



# Project Information Document (PID)

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Concept Stage | Date Prepared/Updated: 03-Apr-2020 | Report No: PIDC28576

**BASIC INFORMATION****A. Basic Project Data**

Country Micronesia, Federated States of	Project ID P172225	Parent Project ID (if any)	Project Name Federated States of Micronesia Climate Resilient Road Project (P172225)
Region EAST ASIA AND PACIFIC	Estimated Appraisal Date Nov 19, 2020	Estimated Board Date Mar 31, 2021	Practice Area (Lead) Transport
Financing Instrument Investment Project Financing	Borrower(s) Department of Finance and Administration	Implementing Agency Department of Transportation, Communication & Infrastructure Federated States of Micronesia	

**Proposed Development Objective(s)**

To improve the climate resilience of FSM's road network.

**PROJECT FINANCING DATA (US\$, Millions)****SUMMARY**

<b>Total Project Cost</b>	40.00
<b>Total Financing</b>	40.00
<b>of which IBRD/IDA</b>	40.00
<b>Financing Gap</b>	0.00

**DETAILS****World Bank Group Financing**

International Development Association (IDA)	40.00
IDA Grant	40.00



Environmental and Social Risk Classification

Substantial

Concept Review Decision

Track II-The review did authorize the preparation to continue

Other Decision (as needed)

## B. Introduction and Context

### Country Context

- 1. Geography and Demography.** The largest nation in the Micronesian sub-region, the Federated States of Micronesia (FSM), is made up of four semi-autonomous states (Kosrae, Pohnpei, Chuuk, Yap) located between Palau and the Philippines to the west, and the Republic of the Marshall Islands (RMI) to the east. Although its land area covers just 700 square kilometers, FSM consists of more than 600 islands scattered over an area of about 2.6 million square kilometers, including its Exclusive Economic Zone.<sup>1</sup>
2. As with other Small Island Developing States (SIDS) in the region, FSM faces significant challenges related to its small size, remoteness, geographical dispersion, environmental fragility and exposure to external shocks.<sup>2</sup> Frequent natural disasters and climate change impose high costs and may even threaten the physical viability of some areas of both the main islands and the more remote outer islands. Furthermore, such events cause severe damage to infrastructure and other economic assets and have adverse impacts on livelihoods. As an archipelagic nation, FSM's economy is highly dependent on marine resources for international, inter-state and inter-island trade. Citizens of outer islands depend on maritime transport for travel to main and other outlying islands, and for access to education, markets and health services. Although seven islands have airstrips, only two seven-seat planes provide domestic air service to the outer islands.
3. The overall population of FSM is estimated to be 112,640 (2018), of which approximately 45 percent live in Chuuk, 37 percent in Pohnpei, 11 percent in Yap, and 7 percent in Kosrae. Although the population declined from a high of 107,432 in CY2000 to 102,843 in CY2010, the trend stabilized in 2012, with slight annual increases continuing through to the current year.<sup>3</sup> FSM has also experienced considerable internal migration across states, mostly from outer islands to the main islands' urban areas, and especially to Pohnpei, which hosts the County's capital Palikir, as individuals are particularly drawn to employment with the National Government. Access to basic services is also generally higher in Pohnpei. Each State is diverse in terms of language, cultural norms, environmental and land tenure laws.

<sup>1</sup> An Exclusive Economic Zone is a sea zone prescribed by the United Nations Convention on the Law of the Sea (UNCLOS) over which a state has special rights regarding the exploration and use of marine resources, including energy production from water and wind.

<sup>2</sup> Systematic Country Diagnostic, Report No. 102803, World Bank, January 20, 2016.

<sup>3</sup> World Development Indicators database updated 1/15/2020.



