS-B have been installed in all PAIP countries, along with ADS-B avionics for aircraft that are not already equipped.
Munda	Passenger Handling Equipment	Airlines are supposed to have available disable passenger lift/ramp and associated equipment (e.g., wheelchairs) but they do not so persons with disabilities are often inconvenienced. The project will provide key equipment to support movement of persons with disabilities.
Honiara	Airfield Ground Lighting (AGL)	The runway airfield ground lighting needs improvements, along with approach lights and PAPI (precision approach path indicators). Opportunities for the use of solar AGL will be investigated.
Honiara	Standby Generators	Back-up power of critical infrastructure supporting aeronautical operations. JICA will provide some generators; SIRAP the rest.
Honiara/Munda	UXO survey and removal	A survey will be done to confirm that there are no UXO and, if UXO are found, to safely remove them for demolition.

3. **Designing Green Terminals.** PAIP is demonstrating that the concept of 'green design' goes beyond energy efficiency to the wider goal of environmental sustainability. PAIP is refurbishing and constructing several terminals so the following elements were incorporated in the designs:

(a) Polypropylene, a nontoxic and completely recyclable plastic, for all internal plumbing and drainage pipes;

(b) Provision of energy efficient lighting to minimize power demand;

(c) Selection of standard environmentally acceptable hydraulic fittings and piping to ensure an efficient hydraulic system and to minimize maintenance; and,

(d) Fitting the roofs for future additions of solar power panels.

4. Designs for the existing terminals focused on adaptive re-use to extend their serviceable life and maximizing the benefits of their embodied energy:

(a) Enhancing natural ventilation in lieu of mechanical air conditioning to minimize energy consumption by replacing solid external walls with operable louvers to improve cross ventilation;

(b) Improving air circulation with high level air ventilation that utilizes the stack effect whereby rising hot air is released at the roof ridge;

(c) Installation of translucent skylights to maximize natural light and reduce energy demands for lighting;

(d) New permeable internal partitions and security screens including timber, perforated aluminum and polycarbonate mesh promote cross ventilation;

(e) New roofs are highly insulated with wide overhanging eaves to shade the interior, minimize solar heat gain and reduce internal air temperatures;

(f) Internal, shaded thermal mass including concrete slabs and concrete block work walls also provide a temperature moderating effect; and,

(g) Provision for future solar energy infrastructure utilizing the terminal buildings roofs.

5. In addition to the above, new terminals afforded some additional specific opportunities:

(a) Rainfall will be collected, stored and re-used in the terminal and as a resource for the island. In Kiribati new surface water tanks are being used; in Tuvalu a 300,000 liter in-ground water storage tank, below the terminal, provides a significant new water resource for Funafuti island—which is increasingly prone to drought due to climate change;

(b) Water saving bathroom fittings such as dual flush toilets and automatic shut-off taps are provided at all terminals to minimize water consumption;

(c) Demolition hardwoods from the existing terminals will be milled to size and re-used in the new terminals; and,

(d) All additional hardwood required will be from recycled structures or from sustainable sources.

6. **Energy Efficient Airfield Ground Lighting.** Major energy savings can be made by airports replacing the traditional incandescent lighting used for AGL with solar power or modern light emitting diode (LED) technologies. LED lighting advantages include:

(a) Power savings of up to 75 percent;

(b) With average life expectancies of 35,000–50,000 hours or more, LED lighting offers longevity of seven to ten times the typical life cycle of incandescent AGLs; and,

(c) LED light heads are comprised of multiple LED luminaries so if one LED element fails the light remains functional—in direct contrast, when a single filament incandescent bulb fails, the light is out of service and requires replacement.

7. Since the power requirements of LED AGL are much less than incandescent lighting, this has several follow-on benefits regarding the power infrastructure:

(a) The size of cabling can be reduced;

(b) Power regulators and system controllers are smaller;

(c) Backup generators can be smaller and require less fuel to operate; and,

(d) There is potential that solar power operation is increased.

8. **Reducing the Carbon Impact from Runway Paving**. Runway paving imposes a significant carbon burden on the atmosphere. The project will adopt the use of modified bitumen additives in the asphaltic surfacing mixes which offer the following benefits:

(a) The additives allow for mixing surface treatments at lower temperatures, saving both diesel fuel usage and related emissions;

(b) The additives, when in a heated state, act as a lubricant in the asphaltic mix, significantly aids compaction and allows a lower compactive energy input to achieve mix density, again with related savings in diesel and emissions;

(c) The additives significantly improve the mixes waterproofing characteristics, which in the longer term increases the anticipated reliable service life against weathering and oxidation effects (the surfacing should last longer);

(d) The additives combat against oxidation embattlement of the asphaltic binder which increases the anticipated reliable service life; and,

(e) The additives negate the need to use surface sealers such as coal tar, with known carcinogenic risks during application, yet protects the surface treatment from fuel, oil and coolant leaks, which significantly reduce the reliable service life of the pavement.

9. **Sector Support.** In addition to the above infrastructure investments, following aviation sector support being envisaged under the project: (i) training needs analysis; (ii) airport operational training; (iii) airport regulatory training; (iv) preparation of a strategic plan for the sustainability of Solomon Airlines (i.e., airline strategy review); (v) airport master planning studies for both Honiara and Munda Airports; (vi) preparation of an aviation sector strategy; (vii) technical support to CAASI to improve safety and security oversight; and, (viii) technical support to SIACL for strengthening capabilities for airport management and operation.

10. **Auki Gwaunaru'u Airport Infrastructure Investments.** There is a clear need for an all-weather airstrip at Auki Gwaunaru'u Airport in Malaita. However, the airport was closed for some years due to a land dispute and was reopened just recently. The Task Team considers that it is still premature to include the civil work into the project in the absence of clear resolution of the land issues. To this end, this activity would finance key preparation activities, including undertaking of stakeholder engagement and consultations as well as preparation of safeguards documents, and preliminary design (once land issues are resolved). It is anticipated that once the land situation is resolved, additional

financing would be requested for the project to pave the runway.

B. Roads

11. **Malaita Road Improvement and Maintenance Program (MRIMP)**. As noted in the main text, there is a strong need to undertake a comprehensive road investment program in Malaita. This project proposes a four-year program of works as the start of the 'Malaita Road Improvement and Maintenance Program (MRIMP). The objective is to put in place a successful program which could be continued with funding from NTF or other SIG sources. SIRAP will not construct new roads; all investments will be on MID's existing roads in their current corridor.

12. Assessments of the main road network carried out in May 2018 by the Task Team identified a set of priority interventions aimed at improving the condition and climate resilience of the network and ensuring its sustainability. This includes 17 km of resealing existing sealed sections, the new sealing of 42 km of the heavily trafficked Dala–Auki–Bina corridor and 26 km of steep sections in various locations, 1 km of riverbank protection and 2 km of coastal protection, and 500 m of bridge replacements. The assessment estimated that approximately US$60 million would be required to address these issues in the main road network, including 5 years of maintenance. SIRAP will address a subset of these priorities.

13. Until recently, most road maintenance in Solomon Islands has been carried out by small Labor-Based, Equipment-Supported (LBES) contractors (local businessmen or community groups). This has resulted in a heavy burden for the management of the many small contracts (80 percent of all NTF contracts), while performance has been lacking, despite the relatively high costs involved. As a result, the approach was recently halted pending a review.

14. **Project design.** SIRAP aims to introduce a different approach to road maintenance, based on multi-year contracts with machine-based contractors, and applying hybrid performance-based payments for some of the activities. The project proposes the activities in Table 7. All civil works will consider the need to provide climate resilient infrastructure solutions that are fit-for-purpose and have appropriate road safety enhancements.

15. The proposed investment activities under the project will address these issues by improving road infrastructure within the Auki–Dala corridor, making it more climate resilient through resealing and the replacement of damaged bridges. The project will also provide support to improving the maintenance practices for the remainder of the main road network on Malaita, serving as an example for the rest of the province and beyond. In doing so, the project will complement other investments funded by ADB and DFAT through NTF. The project will furthermore improve the capacity of MID in terms of planning, project preparation and works supervision, further developing its asset management system and supporting the establishment of a MID office in Malaita.

16. **Design approach**. The existing sealed sections will be resealed to avoid accelerated deterioration due to rainfall and traffic. Double Bituminous Surface Treatments (DBST) or a cement concrete pavement will be applied, which have proven to work well on the island (existing seals continue to perform relatively well after 10 years with minimal maintenance). Shoulders will be graveled except on steep sections, where paved shoulders and lined drains will likely be applied to avoid shoulder damage and edge break due to runoff water. Base and sub-base courses will be constructed of local river gravel and coronous material where this is found to be suitable (based on testing). Aggregates will be provided from Guadalcanal or other suitable nearby sources.

Table 7: Description of Road Investments

Location	Investment	Description
Auki and north of Bina	Reseal the existing 17 km of paved roads	The existing sealed sections of the North and South Roads in Malaita are past the end of their service life, and are failing. This activity will patch existing roads, provide a reseal, and improve roadside drainage.