4. FSM is reported to have the highest estimated rates of poverty among the nine small remote islands (PIC9) covered in the Regional Partnership Framework (RPF) for FY17 to FY21.<sup>4</sup> These findings are based on a household income and expenditure survey conducted in 2013/14, which found about 41 percent of FSM’s population is struggling to meet basic needs and 10 percent are living below the food poverty line. The survey also documented stark variation across FSM, with the basic needs poverty rate most severe in Chuuk (46 percent), followed by Pohnpei and Yap (39 percent), and Kosrae (21 percent).
5. **Economy and Market Considerations.** Following independence in 1986, FSM entered into a Compact of Free Association (Compact) with the United States of America (U.S.), whereby the U.S. provides yearly financial transfers to FSM and permits open migration to the U.S., among other arrangements. In 2003, certain provisions of the Compact were amended, most notably the economic provisions.<sup>5</sup> The most recent agreement not only supports Compact Sector Grants designed to help sustain the delivery of public services, but also establishes a Compact Trust Fund intended to replace the Sector Grants when they terminate in 2023. Through the Trust Fund, the Compact seeks to prepare FSM for self-sufficiency and economic sustainability post 2023. Nonetheless, it will be a major challenge for FSM to carry out requisite fiscal adjustments without reducing access to and quality of public services, especially those delivered to the poor.<sup>6</sup> In 2019 during the FSM Presidential inauguration, the United States of America (US) Secretary of State visited the FSM to announce the willingness of the US to negotiate post-2023 Compact Sector Grants continuation. In November 2019, the US conducted a Compact Listening Tour to all three Compact Countries – FSM, Marshall Islands and Palau – to hear what had and what hadn’t worked under the current Compact terms. A report on the findings of the tour is expected to be released prior to the FSMCRRP project appraisal.
6. In 2018, Gross Domestic Product (GDP) was about US\$401 million, which equates to some US\$3,568 per capita. The public sector is a major part of the FSM economy, accounting for around 32 percent of GDP and 48 percent of formal sector employment. Outside of the public sector, agriculture and fisheries are the main economic activities, contributing around 23 percent of GDP. Small scale service industries, such as wholesale and retail trade, make up the remainder of the economy. Most goods are imported and there are few exports. During 2018, FSM ran a trade deficit, with the total value of exports at around US\$143 million and the total value of imports at around US\$263 million. Fiscal policy is highly dependent on foreign aid and fiscal transfers, primarily from the U.S. via the Compact, typically for public investments, and service provision in education and health. Foreign grants have averaged 37 percent of GDP over the past decade. Under the Compact, in exchange for exclusive access to the FSM’s sovereign territory for defense purposes, among other arrangements, the U.S. provides yearly financial transfers to the FSM, access to a range of National Government services and programs, and open migration to the U.S. for FSM citizens.
7. **Natural Hazards and Climate Change in FSM.** As with other small island nations in the region, FSM faces significant challenges related to its small size, remoteness, geographical dispersion, environmental fragility and sensitivity to external shocks.<sup>7</sup> Droughts, typhoons, storm waves, flooding and landslides all affect FSM. The climate in FSM varies considerably from year to year due to the El Niño Southern Oscillation (ENSO). In Pohnpei, El Niño tends to bring drier

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4 Household income and expenditure survey, 2013/14; World Bank Group Regional Partnership Framework for Nine Pacific Island Countries, FY17-21, Report No. 120479, World Bank, 2016.

5 The FSM Congress approved the amendments on May 26, 2004 following earlier ratification by the four FSM states. On June 25, 2004, the FSM and U.S. Governments signed documents to officially implement the Compact, as amended. <http://www.uscompact.org/about/cofa.php>

6 World Bank Group Regional Partnership Framework for Nine Pacific Island Countries, FY17-21, Report No. 120479, World Bank, 2016.