Auki	Replace the Fiu bridge	The Fiu bridge requires replacement and SIG has prepared a design for this to be done. Through NTF, SIG is financing the US$3.6 million cost, so it can be replaced at the same time as the roads are upgraded. The SIRAP supervision consultant will be responsible for the civil works oversight.
Dala–Auki	Bridge upgrading	There are two log bridges and one steel truss bridge which are in urgent need for replacement. The project will replace them, potentially trialing modular bridges and geosynthetic reinforced soil abutments as these technologies have not been used in the Solomon Islands and offer many potential advantages, especially in post disaster situations.
Malaita Main Road Network	Grading and regravelling	There are approximately 210 km of gravel roads on Malaita and they receive sporadic maintenance, which often sees them impassible during the rainy season. An impediment has been the lack of long-term commitment to contractors. The project will have two contracts to provide regular grading and re-gravelling to meet an appropriate performance level for a period of four years.
Malaita Main Road Network	Routine maintenance	Routine maintenance includes regular clearing of drainage ditches, culverts, and bridges, cutting vegetation along the road, removing small landslides (<10m^3), repairing the road shoulder, repairing unsealed road surface (potholes, ruts, rills), repairing sealed road surfaces (sealing cracks, joints, potholes), and repairing dry-stone and gabion retaining walls. The project will include hybrid performance based routine maintenance contracts with the gravel road maintenance contracts (i.e., four years of routine maintenance). The routine maintenance contracts—which will be integrated with the above grading and regravelling contracts—will also cover paved roads so that the entire main network is receiving routine maintenance. The contractors will be required to use at least 50 percent women for the work.
Selected Main Road Network Locations	Upgrading key vulnerable spots to enhance overall network resilience	At selected locations the project will make spot improvements to improve climate resiliency—for example paving on steep slopes; putting in hard drainage; repairing coastal protection, river training, etc.
Main Road Network	Road safety	The project will undertake a road safety audit to identify areas where improvements in road safety could be made and then finance as many improvements as possible within the budget limitations.

17. **Contractor capacity**. The proposed designs are in line with the existing capacities of the domestic contracting industry. Domestic contractors have experience with the construction of DBST (including on Malaita) and several contractors have specialized equipment to prepare DBST seals. Ample experience exists with the grading and re-gravelling of the unsealed main road sections, with several contractors contracted by MID to carry out periodic maintenance in Malaita in recent years. Domestic contractors have also been responsible for the construction of most of the existing bridges on Malaita, including several concrete bridges that are much larger and more complex than those included under the project. A review of recent contracts shows that there is sufficient interest and competition for the works carried out on Malaita.

18. Larger construction and maintenance contracts are awarded to so-called machine-based contractors (approximately 20 percent of all contracts, including as much as two-thirds of total expenditure). These domestic machine-based contractors are dominated by some 5 large contractors and up to 10 medium-sized contractors that have road construction equipment and that win most of the larger road sector contracts. The large contractors also have road sealing equipment and have experience building concrete bridges. These large and medium-sized contractors have been awarded several contracts in the past in the range of US$3–5 million, with the large contractors winning contracts of up to US$10–12 million.

19. **Road safety**. Traffic volumes are low on Malaita, and traffic speeds tend to be low due to poor road conditions. However, with grading and re-gravelling and the resulting road condition improvements, speeds easily increase to 50 km/h with highs of 70 km/h. With the proposed resealing, speeds are likely to increase even further. Awareness of high speeds and the dangers involved is low, and the risk of accidents is high. The project will therefore introduce measures to reduce speeds, focusing on locations near schools, markets and other places with high pedestrian traffic. Speed signs tend to be ignored, and the project will focus on physical traffic calming measures such as speed humps and rumble strips. It will also consider opportunities for footpaths to protect pedestrians. The project will also include the introduction of safety measures at bridge locations within the section to be upgraded, warning road users of the reduced carriageway width and preventing them from driving off the embankment.

20. **Works supervision**. The quality of the proposed road works will be monitored primarily by the Supervision Consultant responsible for the road component. To increase the involvement of MID staff and to strengthen its capacity for project preparation and works supervision beyond the project, support will be provided to the establishment of an MID office on Malaita. This MID office will include an engineer, and assistant engineer and three supervisors. Once the initial construction works have been completed and activities are limited to maintenance services, the inputs of the international supervision consultant will be scaled down, with greater responsibility given to national consultants and to MID staff. Regular technical audits will be carried out by the international supervision consultant to verify performance.

21. **Technical Auditor.** The project will have an independent technical auditor who will review the civil works activities and the supervision consultant's performance on behalf of MID.

22. **Climate resilience.** A key development outcome of this project is to strengthen the climate resilience of road and aviation sectors. In the NDS 2016–2035, SIG sets "resilient and environmentally sustainable development with effective disaster risk management, response and recovery" as one of the five national development objectives that contribute towards achieving the overall vision. The NTP 2017–2036 also acknowledges the importance of improving transport network resilience and considers the implications of climate change and disaster risk for transport infrastructure. It is recognized that the country's backlog of maintenance works and insufficient technical capacity are making transport infrastructure more vulnerable to the impacts of climate change. The project intends to address this through the provision of resilient infrastructure solutions.

23. **Sustainability.** The project will pilot test the use of multi-year maintenance contracts for maintenance, with two contracts awarded to cover all the main road network in Malaita. These will see the gravel roads receiving regular grading (at least twice a year) and resheeting and compaction of gravel to meet a performance specification. The contracts will also include routine maintenance of all roads—including the paved roads. To date, the contractors in the Solomon Islands have not had the opportunity to participate in multi-year maintenance contracts, and the uncertainty of future work limits their ability to invest in equipment and staff. It is anticipated that these contracts will serve as an opportunity to test the effectiveness of multi-year performance-based contracts, and to find an appropriate model for replication elsewhere. The approach will be a hybrid performance-based approach based on experiences from Tonga. The MID Malaita office will provide guidance to the contractor on what needs to be done, and the contractor will execute the works, with payment based on them achieving the required quality standards. Training and support will be provided to contractors to assist them as necessary. It is anticipated that NTF will be able to continue financing these contracts upon completion of SIRAP with their own resources.

24. **Road sector support**. Apart from the infrastructure investments in the road sector under component B of the project, the project will also provide support under subcomponent D2 for the strengthening of road sector management by MID. This will focus on strengthening the capacity of MID for road asset management, road sector planning, for road safety assessment and improvement, and supporting NTF.

25. **Asset management and planning.** A review of the existing SITAMS system—developed with development partner support between 2011 and 2013—proposed the following changes which the project will look to implement:

(a) Update the road inventory and condition survey methodology to link the data collected to the development of a forward work program;

(b) Procure appropriate road survey equipment for road condition surveys;

(c) Updated the current GIS platform with all relevant datasets, develop data processing and treatment selection algorithms;

(d) Update the approach to bridge inspections and align with an appropriate guideline to ensure a more systematic inspection and to better link inspections to a corrective maintenance program;

(e) Develop a systematic methodology for the development of a 3-year maintenance program (sealed roads) which entails annual field verification and updates to the program, budget estimates and contract inputs. This will include consideration of disaster risk and climate change criterion; and,

(f) Provide MID asset management staff with a combination of on-the-job and online certified training in the use of GIS and road/bridge survey methodologies.

26. The project will provide training to MID staff in the use of the asset management system as a planning tool, and how to incorporate the results into annual and multi-year plans. Using the updated asset management system, the project will also support MID in the development of a road strategy, defining the prioritization and selection procedures and setting targets for road improvement and maintenance in terms of funding, conditions and standards.

27. **Project Management:** The project will also support MID in developing procedures for incorporating the asset management system results into existing planning procedures. Separate annual plans are currently prepared for different funding sources (mainly SIG and NTF), and the project will support MID in developing a single plan incorporating funding from various sources. Support will be provided to NTF to improve their operations.

28. **Road safety**. Outside of Honiara, road safety measures are not widely incorporated into road infrastructure investments. Accidents are still limited due to the low traffic volumes and low traffic speeds resulting from low road standards and poor road conditions, but this is likely to change as road standards and maintenance are improved. Although most of the road network in Solomon Islands does not justify large investments in complicated road safety measures, a structured application of simple safety measures is likely to have significant benefits. The project will support MID to identify a set of suitable safety improvements that have a high cost-effectiveness. This will be done based on the safety features to be introduced in the SIRAP road investments, specifically the road upgrading. This set of safety features is likely to focus on physical traffic calming measures (speedbumps, rumble strips, road markings, etc.) at locations with high pedestrian volumes (schools, markets, etc.), as well as the use of safety barriers on (high) bridges and at bridge approaches. The project will provide training to MID staff in road safety assessments and improvements, as well as supporting the adoption of a road safety assessment and improvement manual. If funding remains from the Malaita road safety investments, this may potentially be used for road safety investments outside Malaita.

ANNEX 3: ECONOMIC ANALYSIS

COUNTRY: Solomon Islands
Solomon Islands Roads and Aviation Project

A. Economic Evaluation Assumptions

Aviation

1. To ensure that the SIRAP aviation investments are economically justified, a Cost Benefit Analysis was conducted for Honiara and Munda Airports respectively. The methodology and key assumptions employed for the analysis are summarized below. As with the case of the analysis for the road investments, the discount rate of 6 percent and SCF of 0.87 are used.

2. **Honiara Airport.** The economic analysis covering the period of 20 years (2019-2038) assumes that if operational safety standards are not met, airlines would cease jet flights to the airport as early as 2021. This means that "without the project", higher investment (due to further deterioration) must be made at later date; and, the disruption (i.e., lower ability to carry passengers with full capacity) will result in some economic loss. The analysis assumed that 10 percent of passengers would be disrupted during the investment period (assumed to be two years), and that the value of passenger-trip is estimated to be US$500 each. In the "with-project" case, the investment made with the project will allow jet service to run as normal, and no passenger cost will be lost.

3. **Munda Airport.** Similarly, the economic analysis covers the above 20-year period. The "with-project" case assumes the improvement of MUA to be able to handle regular international operations and diversions of traffic from Honiara to Munda, while the "without-project" case assumes neither of them. It is assumed that the benefit of undertaking the major investments include saving of: (i) passenger time; (ii) passenger cost; and, (iii) cost for carrying extra fuel. The key assumptions used for the analysis include:

   (a) Average value of time is US$2,076 per year – based on weighted average wage;

   (b) Travel time reduced as a result of direct flight to Munda is 5 hours per passenger;

   (c) Cost of airline ticket from Brisbane to Munda would be 25 percent cheaper than the current flights via Honiara; and

   (d) Cost of carrying extra fuel in case of an emergency landing at the nearest international airport is US$1 million per year.

Roads

4. To ensure that the road investments generate sufficient economic benefits that warrant the investments, a Cost Benefit Analysis was conducted for the Project Roads using the Roads Economic Decision (RED) Model that computes annual road agency and users' costs for each project alternative over the evaluation period. The quantities of resources consumed and vehicle speeds are calculated first and then multiplied by unit costs to obtain total vehicle operating costs and travel time costs and CO_2 emissions. The resources consumed and vehicle speeds are related to traffic volume and composition, and road surface type, geometric characteristics, and roughness.

5. The quantified benefits computed by RED comprise savings in vehicle operating costs, travel time costs, road maintenance costs due to the road improvements, and a reduction in costs of CO_2 emissions with the Project. For the RED calculations, the following assumptions were applied:

(a) A discount rate of 6 percent and an evaluation period of 20 years;

(b) A conversion factor of 0.87 to convert financial costs into economic costs to remove taxes from financial costs;

(c) The road works will commence in 2019 and will have a duration of one year;

(d) The average daily traffic annual increase rate is 3.0 percent per year for passenger vehicles and trucks over the evaluation period, based on estimated GDP growth projections;[43]

(e) Generated traffic is 5 percent of normal traffic for periodic maintenance works and 50 percent for paving works; and,

(f) Social cost of carbon of US$39 per ton equivalent in 2019 increasing to US$60 per ton in 2038 equivalent, based on medium scenario for the social cost of carbon derived from the 2017 World Bank guidance note on shadow price of carbon in economic analysis.[44]

6. Table 8 presents the vehicle fleet economic unit, basic characteristics, and the traffic composition on the Project Roads.

Table 8: Vehicle Fleet Economic Unit Costs, and Characteristics

	Car	Wagon	Truck	Bus
New Vehicle Cost (US$)	17,400	28,710	33,930	28,710
New Tire Cost (US$)	186	186	210	186
Fuel Cost (US$/liter)	1.04	1.04	1.04	1.04
Lubricant Cost (US$/liter)	5.66	5.66	5.66	5.66
Maintenance Cost (US$/hour)	4.20	4.20	4.20	4.20
Crew Cost (US$/hour)	4.20	4.20	4.20	4.20
Overhead (US$/year)	230	286	494	286
Interest Rate (Percentage)	6.0	6.0	6.0	6.0
Work Time (US$/hour)	6.3	6.3	4.4	4.4
Annual Utilization (km)	20,000	40,000	60,000	30,000
Annual Utilization (hours)	1,248	2,496	4,160	2,496
Service Life (years)	8	8	8	8
Number Passengers (#)	3	5	20	10
Operating Weight (tons)	75	75	0	75
Standard Axle Loading (#)	1.9	2.5	6.0	2.9
Traffic Composition (Percentage)	16	49	13	21

7. **The Project Roads to be improved or receive periodic maintenance under the project total 235.5 km.** The existing roads are in fair to poor condition.[45] The current average annual daily traffic on the existing roads ranges from 16 to

[43] The GDP has grown on average at 3.0 percent per year from 2000 to 2017 in constant prices. The IMF predicts that the GDP will increase on average by 2.9 percent per year from 2018 to 2023.

[44] The guidance note presents low and high scenarios of the social cost of carbon over time, from which the high scenario was used due to negative net CO_2 emission of the project.

[45] Paved roads in fair condition have a visually estimated average roughness of around 6 IRI m/km, while unpaved roads in fair condition have an estimated roughness varying from 8 to 16 IRI m/km. Paved roads in good condition have an estimated average roughness of around 4 IRI m/km, while unpaved roads in good condition have an estimated roughness varying from 6 to 8 IRI m/km.

307 vehicles per day of which around 13 percent are trucks. The paved roads are surface treatment roads, while the unpaved roads are gravel roads. The existing roads are 4 to 5 m wide, two-lane roads on which cars travel at an average speed of around 30 km per hour. After the proposed road works, the Project Roads are expected to be in good condition with cars travelling at around 45 km per hour. Table 9 presents the basic current roads characteristics.

Table 9: Basic Road Characteristics

No	Road	Length (km)	Terrain	Surface Class	Condition	Traffic (AADT)
1	North Road Airport turnoff-Kwainaraco BridgeAuki–Dala	6.9	Hilly	Unpaved	Fair	95
2	North and South Roads Airport–Auki and South of Bina	17.0	Hilly	Paved	Fair	307
3	North Road Kwainaraco Bridge–Dala	10.0	Hilly	Unpaved	Fair	95
4	North Road Dala–Fouia	87.7	Flat	Unpaved	Fair	67
5	East Road Dala–Atori	41.7	Mountainous	Unpaved	Poor	19
6	South Road Auki–South of Bina	18.0	Hilly	Unpaved	Fair	63
7	South Road South of Bina–Huahui	54.2	Flat	Unpaved	Fair	16
Total		235.5				

8. **The total financial capital cost for the road works is estimated at US$8.57 million.** The 7 km Auki–Dala unpaved road will be sealed, including the improvement of three bridges, and will receive routine maintenance for five years. The existing sealed sections on North and South Roads will be resealed and receive routine maintenance for five years, and the five unpaved roads will receive routine maintenance including gradings for four years. Table 10 presents the road works characteristics.

Table 10: Road Works Characteristics and Costs

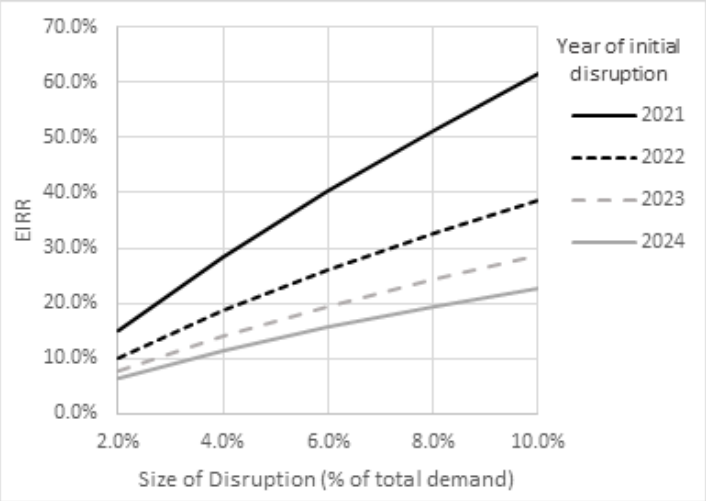
No	Road Work	Initial Investment (US$ M)	Maintenance (US$ M)	Total Cost (US$ M)	Total Cost per Km (US$/km)
1	Sealing, Upgrading 3 Bridges and Routine Maintenance	3.10	0.12	3.22	466,012
2	Resealing and Routine Maintenance	2.55	0.28	2.83	166,736
3	Routine Maintenance and Grading	0	0.12	0.12	11,909
4	Routine Maintenance and Grading	0	1.04	1.04	11,909
5	Routine Maintenance and Grading	0	0.50	0.50	11,909
6	Routine Maintenance and Grading	0	0.21	0.21	11,909
7	Routine Maintenance and Grading	0	0.65	0.65	11,909
Total		**5.65**	**2.92**	**8.57**	**36,391**

B. Economic Evaluation Results

Aviation

9. The overall EIRR of the Honiara and Munda Airports infrastructure investments is 36.9 percent and the NPV is US$39.6 million. The EIRR of the Honiara Airport infrastructure investments is 61.7 percent and the NPV is US$20.0 million, while the EIRR of MUA infrastructure investments is 20.9 percent and the NPV is US$19.6 million. Additional sensitivity analysis was conducted regarding the timing of Honiara Airport runway failure, and the results are illustrated

in the diagram below.