7 Systematic Country Diagnostic, Report No. 102803, World Bank, January 20, 2016.



conditions during the dry season, but higher than average rainfall during the wet season, and La Niña tends to bring above average rainfall in the dry season. The West Pacific Monsoon affects the western states of Chuuk and especially Yap more than the eastern states of Pohnpei and Kosrae. The West Pacific Monsoon moves farther east during El Niño resulting in more rainfall, and to a more western position during La Niña resulting in less rainfall.

8. FSM is particularly vulnerable to the impacts of climate change and is likely to suffer serious adverse environmental, social and economic losses as a result of climate change induced hazards. For example, in 2015, Typhoon Maysak wiped out 90 percent of key agricultural crops in Chuuk and Yap, affecting 29,000 people and causing US\$8.5 million in direct damages. The population of FSM is vulnerable to storms and increased precipitations and its vast majority, located close to the coastline, is also exposed to the consequences of sea level rise and coastal erosion. The negative impacts of climate change are already evident in FSM, for instance, saltwater intrusion from rising sea levels that damage crops and contaminate freshwater supplies and increasing extreme weather events such as storm surges. In addition, as drought and sea level rise are amplified by regional ENSO processes, formerly sustainable atoll communities now rely on imported food and water during times of stress. Exacerbated by sea level rise, extreme spring tides, known in Micronesia as 'king tides', are causing intense marine inundation that damages taro beds, soil, agro-forestry resources, and critical infrastructure along the coast, especially on low atoll islets.<sup>8</sup>
9. Climate impacts all aspects of life in FSM and understanding the possible future climate of FSM is important so people and the GoFSM can plan for changes. The following projections have been gathered by the National Weather Services Offices of FSM and the Pacific-Australia Climate Change Science and Adaptation Planning Program (2015). Projections for all emissions scenarios indicate that the annual average air temperature and sea-surface temperature will increase in the future. By 2030, under a very high emissions scenario, this increase in temperature is projected to be in the range of 0.6-1.1 degrees Celsius relative to the period 1986-2005. Almost all the global climate models project an increase in average annual and seasonal rainfall over the course of the 21st century. However, there is some uncertainty in the rainfall projections and not all models show consistent results. Models generally suggest a greater increase in wet season rainfall and extreme rainfall days over FSM, and drought frequency is projected to decrease. FSM is in a region where projections tend to show a decrease in typhoon frequency by the late 21st century. Furthermore, sea level is expected to continue to rise in FSM, where by 2030 under a very high emissions scenario, this rise in sea level is projected to be in the range of 41 – 90 cm. The sea level rise combined with natural year-to-year changes will accentuate the impact of storm surges and coastal flooding.<sup>9</sup>
10. **Gender, Gender-Based Violence (GBV).** For women in FSM there are multiple barriers to having equal opportunities, as well as a life free from violence and coercion. Priority areas of the National Government of the Federated States of Micronesia (GoFSM) national gender planning include addressing female unemployment and a gender-stratified labor market, teenage pregnancy, violence against women and girls, and women's limited access to justice and protection. The labor force participation rate for women in FSM was only 48.4 per cent as of 2010, compared with 66.1 per cent for men. The number of female wage and salary earners was less than half that of males – and women comprised only 14 percent of the non-agricultural sector.<sup>10</sup> Not only are women less represented in the paid workforce, they are concentrated at the lower levels of the hierarchy, with comparatively lower pay. Participation of women at the highest levels of decision making remains very limited, and women continue to be highly under-represented at the legislative

<sup>8</sup> Climate Change in the FSM – Food and water security, climate risk management, and adaptive strategies. University of Hawaii. 2010.

<sup>9</sup> Current and future climate of the Federated States of Micronesia. Pacific-Australia Climate Change Science and Adaptation Planning Program. 2015.