Roads

10. The overall EIRR of the Malaita Road infrastructure investments is 32.8 percent and the NPV is US$28.4 million corresponding to a B/C ratio of 2.9. Normal traffic benefits account for 97.4 percent of the project benefits, generated traffic benefits for 2.4 percent, and CO_2 emissions benefits for 0.2 percent. High economic returns for grading works are expected because these works greatly reduce the roughness of unpaved roads with a low-cost investment. Table 11 presents the economic evaluation results per road section.

Table 11: Economic Evaluation Results

No	Road	EIRR (%)	NPV (M (US$)	B/C Ratio
1	North Road Airport turnoff–Kwainaraco Bridge	8.2%	0.5	1.2
2	North and South Roads Airport–Auki and South of Bina	22.4%	4.1	2.3
3	North Road Kwainaraco Bridge–Dala	96.2%	1.9	4.4
4	North Road Dala–Fouia	85.2%	13.6	3.8
5	East Road Dala–Atori	70.3%	4.7	3.0
6	South Road Auki–South of Bina	80.0%	2.5	3.5
7	South Road South of Bina–Huahui	21.3%	1.0	1.3
	Total	**32.8%**	**28.4**	**2.9**

11. Sensitivity analysis shows that the Malaita Road infrastructure investment is economically justified even if construction cost is 20 percent higher or if the project benefits are 20 percent lower or both. If construction costs were 20 percent higher and the project benefits were 20 percent lower, the EIRR would drop to 24.9 percent. Switching values analysis shows that construction costs would have to increase by 374 percent for the EIRR to reach 6 percent.

Combined

12. The results of the economic analysis are summarized in Table 12, indicating that the difference between “with-project” and “without-project” cases yield the EIRR of 36.0 percent and the NPV (Net Present Value) of US$68.1 million

for the overall investments under SIRAP.

13. To examine the impact of changes in key variables on the EIRR and NPV estimate, a sensitivity analysis was conducted. For the overall project, the EIRR is estimated at 14.1 percent and the NPV at US$25.1 million in the low case that the project benefits decrease by 20 percent and the project costs increase by 20 percent. These results indicate that should there be changes in key variables, its impact would not be significant. They confirm the economic rationale for the project.

Table 12: Results of Economic Analysis

		Base Case	Benefits -20%	Costs +20%	Benefits -20% and Costs +20%
Aviation	**EIRR (%)**	36.9	24.8	26.9	16.2
	NPV (US$ million)	39.6	26.5	34.4	21.3
Roads	**EIRR (%)**	32.8	28.2	29.0	24.9
	NPV (US$ million)	28.4	21.7	27.4	20.6
Total	**EIRR (%)**	36.0	22.3	24.1	14.1
	NPV (US$ million)	68.1	37.6	55.5	25.1

ANNEX 4: SAFEGUARDS

COUNTRY: Solomon Islands
Solomon Islands Roads and Aviation Project

Environmental and Social (Including Safeguards)

1. The project triggers four World Bank safeguard policies: (i) Environmental Assessment (OP/BP 4.01); (ii) Natural Habitats (OP/BP 4.04); (iii) Indigenous Peoples (OP/BP 4.10); and, (iv) Involuntary Resettlement (OP/BP 4.12).[46] The activities proposed are not likely to cause significant or irreversible environmental impacts, or negative social impacts.

2. The PAIP has developed safeguards tools applicable to all PAIP participants, including an Environmental and Social Management Framework (ESMF)[47] and a POM, whose provisions are included in the documentation of each project partner.

3. The project design includes funding for consultants to assist with technical support and the TFSU will be retained to provide support to MCA, MID, PST and CAASI in relation to technical, procurement, financial management, contract management, reporting, and monitoring and evaluation activities. Due to resource capacity, the project will engage a National Safeguards Specialist based in Honiara. The National Safeguards Specialist will have the opportunity to gain information and share institutional knowledge regarding existing national safeguards framework and further understand safeguards measures specific to the country context.

4. **SIRAP is a Category B project** under the World Bank environmental and social screening guidelines. The project has prepared two types of safeguard instruments: An ESMF for the 'unknown' spot improvements for climate resiliency and 210 km grading and regravelling of unpaved main roads, and Environmental and Social Management Plans (ESMPs) for (a) Resealing the existing sealed 17 km roads in Malaita; (b) Honiara Airport Improvement Program; and, (c) Munda Airport Improvement Program. These ESMF and ESMPs have included environmental and social assessments and identified the overall management plan for ensuring that the project benefits are realized and risks are mitigated in line with the World Bank Safeguard Operational Policies. The table below shows the disclosure dates.

Instrument	Date of Disclosure	
	In Country	World Bank's external website
ESMF (PAIP)	-	October 8, 2013
ESMF (SIRAP)	February 5, 2019	February 4, 2019
ESMPs (SIRAP)	January 22, 2019	January 22, 2019

[46] OP/BP 4.12 is triggered even though the aviation investments are within the existing airport boundaries, and the road civil works are on the existing alignments. There is always the possibility of land being required, for example to supply materials or as easements for drainage. In the event that this happens, the PAIP ESMF will be used to prepare an ARAP. The policy is also triggered due to component C Strengthening Airport Operations and Management Capacity in accordance with the Interim Guidelines on the Application of Safeguard Policies to Technical Assistance (TA) Activities in Bank-Financed Projects and Trust Funds Administered by the Bank (January 2014). This is because there is the potential that the Aviation Master Plan may lead to involuntary resettlement outcomes. The Terms of Reference for this Master Plan will ensure that the master plan consultants will be required to assess potential impacts covered by OP/BP 4.12 during their social analysis (where any land issues may be relevant or required in a Master Plan).

[47] https://hubs.worldbank.org/docs/ImageBank/Pages/DocProfile.aspx?nodeid=19243074

5. The airport activities are all within the existing airport footprint. These works are not likely to cause significant environmental or social impacts and are limited to minor construction-related impacts such as noise, dust, waste disposal and worker health and safety. Aggregate sourcing may prove to be an issue, although MID has advised that they expect materials to come from existing locations where arrangements for supply are already in place. No physical cultural resources have been identified within the construction footprint. Potential social impacts are likely to be limited to airport concessionaires and small businesses which may experience temporary business impacts. Runway resurfacing will likely require removal of some existing materials that are no longer up to standard. This material will require disposal either within the airfield or at an approved landfill. Potential waste management and transport impacts were assessed and management measures incorporated in the ESMP.

6. The road investments are within the existing corridor and no new roads will be constructed. The activities consist of routine and periodic maintenance, and the replacement of existing bridges. The likely environmental and social impacts are similar to those for airports, although there is the added risk that there may be some minor land impacts for issues such as drainage easements.

7. **Potential major environmental impacts and risks** for both airports and roads are thus limited to the following categories:

(a) **Construction-related activities:** Noise, dust, waste disposal, hazardous substance and materials, management of storm water and community and workers health and safety. These impacts can be readily managed through standard mitigation measures, Code of Conducts for occupation health and safety (OHS), good engineering designs and good practices for civil construction and transport-related impacts. It is possible that there will be a need for a residential workers camp. Should a contractor wish to establish a workers' camp, and the camp is not on MCA or other SIG land or not at a pre-existing workers camp, appropriate land lease arrangements should be made and approved by the Supervision Engineer in conjunction with MCA and the necessary steps required in the IFC/World Bank Workers Accommodation: Process and Standards Codes of Practice should be followed. Should a workers' camp be required then these guidelines must be adhered to and updates made to the ESMP and contractor's ESMP as appropriate. A Workers Camp Management Plan would be required from the Contractor as an appendix to the contractor's ESMP. Particular attention should be paid to visitor management, sanitary water systems and waste management.

(b) **The sourcing of construction materials:** Noise emissions, dust, water management, slope stability, quarry limits and associated risks in aggregate importation (if applicable). These can be managed through the implementation of Code of Practice for quarry operations, and ensuring materials such as aggregate and equipment meet strict biosecurity precautions and clearance for imported materials. Accessible sources of suitable aggregate materials will need to be identified in the contractor's ESMP and approved by the Supervision Engineer and extracted under current Building Materials Permit. In case these are not available, or it is more cost effective, aggregate may be purchased from licensed operators in Honiara or imported, subject to approval of the operator by the Supervision Engineer. For any internationally sourced aggregates, the contractor is responsible for ensuring that the source quarry is operating under an existing permit and is operating in compliance with that permit under the source country's legislation. The contractor will be required to present specific management plans for the sea and land transportation of these materials from the origin to the project site, especially the landing facility. These plans will be approved by the Supervision Engineer. No new quarries will be opened for the Honiara and Munda works. Construction materials for Malaita works will be either sourced from existing quarries that are approved by both the Ministry of Mining and Ministry of Environment or a new quarry that does not have presence of natural habitats and approved by both Ministries. A site specific extraction plan specified in the ESMP

for Malaita will be prepared by the contractor (and approved by PST) prior to commencement of civil works.