<sup>10</sup> Ibid.



and executive levels of government. In addition, FSM is one of only three countries worldwide that has zero women in the National Legislature.<sup>11</sup>

11. GBV prevalence levels in FSM are significant: one in three women (32.8 percent) have experienced physical and/or sexual violence by a partner in their lifetime, and eight percent have experienced sexual abuse by someone other than a partner. Fourteen percent of women experienced sexual abuse in childhood.<sup>12</sup>

#### Sectoral and Institutional Context

12. **Land Transport Infrastructure.** FSM's road network is vulnerable to climate change induced risks such as sea level rise, intensified storm surge, increased precipitation and flooding. The road network facilitates the movement of goods and services and is therefore of critical importance to the country's economic development, as well as providing access to social services such as schools and health facilities. In addition, most of the population in FSM lives close to the coast, and critical infrastructure including roads, schools, places of employment, port facilities, tourist facilities, power plants and airports, are located primarily in the coastal zone. The road network in FSM is Government owned and maintained, and in general, there is only one primary, circumferential route on the main island of each of the four FSM states. As described in Table 1, road condition is mostly good to fair, with some sections of the network poor and very poor. Inadequate drainage and routine maintenance are the main contributors to poor condition. Since there is generally only one circumferential route per island, even a few poor or very poor sections can severely interrupt the flow of people, goods and services. Since the road network is not comprehensive (i.e. has limited to no redundancy) and is characterized by high rainfall and undulating terrain, reconstructed and rehabilitated roads should be designed, built and maintained for all year-round access.
13. As mentioned, ongoing management and maintenance of existing infrastructure is severely limited, largely attributed to a lack of proactive asset management and constrained budget allocations. Lack of preventative maintenance is expensive and can potentially put lives at risk as the deterioration of infrastructure and a reduction in service levels can reduce access to critical services (e.g. schools and, hospitals), reduce network safety and increase crashes, and prevent the further expansion of infrastructure services. In addition, it is also costly in a financial sense given preventative maintenance provides a better financial return than investments in new infrastructure.<sup>13</sup> A least-cost analysis for sealed roads in Papua New Guinea for example found that the cost to the government of maintaining the road in a useable condition under a preventative maintenance strategy is four times less than under the build-neglect-rebuild scenario.<sup>14</sup> Though the importance of preventative maintenance is known, there has been little appetite for investment to date. This compounded with the fact that the network is vulnerable to extreme weather events and climate change subjects the road network to risk of rapid deterioration. As a result, the project will implement condition based preventive maintenance and rehabilitation, which will replace the ad hoc approach that is currently in place.

<sup>11</sup> <http://archive.ipu.org/WMN-e/classif.htm>. Situation as of January 1, 2019.

<sup>12</sup> FSM Department of Health and Social Affairs (2014), Federated States of Micronesia Family Health and Safety Study: A prevalence study on violence against women.

<sup>13</sup> Infrastructure Maintenance in The Pacific - Challenging the Build-Neglect-Rebuild Paradigm. Pacific Infrastructure Advisory Centre (PIAC) 2013.

<sup>14</sup> Infrastructure Maintenance in The Pacific - Challenging the Build-Neglect-Rebuild Paradigm. Pacific Infrastructure Advisory Centre (PIAC) 2013.



Table 1 Overview of estimated FSM primary road network length and condition

State	Unsealed	Sealed	Condition	Primary climate hazard
Pohnpei	0km	100km asphalt	Roads are generally in good and fair condition, with a cautious estimate of approximately 15 percent of the road network poor and very poor. The road cross-section is very flat and side drainage is regularly missing or inadequate, leading to standing or running water on the road surface. One bridge is in unsafe condition and weight limit / closure is being considered by GoFSM.	Road surface and pavement damage from a lack of drainage.
Kosrae	0km	35km asphalt	Roads are generally in fair to good condition. There is no evidence of side drainage, but roads tend to have cross-fall such that run off drains acceptably on both sides. The Lelu causeway was constructed 50 years ago, is very narrow, is low level, has insufficient drainage, and is suffering from erosion and scouring from tidal action. <sup>15</sup> Bridges are generally in good condition.	The network is mostly very close to the shore and is low lying.
Chuuk (Weno Island)	5km	10km asphalt, 5km concrete	Concrete roads are recently built (between 2015 and 2017) and in very good condition, whilst asphalt roads are relatively old and in generally very poor condition. Bridges are generally in good condition.	Coastal and rainfall related, depending on location.
Yap	10km	40km asphalt, 10km double seal	Roads are generally in good condition in large part due to very good drainage. Three bridges are in unsafe condition and weight limit / closure is being considered by GoFSM.	Coastal and rainfall related, depending on location.

14. **Institutions and Functions.** Within the National Government, DoTC&I has the responsibility for the delivery of infrastructure, including Amended Compact projects, and similar authorities deliver infrastructure at the State level.<sup>16</sup> Funding for road maintenance and capital road works is allocated annually by the National Government to State Governments. FSM has established a Central Implementation Unit (CIU) within the National Government Department of Finance and Administration (DoFA), to support all World Bank-financed projects, including environmental and social management, procurement and financial management support for project readiness. DoTC&I has a project management unit (PMU) that has responsibility for all Compact-funded infrastructure projects and for Overseas Development Assistance (ODA)-funded infrastructure projects (World Bank, Asian Development Bank (ADB), United States Federal Aviation Administration, United Nations) except energy (managed by the Department of Resources and Development) and telecommunications (managed by the DTC&I Communications Division). The primary focus of the PMU is on program management, with day to day project management tasks devolved either to project implementation units (PIUs) for ODA-projects.

<sup>15</sup> Lelu is the most populated area in Kosrae but is an island whose only land link to the main island is the causeway.

<sup>16</sup> (a) Pohnpei – State Office of Transport and Infrastructure; (b) Kosrae – Department of Transport and Infrastructure; (c) Chuuk – Department of Transport and Public Works; and, (d) Yap – Department of Public Works and Transport.



15. **Maintenance and Asset Management.** The remote geographical setting of FSM, increasingly harsh climatic conditions, the small populations of states, and unavailability of materials and equipment, all combine to make maintenance and management of infrastructure assets, and road sector assets in particular a major challenge. Road works are constructed by a mix of actors including state-owned enterprise, state road agency force account, as well as state-based and international private contractors. Like many SIDS, the development of the private contracting industry is curtailed primarily by a lack of reliable and sufficient funding for major works and maintenance. Force account is the primary mechanism used for routine and periodic maintenance. The World Bank November 2019 road inspections showed, and this was confirmed by the respective State transport departments, that routine and periodic maintenance of the primary road network is ad hoc at best, and non-existent at worst. Only Kosrae has an inventory of its network drainage assets, and no state has an active network management system due to a lack of sufficient funding.
16. The primary road networks in FSM were originally asphalt-surfaced decades ago, with varying approaches to routine and periodic maintenance in each state:
- (a) **Pohnpei** – the Pohnpei Transportation Authority (PTA) is a state-owned enterprise that is responsible for road maintenance and management. It owns an asphalt plant, and aggregate is available from local quarries, so it has capacity, but lack of funding limits its ability to undertake routine maintenance of the network, or periodic maintenance through resurfacing.
  - (b) **Kosrae** – the original asphalt surface has been resurfaced on occasion with double seal surface dressing, with imported materials and equipment and international contractor, but routine maintenance is limited to pothole patching by force account or using local contractors.
  - (c) **Yap** – a donor-funded project has rehabilitated an asphalt surfaced part of the network, but the routine maintenance is done by force account. There is a privately-owned asphalt plant on the island but for a major periodic maintenance intervention, all materials and equipment would need to be imported.
  - (d) **Chuuk** – the original asphalt surfaced network has all but disappeared through lack of maintenance and all recent road reconstruction is in concrete, either through local or international contractors. A local quarry provides concrete aggregate.
17. The sustainability of road assets reconstructed or improved under this project will clearly be a major challenge and will need to be enhanced through:
- (a) careful design and specification of the road and bridge sub-projects that will minimize routine maintenance – e.g. use of rigid pavements<sup>17</sup> and surfacing where appropriate, raised design standards for pavement, surfacing and drainage;
  - (b) development and establishment of simple asset management systems at national and state level, combined with provision of condition data and traffic measuring tools, to enable the works department to monitor road condition, prepare effective annual work plans, and submit accurate annual maintenance budgets to state and national parliaments;
  - (c) training and capacity building for technical and managerial staff at state and national level implementing institutions covering the operation of the asset management systems and effective routine and periodic maintenance methodologies for the assets being managed; and