(c) **Transport impacts along haul routes associated with heavy vehicles:** Noise, dust, road safety, road surface condition. These can be managed through the establishment of robust Traffic Management Plan (TMP). All transport must occur on the existing road network and measure undertaken to prevent accidents, dust, spillages, noise and vibration nuisance. Deviations from the nominated access routes will not be tolerated. If the transport material or equipment is likely to impact on normal pedestrian and vehicle traffic or pose an increased safety hazard, consideration should be given to moving these items during off peak times. Measures such as prohibiting the use of engine breaking and use of speed control in and close to settlements can be implemented to reduce noise, speed and vibration near sensitive receptors. Once quarries and haul routes have been identified, the contractor's ESMP should assess these requirements and any necessary measures will be reflected in the TMP. Should off peak transportation of materials be necessary, it is important to communicate this in a meaningful manner to the communities along the route, particularly those on any unsealed roads where additional traffic management may be necessary.

8. **UXO Removal.** As noted earlier, significant amounts of UXO have been found at MUA, and it is expected that further UXO will be encountered during the project. There is anecdotal belief that UXO were cleared from Honiara Airport; however, no evidence has been found for this, so the project will also undertake a UXO survey at Honiara. At Honiara Airport investment projects, the UXO survey will also cover the apron and taxiway areas. MID advised that UXO have not been reported in Malaita and are thus not expected to be an issue for the road components of the project. The SIRAP ESMP contains the SIG's technical requirements for UXO removal. These will be reviewed and updated as appropriate by the UXO Specialist, who was recruited during project preparation and will develop the technical requirements for a UXO survey of Munda and Honiara. Contractors will carry out the survey and removal of UXO, with demolition done in accordance with SIG procedures.

9. **Chance find of archeological artifacts.** It is possible that at any stage of quarrying or during the construction works new items of cultural importance or archaeological artifacts (WW2 artifacts, fossils, coins, articles of value or antiquity, and structures and other remains or fossil items of geological or archeological interest) can be revealed. In the event of the discovery of an item as defined above, the finding must be registered and the information shall be handed over to The Museum of Solomon Islands (under the Ministry of Culture and Tourism) who will advise on how they shall monitor the construction works.

10. **Natural Habitats (OP/BP 4.04).** The policy prescribes "Natural Habitats" as areas where (i) the ecosystems' biological communities are formed largely by native plant and animal species, ***and*** (ii) human activity has not essentially modified the area's primary ecological functions". The targeted road network in Malaita includes stretches of roads which are currently impacted by rivers and coastal processes. As such any design solutions will require activities that potentially affect the nearby rivers and coastal areas. At this stage, it is still unknown whether these ecosystems contain native aquatic species and are in primary ecological functions. Subproject screening (i.e., ESMP level) will investigate these ecosystems to determine whether natural habitats as defined by the policy exist at these sites. In addition to the river and coastal environment, there are two identified Locally Managed Marine Areas (LMMAs) along the road network. LMMAs are usually established for the purpose of managing fisheries resources rather than protecting native species or habitats, but this has not yet been confirmed for the LMMAs within the project footprint. Subproject screening will identify the objectives of these LMMAs and determine whether they contain any natural habitats or native species as defined in this policy. None of the areas identified fall within a conservation area. The ESMF has included measures for addressing potential negative impacts on natural habitats.

11. **Biosecurity.** All imported vehicles, equipment and machinery will be inspected by Biosecurity Solomon Islands on arrival. The imported items must be free of soil, any plant material and any other biosecurity risk. The Contractor is advised to arrange for their vehicles and machinery to be thoroughly cleaned of all contamination prior to shipping. Items shipped inside containers must also have the inside of the container thoroughly cleaned of all previous cargo residues, including dunnage. Government or accredited agent certificates of cleanliness can be submitted to Biosecurity Solomon Islands and may reduce the requirement for inspection on arrival. For imported aggregates and import permit will be required and the conditions of this permit may include the following fumigation requirements as a minimum:

(a) Fumigation with methyl bromide at normal atmospheric pressure at a rate of 48g/m3 for 24 hours at 21˚C or above, within 21 days of shipment; OR Fumigation with sulphuryl fluoride (Vikane) at normal atmospheric pressure at a rate of 64 g/m3 for 16 hours at 21˚C or above, within 21 days of shipment; and,

(b) Prior to imported items being delivered to site the Supervision Engineer shall confirm that all necessary biosecurity documentation and clearances have been provided.

12. **Social and Community Engagement.** Meaningful consultations will take place through the life of the project, starting as early as possible. While the project is not expected to have significant impacts on land acquisition, as it will take place on existing roads, the need to engage the community remains key for the project, as sections of the road will impact different communities as well as managing the outflow of the drains which may impact into people's homes or gardens. Some clearance and land preparation required for drainage works, material sourcing, contractor camps, lay down areas etc., will occur although little vegetation is expected to be cleared. Material sourcing is a particular issue and risk as with elsewhere in the Pacific. OP/BP 4.12 is triggered. An Abbreviated Resettlement Action Plan (ARAP) based on the PAIP ESMF will be produced to address any issues that may arise. Ongoing community consultation is essential; the role of the community liaison officer with the supervision of the national safeguards specialist will be key especially for the project sites in Malaita and Honiara. This is key to address any social issues. Special efforts will be taken to ensure that women are equally represented, and are able to safely participate in community consultations.

13. Land issues are reflected in the ESMF and ESMPs. A social demographic analysis and regular community consultation will take place, both prior to civil works commencing, and afterwards.

14. **Indigenous Peoples (OP/BP 4.10).** The vast majority of groups resident in the project areas can be considered indigenous Solomon Islanders. Since the vast majority of potentially affected population is indigenous, no separate instrument will be required, but relevant elements of the policy are integrated into project design. Community consultations will be facilitated and documented by a Community Liaison Officer in collaboration with National Safeguards Specialist who has been employed under the project. Ongoing monitoring and community consultations by such personnel will assess whether broad community support is maintained during implementation. The ongoing community consultation process conducted can be summarized in the ESMPs and Community Consultation Plans. This should ensure that Free, Prior and Informed Consultation is included and that the project will provide benefits that are culturally appropriate to the people. The ESMPs include analysis of social impacts of the project.

15. **JICA Honiara Airport investments.** JICA signed a Grant Agreement with SIG in June 2018, to provide grant aid for the improvement of the Honiara Airport. The investments for JICA financing include: (i) rehabilitation of the existing taxiway and apron; (ii) expansion of the international/domestic apron; (iii) construction of a new connecting taxiway; (iv) installation of new apron and taxiway lighting system; (v) renovation of the existing international terminal building; (vi) construction of an international departure passenger terminal building; (vii) construction of a flood protection dike; and, (viii) other investments such as the installation of relevant equipment (e.g., X-ray scanner) and the rehabilitation of the existing drainage system.

16. It is planned that the JICA project will be completed in September 2021. SIRAP will complement JICA's investments,

ensuring that the airport meets all regulatory compliance requirements. The World Bank's safeguards team assessed the JICA project and did not consider it to be linked from a safeguards perspective since SIRAP would exist and be viable without the JICA project, and vice-versa. Indeed, the JICA project preparation commenced some time before SIRAP was requested by SIG.

17. The JICA safeguard policy has allocated their project to be a Category B (project has mild adverse risks that would likely be reversible) and an environmental and social impact assessment has been compiled as part of their Preparatory Survey for The Project for Improvement of Honiara Airport. As JICA and the World Bank projects are likely to be implemented concurrently and the projects will physically interact at various points there is a need to support SIG through MCA in managing the preparation and implementation of the environmental and social safeguard aspects of both investments. The main objective is to ensure effective implementation of safeguards management (i.e., avoidance, minimizing and mitigation). Within this context, it is therefore critical that the safeguards policies of both projects are aligned. In meeting the intended objective, the following approaches have been agreed by both funding agencies and SIG:

(a) SIG (facilitated by TFSU Safeguard Specialists) conducted a gap analysis of both the World Bank and JICA safeguard policies.

(b) The outcome of the gap analysis will serve as inputs for a joint safeguards agreement on approach for effective implementation of environmental and social safeguard aspects.

(c) A standalone ESMP has been prepared for activities and investments carried out at Honiara Airport under SIRAP; parallel to the preparation of the safeguard instrument for JICA investments, ensuring effective alignment with the joint agreement.

(d) At the implementation stage, the project will endeavor to: (i) establish regular communications and monitoring mechanism on implementation progress of safeguard-related actions; and, (ii) conduct joint annual supervision mission on the implementation of safeguard measures.

HIV/AIDS

18. In accordance with the requirements of the World Bank's SPDs, an HIV/AIDS education program will be conducted based on the World Bank's 'The Road to Good Health' toolkit, for civil works activities exceeding US$10 million.

Gender-Based Violence

19. As noted in the main text (paragraph 79), the project was screened for the **induced** GBV impacts from the project using the World Bank's GBV Risk Assessment Tool and was classified within the "Moderate Risk" category; the project activities will likely result in labor influx (both foreign and national) to some areas as well as introduction or increase in salaried labor. This has the potential to shift community power dynamics, increase risks of intimate partner violence, and increase risks of sexual abuse, exploitation and trafficking of women and children. Community consultations have highlighted potential risks of increased access to logging sites in promoting sexual exploitation, the close proximity of schools and health centers to construction areas, and the many women and children travelling long distances on the road during the project period. In addition, the significant distance from services of much of the Malaita project areas means the ability to monitor GBV risks and ensure adequate referral is limited. The project will therefore implement the key recommendations of the 2018 Good Practice Note (GPN) 'Recommendations for Addressing Gender-Based Violence in Investment Project Financing Involving Major Civil Works'.[48]

[48] Recommendations for Addressing Gender-Based Violence in Investment Project Financing Involving Major Civil Works. World Bank. October 2018. *http://pubdocs.worldbank.org/en/399881538336159607/Good-Practice-Note-Addressing-Gender-Based-Violence.pdf*

20. Moreover, high prevalence of GBV and accompanying low levels of help-seeking behavior have been identified as an important gender gap that will be addressed by the project, through strengthening services and awareness, and promoting community support for survivors (for more information on the gender results chain, refer to paragraph 79).

21. To address both the project-induced risk and the broader gender gap in a coherent and holistic way, SIRAP will implement a **GBV, VAC and Trafficking Strategy**, which will build on previous experience within the Pacific. This strategy will consist of three pillars: (i) Needs Assessment; (ii) Prevention; and, (iii) Support Services:

22. **Pillar 1: Needs Assessment.** As part of the preparation process, the project has undertaken consultation with a variety of stakeholders, as described below:

1.1. In-country consultations have been undertaken at national level with the Ministry of Women, Youth, Children and Social Affairs, Ministry of Health and Medical Services, local and international NGOs, and development partners. In Malaita province, consultations were held with provincial government, police, health and community welfare representatives, Malaita Provincial Women's Council, women's church groups, local and national NGOs, service providers, and local government. Community consultations in Malaita have also made particular efforts to ensure the safe and active participation of women. Consultations at all levels highlighted the elevated prevalence of violence against women and children in the Solomon Islands, as well as potential increases in risk induced by the project. Highlighted induced risks included an increase in physical and sexual violence as a result of labor influx, increased risk of sexual exploitation and trafficking as a result of improved access to logging sites. In terms of services, consultations highlighted several gaps, most significantly the lack of case management and professional counselling services, as well as limited services coordination. Services are also difficult to access for rural populations in the project area.

1.2. Further regional partner discussions will be undertaken to discuss collaboration for technical support with the implementation of the proposed Strategy. Potential partners include Family Support Centre (in collaboration with International Women's Development Agency), Oxfam, World Vision, Fiji Women's Crisis Centre (FWCC), United Nations Children's Fund (UNICEF), and DFAT/Pacific Women.

1.3. To complement the initial services assessment, community mapping will be undertaken throughout the project area to identify high risk areas and available community-based services in consultation with local organizations and through secondary data resources. The mapping will help influence the community awareness-raising activities (see below).

23. **Pillar 2: Prevention.** Under the prevention component, the project will reduce GBV risks induced by the project**,** and respond to an identified gap in awareness of GBV and relevant legislation in Malaita province more generally.

2.1 To address the GBV induced risks by the project, the World Bank's recommendations from the 2018 GPN on GBV will be adapted as appropriate, including the following:

- SIRAP will adapt and implement Codes of Conduct for workers and managers hired for civil works, as well as regular airport workers. Understanding of Codes of Conduct will be supported by regular training on GBV, VAC and trafficking.
- The risks and impacts of GBV, VAC and trafficking issues are documented within the ESMP, and mitigation measures will be implemented in accordance with the contractor's ESMP. A GBV Action Plan and Response and Accountability Framework will be developed and implemented as part of the ESMP.
- A local service provider will be engaged to conduct regular community awareness-raising activities in all project areas, with a particular focus on groups identified as most at risk from GBV, VAC and trafficking, as identified from the community mapping. This awareness will include informing communities of the

codes of conduct signed by workers, and how to report any project-related cases, as well as information on service providers as outlined in 2.2.

2.2. Lack of awareness of GBV, its causes and consequences, and relevant legislation (such as the Family Protection Act), combined with stigma and low levels of community support for survivors, are important factors underlying the low levels of help-seeking behavior in Malaita. To address these challenges, the project will support the local service provider to identify, train and support community-based committees against violence. Consisting of women's representatives and male advocates, with training in basic counselling and referral and community behavior-change approaches, these committees will conduct extensive awareness campaigns focusing on GBV, relevant services, reducing stigma, and promoting reporting of cases to service providers. Two potential models for this work already exist in the Solomon Islands, and the project will work with the relevant organizations and development partners to select the appropriate organization and model. This approach will be closely coordinated with the awareness-raising activities in project sites.

2.3. To address the increased risks of GBV in a post-disaster situation, the CERC Manual will include specific processes to be followed (see Annex 5).

24. **Pillar 3: Support Services.** GBV and VAC support services are variable in Malaita province. Essential healthcare is available in urban areas in Malaita, and the police station has an established Domestic Violence Unit. However, counselling services are basic and face limitations of safety, availability and professional training. Coordination is lacking at the provincial level, as well as in terms of individual case management and referral. Fortunately, the government has secured funding to roll out the SAFENET response and referral network – which is already in place in the capital Honiara – to Malaita Province, where it would be locally adapted to ensure effectiveness and impact. The network would consist of the following functions: Police, Medical Services, Shelter, Counselling, Social welfare & Child protection, Legal/Paralegal Information, and Community representatives (Churches, Council of Chiefs, Schools, and local NGOs). The Ministry of Women, Youth, Children and Family Affairs, which oversees SAFENET, is currently in the scoping stage of this roll-out.

25. SIRAP will take the following potential actions to strengthen services in Malaita:

(a) Based on the findings from the SAFENET scoping process, SIRAP may provide limited financial and training support to the roll-out as needed.
(b) SIRAP will help to establish professional counselling services by providing counselling training for up to 10 persons through the Fiji Women's Crisis Center, for staff members embedded within existing support services (for example Malaita Care and Counselling Centre, Malaita Provincial Women's Council). Based on further consultations and the outcome of the scoping process, the project may also support safety improvements (e.g., fencing, lighting) at service locations.
(c) SIRAP may also provide financial and training support to the roll-out to Malaita of case management services already planned by the government and local NGOs.
(d) To increase the accessibility of case management and counselling services, the community-based committees outlined above will be trained to receive, support and refer survivors of violence. These committees will be established in rural areas of Malaita and will coordinate with Auki-based service providers.

26. As part of the Results Framework, the following indicators have been included to track the implementation of the Strategy: "Successful implementation of the GBV, VAC and Trafficking Strategy", "Availability of social services within an accessible distance", and "Increase in number of survivors seeking help in Malaita Province".

CERC

27. As noted in Annex 5, the CERC Manual to be prepared under the project will include a CERC-ESMF. This will indicate the kinds of emergency response actions that can proceed with no additional environmental or social assessment, and which ones would require assessment (and at what level) prior to being initiated.

Table 13: Actions Taken to Implement GBV GPN Recommended Activities During Preparation

Action to Address GBV Risks	Timing for Action	Who is Responsible for Action	Ongoing Risk Management	Actions Taken During Preparation/Appraisal
Sensitize the IA as to the importance of addressing GBV on the project, and the mechanisms that will be implemented.	• Preparation • Implementation	• Task Team	• Task team to monitor and provide additional guidance as necessary	• Discussions held with SIG, other donors, NGOs, etc. • Preparation missions included inputs from GBV specialists, with recommendations documented in Aide-Memoires. • Project documents contain clear strategy for addressing GBV, VAC as well as increased risk of trafficking of children.
The project's social assessment to include assessment of the underlying GBV risks and social situation, using the GBV risk assessment tool to provide guidance and keeping to safety and ethical considerations related to GBV data collection. No prevalence data or baseline data should be collected as part of risk assessments.	• Preparation • Implementation (before civil works commence) • PCN and QER/Decision Review (GBV Risk Assessment Tool)	• IA for social assessment and ESMP • Contractor for C-ESMP • Task Team for GBV Risk Assessment Tool	• Ongoing review during implementation support missions • Update project ESMP and Contractor's ESMP (C-ESMP) if risk situation changes	• During preparation discussions held with SIG, donors, local NGOs and others to confirm available resources and how best to proceed. • Project ESMPs contain detailed guidance on how the project will address GBV, VAC and the risk of child trafficking. • Issues discussed during ESMP consultations.
Map out GBV prevention and response actors in project area of influence. This should incorporate an assessment of the capabilities of the service providers to provide quality survivor centered services including GBV case management, acting as a victim advocate, providing referral services to link to other services not provided by the organization itself.	• Preparation • Implementation	• IA	• Update mapping as appropriate	• Done as part of consultation process.
Have GBV risks adequately reflected in all safeguards instruments (i.e., Project ESMP, C-ESMP)—particularly as part of the assessment in the ESIA. Include the GBV mapping in these instruments.	• Preparation • Implementation (before civil works commence)	• IA for social assessment and ESMP • Contractor for C-ESMP	• Ongoing review during implementation support missions • Update project ESMP and Contractor's ESMP (C-ESMP) if risk situation changes	• The project ESMPs include these considerations. The requirements will be clearly defined in the bid documents, and the Contractor's ESMPs will be reviewed to ensure that they are properly addressed before being accepted for implementation.
Develop a GBV Action plan including the Accountability and Response Framework as part of the ESMP. The contractor/consultant's response to these requirements will be required to be reflected in their C-ESMP.	• Preparation • Implementation (before civil works commence)	• IA	• Ongoing review during implementation	• Done. Included as part of the ESMPs.
Review the IA's capacity to prevent and respond to GBV as part of Safeguard Preparation.	• Preparation • Implementation	• Task Team	• Ongoing review during implementation support missions	• Done. Included as part of the ESMPs.