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<sup>17</sup> A recent World Bank study has found that there is substantial promise for concrete pavements to be used for low-volume (<400 vehicles a day) roads in Pacific Island Countries. The report considers the strengths, weaknesses, and operations and maintenance implications of four different types of concrete pavement. Refer to Johnson, Sam; Faiz, Asif; Visser, Alex. *Concrete Pavements for Climate Resilient Low-Volume Roads in Pacific Island Countries*. 2019. World Bank.





- (d) awareness building among decision-makers on understanding critical importance of providing sufficient and predictable annual funding for routine and periodic maintenance, to avoid the premature deterioration of valuable assets.

#### Relationship to CPF

- 18. The proposed FSMCRRP is closely aligned with the World Bank Group's twin goals of ending extreme poverty and boosting shared prosperity. The Project will improve climate resilience and facilitate year-round access, which is important for poverty alleviation given the evidence of a strong relationship between extreme poverty and lack of accessibility and mobility.
- 19. The World Bank Group Regional Partnership Framework (RPF) for FY17 to FY21 covers nine small Pacific Island Countries (PIC9)<sup>18</sup>, including FSM. The RPF identifies four areas of focus for these PIC9 as: (i) fully exploiting the available economic opportunities; (ii) enhancing access to economic opportunities for all; (iii) protecting incomes and livelihoods; and, (iv) strengthening the enablers of growth and opportunities (macro-economic management, infrastructure and addressing knowledge gaps). Investments in the road sector will help build resilience to extreme weather events and improve the reliability of the network. The proposed activities included within FSMCRRP will contribute to enhancing access to employment opportunities and social services, which will help protect incomes and allow people to exploit available economic opportunities.
- 20. Furthermore, investments and policy reforms to improve transport infrastructure are recognized as important National and State government priorities. The strategies and prioritizations of the FSM Strategic Development Plan (2004-2023) and FSM Infrastructure Development Plan FY2016-FY2025 have been considered in the design of this project.

### C. Proposed Development Objective(s)

- 21. To improve the climate resilience of FSM's road network.

#### Key Results (From PCN)

- 22. Progress will be measured against the following PDO-level results indicators:
  - (a) Identified planning tools adopted and being used to improve climate resilience of roads (Number);
  - (b) Length of road upgraded with climate resilience measures (Kilometers);
  - (c) Number of bridges reconstructed or rehabilitated with climate resilience measures (Number); and,
  - (d) Identified enabling environment solutions adopted and implemented (Number).
- 23. **Project Beneficiaries.** The entire FSM population of 112,640 (2018) are regarded as beneficiaries of this project. The physical improvements to the primary road networks and the robust package of technical assistance supporting all states will make road travel safer and more reliable for all road users.

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<sup>18</sup> Kiribati, Republic of Nauru, RMI, FSM, Republic of Palau, Independent State of Samoa, Kingdom of Tonga, Tuvalu and Vanuatu; Regional Partnership Framework FY17-21, Report No. 120479, World Bank, 2016.