			• Update project ESMP if risk situation changes	
As part of the project's stakeholder consultations, those affected by the project should be properly informed of GBV risks and project activities to get their feedback on project design and safeguard issues. Consultations need to engage with a variety of stakeholders (political, cultural or religious leaders, health teams, local councils, social workers, women's organizations and groups working with children) and should occur at the start and continuously throughout the implementation of the project.	• Consultations need to be continuous throughout the project cycle, not just during preparation.	• IA	• Monitoring of implementation of Stakeholder Engagement Plan • Ongoing consultations, particularly when C-ESMP is updated	• Done. Issues were raised during the preliminary consultations on the ESMPs and will continue.
The Stakeholder Engagement Plan of the project, which will be implemented over the life of the project to keep the local communities and other stakeholders informed about the project's activities, to specifically address GBV related issues.	• Consultations need to be continuous throughout the project cycle, not just during preparation.	• IA	• Monitoring of implementation of Stakeholder Engagement Plan • Ongoing consultations, particularly when C-ESMP is updated	• Done. Included in ESMPs.
Make certain the availability of an effective grievance redress mechanism (GRM) with multiple channels to initiate a complaint. It should have specific procedures for GBV including confidential reporting with safe and ethical documenting of GBV cases. Parallel GRM outside of the project GRM may be warranted for substantial to high risk situations.	Prior to contractor mobilizing	IA, but discussed and agreed upon with the Task Team	Ongoing monitoring and reporting on GRM to verify it is working as intended	• Done. Project will implement the same GRM approach successfully implemented for other projects in the Pacific, which includes specific processes for GRM. There will not be a separate GRM for GBV as it is a low-risk project.
Ensure IA has a GBV specialist to support project implementation.	Preparation	IA	Ongoing reporting	• Done. Given the low risk nature of the project, a dedicated GBV specialist is not considered necessary. The project is recruiting a Naitonal Safeguards Specialist and the TOR calls for experience addressing GBV.
For supervision have a social /environmental specialist in the supervision consultant's team with GBV specific skills to supervise issues related to GBV (e.g., supervise signing of Codes of Conduct (CoCs), verify working GRM for GBV is in place, refer cases where needed) and work with GBV Services Providers as entry points into service provision to raise awareness of the GRM.	During procurement evaluation process	IA	Ongoing reporting	• Done. The TOR for the Supervision Consultant requires the team to have someone with experience in addressing GBV.
Projects which do not use loan/credit/grant proceeds to hire GBV service providers at the start of project implementation encourage Borrowers include an escalation clause in the Environmental & Social Commitment Plan (ESCP) should GBV risks become apparent over the course of the project implementation.	Preparation	Task Team	Task Team	• Not required. The project includes funding specifically to address GBV and this will be used to fund the services provider.

ANNEX 5: CONTINGENT EMERGENCY RESPONSE COMPONENT

COUNTRY: Solomon Islands
Solomon Islands Roads and Aviation Project

1. The contingent emergency response component (CERC) is a contingent financing mechanism available to gain rapid access to financing to respond to a crisis or emergency, and provides for immediate rehabilitation or reconstruction needs without needing to first restructure the original project thus facilitating rapid implementation. The CERC minimizes time and effort needed to make available uncommitted funds from an Investment Project Financing (IPF) to finance urgent needs. Following an eligible crisis or emergency, the Borrower may request the World Bank to re-allocate project funds to support emergency response and reconstruction. This component would draw from the uncommitted grant resources under the Project from other project components to cover emergency response. Consistent with OP 8.00, the CERC does not finance humanitarian assistance or relief.

2. Solomon Islands is susceptible to crisis events and has been impacted in the past by geophysical and weather related extreme events. Having the CERC contributes to a robust and meaningful rapid response capacity and overall helps to build a holistic disaster risk management strategy. The inclusion of the CERC in an investment operation provides advantages in that it establishes an *ex-ante* mechanism through which Solomon Islands can rapidly fund its post-disaster needs and reduce the need for a project restructuring to use allocated financing to respond to post-disaster priorities.

3. The reallocation of funds in an emergency would not cause serious disruption to the Project as Solomon Islands has had previous experience in dealing with crisis or emergency events. In addition, the sector is frequently called upon to handle aspects of emergency response following extreme events. The inclusion of the CERC in the Project will help to support the aviation and road sectors, which are susceptible to crisis events.

4. Key principles relevant to CERCs include: (i) focus on activities that can readily be implemented on the ground considering the circumstances; (ii) favor smaller-scale, local activities that generate buy-in and goodwill; (iii) keep the scope simple and realistic, especially where local conditions do not allow much situational analysis and, (iv) take advantage of working with and completing the activities of development partners to maximize impacts.

5. **Activation criteria.** The project-specific CERC will be funded under the SIRAP budget. Following an eligible crisis or emergency, the CERC would be implemented in accordance with the rapid response procedures governed by the World Bank under OP/BP 8.0 *Rapid Response to Crises and Emergencies.* In addition, the provisions of the IPF Policy, paragraph 12, regarding “Projects in Situations of Urgent Need of Assistance or Capacity Constraints” apply to CERCs when they are triggered. The funding provision for the CERC is SDR 0.00 million, however can be increased by drawing down against uncommitted IDA funds under other components if necessary. Disbursement conditions would define the circumstances under which the CERC funds would become available.

6. Upon the “Declaration of Disaster”, the Recipient will undertake the necessary steps to complete a rapid initial impact assessment with the objective of identifying a list of potential activities for inclusion. Upon compilation of the list of potential activities, SIG will review and select those for financing under the CERC based upon: (i) eligibility and safeguard criteria outlined in the Financing Agreement; and, (ii) national priorities.

7. The request to trigger the CERC and seek approval of activities to be eligible expenditures for financing under Disbursement Category 2 will be communicated to the World Bank by Solomon Islands in a letter. The letter should include information pertaining to: (i) the nature of the emergency, its impacts and confirmation of causal relationship

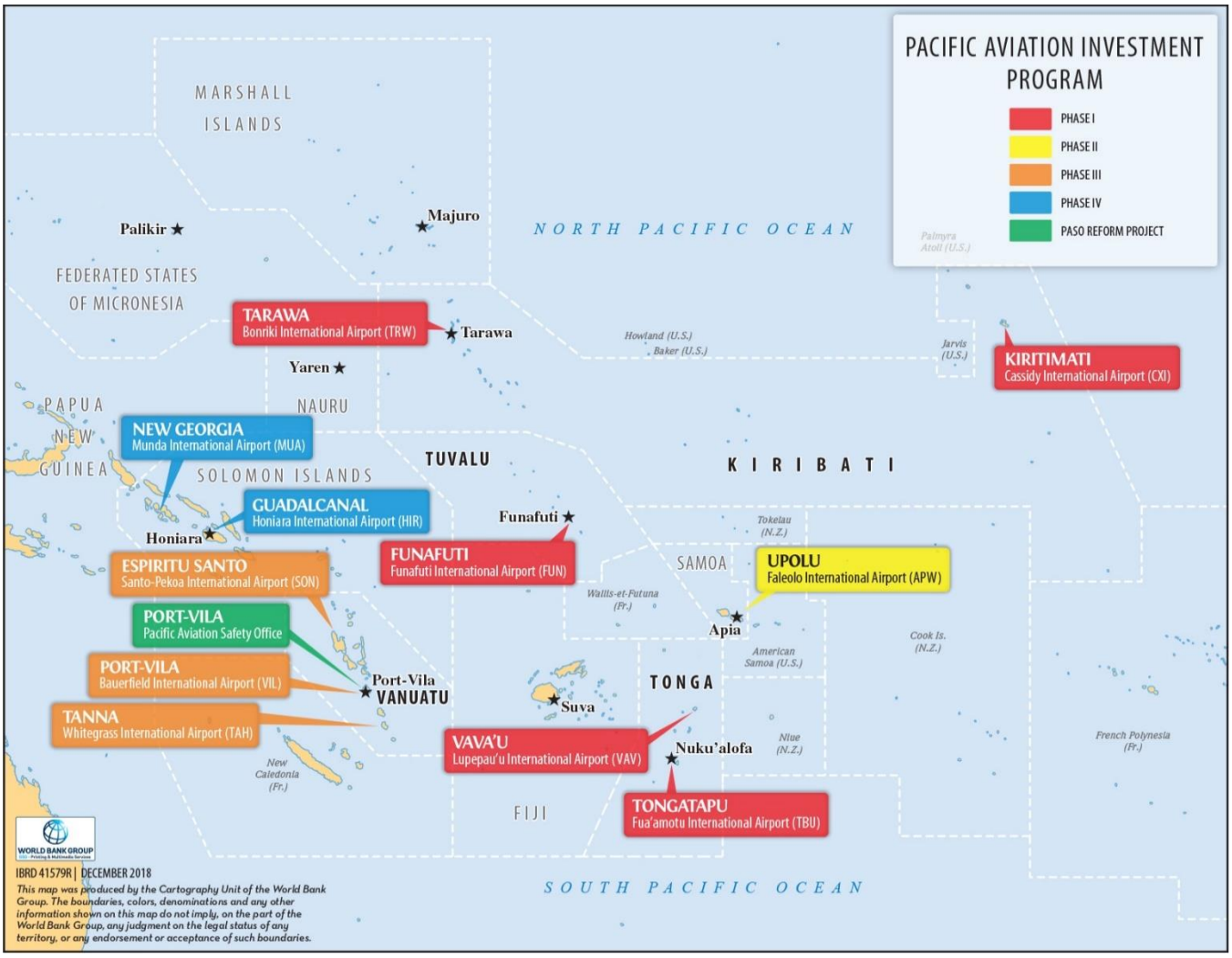
(as supported by the “Declaration of Disaster”) between the event and the need to access the financing allocated to Disbursement Category 2; (ii) the nature of emergency activities (brief description); and, (iii) the CERC action plan of activities.