#### D. Concept Description

24. **Pacific Climate Resilient Transport Program (PC RTP) Series of Projects (SOP).** FSMCRRP will be included within PC RTP, which has four broad pillars that focus on increasing resilience in the transport sector through: (i) utilizing spatial and sector planning tools; (ii) investing in climate resilient infrastructure; (iii) strengthening the enabling environment; and, (iv) supporting post-disaster recovery. The activities proposed under FSMCRRP are aligned with these four broad pillars of support. The value of the programmatic approach is that it will support the systematic improvement of resilience across the countries included within the program to address commonly shared issues. In addition, the program offers a multi-pronged approach to support FSM through considering risks in a holistic manner, through the integration of resilient transport interventions into decision-making and implementation.
25. **Project Components.** The proposed PDO is to be achieved through the following proposed Components:
26. **Component 1: Spatial and Sector Planning Tools.** This Component involves technical assistance that will directly support FSM by bringing about transformative change in the way that climate change is addressed in the road sector. A key activity is the preparation and implementation of a Vulnerability Assessment and Climate Resilient Road Strategy to assess levels of vulnerability to climate change and severe weather events (e.g. sea-level rise, extreme rainfall, landslide, storm surge, etc.) across the road network in FSM and to identify measures to enhance resilience and prioritize investments to balance vulnerability reduction against cost implication. This component will also include: (i) establishment and operation of new fit-for-purpose road asset management systems<sup>19</sup> that consider climate factors; (ii) road survey planning tools; and, (iii) training on these tools.
27. **Component 2: Climate Resilient Infrastructure Solutions.** This Component involves feasibility studies, design and construction of identified priority road assets to improve their resilience to climate-related hazards and/or events. The integration of climate change considerations into infrastructure activities will help strengthen the resilience of assets and improve functionality of the road network. Component 2 is split into two parts:
- **Sub-component 2.1:** Critical climate resilient road, bridge or drainage improvement works that should be implemented urgently to maintain a basic level of land transport connectivity in each state. Urgent works proposed for financing under the Project include: (i) improving the narrow, low-level Lelu causeway in Kosrae; (ii) replacing the 12-meter Awak bridge in Pohnpei; (iii) improving the 2.5-kilometer airport to Pou Bay bridge road in Chuuk; and, (iv) replacing two short-span (6-meter-long) steel and concrete composite bridges in Yap.
  - **Sub-component 2.2:** In addition to the urgent priorities under Sub-component 2.1, a selection of near, medium and long-term road works would be financed to enhance the resilience of the network in each state to climate change impacts and natural hazards, as guided by the Vulnerability Assessment and Climate Resilient Road Strategy undertaken as part of Component 1. Works will be restricted to primary road networks within the existing legal road easements. Interventions will include measures to strengthen network resilience including but not necessarily limited to: pavement strengthening, drainage improvements, spot slope stabilization, rock wall revetment strengthening, improvements to causeways and bridges. It is expected that physical works will not commence until year 2 of the project.

<sup>19</sup> No state has an active network management system.