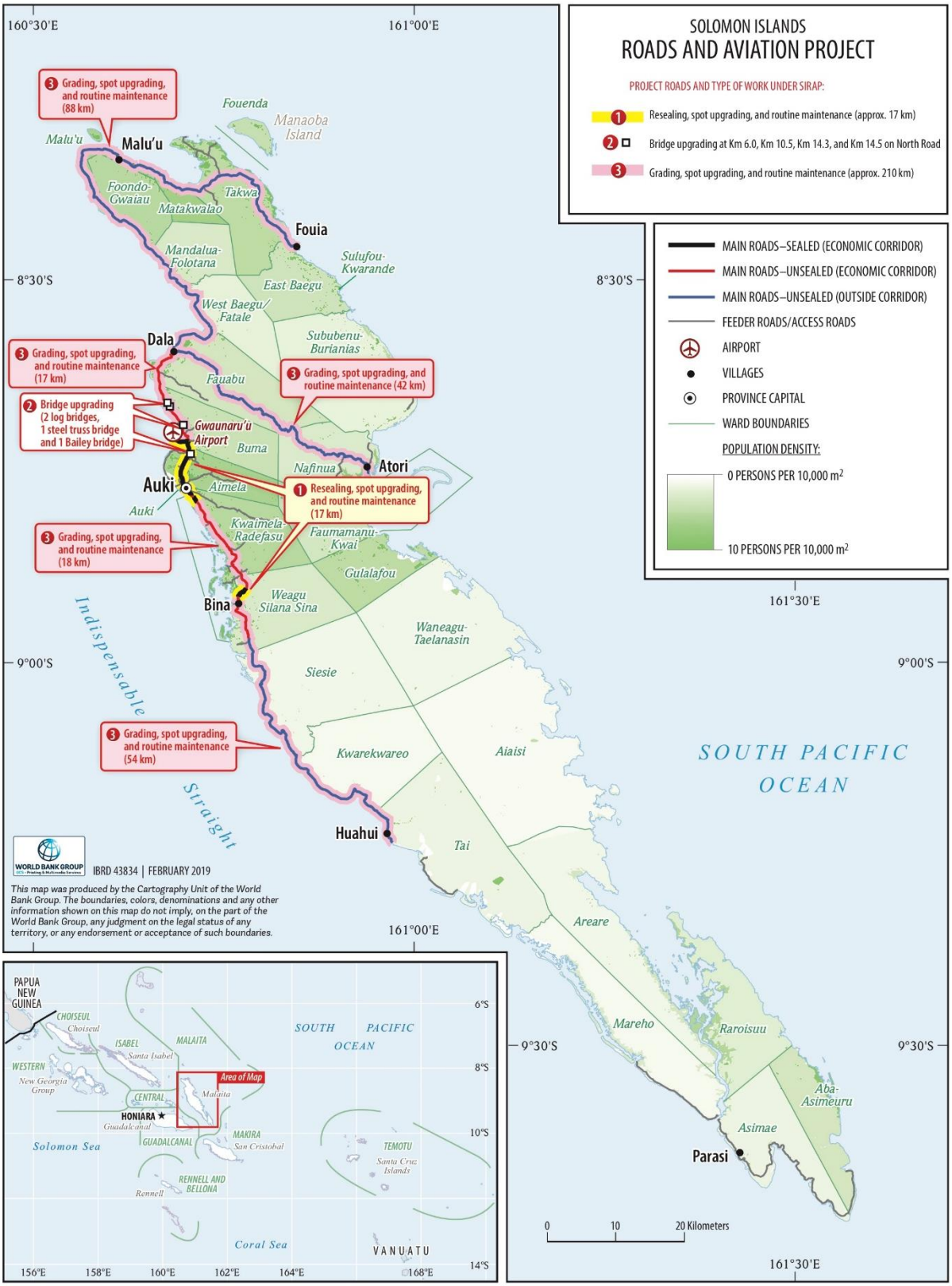
8. The Financing Agreement stipulates the establishment of adequate implementation arrangements, satisfactory to the World Bank, including staff and resources for implementation of activities under Component E: Contingent Emergency Response, to the World Bank for its review and approval. The project will prepare a CERC Project Operations Manual, with ESMF, by December 31, 2020. The manual will detail: (i) the process for triggering the CERC; (ii) the proposed emergency activities to be financed by the proceeds of the CERC; and, (iii) the coordination and implementation arrangements related to the execution of the activities.

9. At the start of project implementation, a CERC Manual will be prepared providing specific details on how the CERC will be triggered and implemented. This will be done by the PST with the support of the TFSU. This manual will emphasize the importance of addressing the risks of increased GBV and human trafficking as these cases tend to increase in a post-disaster situation. As part of the CERC Manual, a CERC-ESMF will be developed which will indicate the kinds of emergency response actions that can proceed with no additional environmental or social assessment, and which ones would require assessment (and at what level) prior to being initiated.

ANNEX 6: MAP OF SOLOMON ISLANDS WITH PROJECT SITES

COUNTRY: Solomon Islands
Solomon Islands Roads and Aviation Project




SOLOMON ISLANDS
ROADS AND AVIATION PROJECT
PROJECT ROADS AND TYPE OF WORK UNDER SIRAP:
1 Resealing, spot upgrading, and routine maintenance (approx. 17 km)
2 Bridge upgrading at Km 6.0, Km 10.5, Km 14.3, and Km 14.5 on North Road
3 Grading, spot upgrading, and routine maintenance (approx. 210 km)
MAIN ROADS–SEALED (ECONOMIC CORRIDOR)
MAIN ROADS–UNSEALED (ECONOMIC CORRIDOR)
MAIN ROADS–UNSEALED (OUTSIDE CORRIDOR)
FEEDER ROADS/ACCESS ROADS
AIRPORT
VILLAGES
PROVINCE CAPITAL
WARD BOUNDARIES
POPULATION DENSITY:
0 PERSONS PER 10,000 m2
10 PERSONS PER 10,000 m2
3 Grading, spot upgrading, and routine maintenance (88 km)
3 Grading, spot upgrading, and routine maintenance (17 km)
2 Bridge upgrading (2 log bridges, 1 steel truss bridge and 1 Bailey bridge)
3 Grading, spot upgrading, and routine maintenance (42 km)
1 Resealing, spot upgrading, and routine maintenance (17 km)
3 Grading, spot upgrading, and routine maintenance (18 km)
3 Grading, spot upgrading, and routine maintenance (54 km)
Malu'u
Dala
Gwaunaru'u Airport
Auki
Bina
Fouia
Atori
Huahui
Parasi
Fouenda
Manaoba Island
Foondo-Gwaiau
Takwa
Matakwalao
Mandalua-Folotana
Sulufou-Kwarande
East Baegu
West Baegu/Fatale
Sububenu-Burianias
Fauabu
Buma
Nafinua
Aimela
Kwaimela-Radefasu
Faumamanu-Kwai
Gulalafou
Weagu Silana Sina
Waneagu-Taelanasin
Siesie
Kwarekwareo
Aiaisi
Tai
Areare
Mareho
Raroisuu
Aba-Asimeuru
Asimae
Indispensable Straight
SOUTH PACIFIC OCEAN
0 10 20 Kilometers
160°30'E
161°00'E
161°30'E
8°30'S
9°00'S
9°30'S
WORLD BANK GROUP
IBRD 43834 | FEBRUARY 2019
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PAPUA NEW GUINEA
CHOISEUL
Choiseul
ISABEL
Santa Isabel
MALAITA
WESTERN
New Georgia Group
CENTRAL
HONIARA
Guadalcanal
Area of Map
Malaita
GUADALCANAL
MAKIRA
San Cristobal
TEMOTU
Santa Cruz Islands
RENNELL AND BELLONA
Rennell
Solomon Sea
Coral Sea
VANUATU
SOUTH PACIFIC OCEAN
6°S
8°S
10°S
14°S
156°E
158°E
160°E
162°E
164°E
168°E