28. **Component 3: Strengthening the Enabling Environment.** This Component will provide funding to support institutional and regulatory reforms for road sector asset management and maintenance, including measures to strengthen local capacity and to increase the sustainability of climate resilient road sector investments. In addition, this Component will help to strengthen coordination among relevant institutions, will look at ways in which road sector management can be improved, and will address any emerging priority issues that can help support the Government in addressing climate change risks.
29. **Contingent Emergency Response.** Typically, PC RTP projects include a *Contingency Emergency Response Component (CERC)*, which allows the Government to request the World Bank to re-allocate uncommitted Project funds to support emergency response and reconstruction after an eligible crisis or emergency. However, GoFSM recently adopted a CERC through the MIMIP project, and as such the Government has not requested an additional one at this time, and PC RTP was designed for flexibility to consider situations where clients may already have activities like this in place.
30. **GoFSM Programmatic Preparation Advance (PPA).** FSM has an existing PPA that covers the following preparation activities:
- (a) Carrying out of activities necessary for the identification of the pipeline of projects;
  - (b) Conducting of reviews, studies and analyses to identify Project designs;
  - (c) Carrying out of activities to identify and establish the implementation and institutional arrangements necessary for World Bank Projects;
  - (d) Supporting the engagement and consultations with relevant stakeholders at the national and state levels on the scope and design of the Projects; and,
  - (e) Carrying out of other activities related to the preparation and implementation-readiness of the World Bank Projects, including, but not limited to, travel and hiring of consultants and experts with qualifications, experience and under terms of reference acceptable to the World Bank to support preparatory activities.
31. PPA expenditures will be refinanced from the FSMCRRP once it is approved and effective. Under FSMCRRP it is proposed to finance key preparatory and project readiness activities under the PPA including, but not necessarily limited to:
- (a) Preparation of the Vulnerability Assessment and Climate Resilient Road Strategy;
  - (b) Preparation of the environmental and social documentation and pre-appraisal stakeholder consultations;
  - (c) Hiring of a Project Manager;
  - (d) Design services for the urgent road works under sub-component 2.1;
  - (e) Road safety audits; and
  - (f) Limited resources for travel expenses to enable the national and state governments to collaboratively prepare the project are also available under the PPA.
32. **Climate Co-Benefits.** As described, FSM and its road transport sector are vulnerable to climate change induced risks such as sea level rise, intensified storm surge, increased precipitation and flooding. The Climate and Disaster Risk Screening project shows that the road sector overall and the targeted infrastructure is highly exposed and sensitive to climatic hazards. Due to limited institutional capacity and budgetary resources, GoFSM's adaptive capacity to these risks are constrained. FSMCRRP aims to improve the physical resilience of road infrastructure on state road networks and assist in developing a long-term climate resilient road asset strategy that will trigger transformative changes to the



road sector. Climate adaptation Co-Benefits from this project are expected to be significant – Component 1 will strengthen GoFSM’s technical capacity of utilizing spatial planning tools to detect climate vulnerability of road assets and informing adaptive sectoral planning. Component 2 will improve the climate resilience of road elements including roads, causeways, bridges and drainage. Component 3 will improve asset management and road maintenance, which are important enablers to a more climate resilient roads sector.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

33. **The overall environmental risk is assessed as Substantial.** The main environmental risks and impacts are related to road construction and maintenance activities and include the management of waste and erosion and sedimentation from earthworks, especially those near waterways or other sensitive environments. These risks and impacts can be readily managed through standard mitigation measures. Transport impacts associated with heavy vehicles along haul routes are noise, dust, road safety and road surface condition and can be managed through the establishment of a robust Traffic Management Plan (TMP), incorporated into Contractors’ Environmental and Social Management Plans (ESMPs). Off-site activities include quarrying and asphalt plant operations, which if not managed properly, may cause localized adverse impacts. Environmental assessments and due diligence will be carried out on all sources of aggregates (local or imported). Since not all activities will be defined during project preparation, an Environmental and Social Management Framework (ESMF) will be prepared to describe the risk screening process and preparation of instruments during project implementation. For the priority activities that have been identified, environmental and social assessments will be undertaken, and Environmental and Social Management Plans (ESMPs) prepared.

34. **The overall social risk is assessed as Substantial.** Social risks and impacts relating to road construction and maintenance activities include the health and safety risks for workers and the community (noise, dust, traffic), the management of temporary foreign work forces and the risk of increased gender based violence through sexual exploitation and trafficking, and resettlement impacts for private structures and assets that have encroached into the road reserve. These risks can be managed through effective codes of practice for road works, training of workers, and good supervision of mitigation measures. Early engagement with land owners, local communities, vulnerable groups and their traditional or local leaders (including indigenous groups) will be critical to ensuring agreement to the removal of property encroaching in project works areas. The design of road improvements can also prioritise works within the existing easements and minimize the loss of private property, where technically feasible. For priority activities identified during project preparation land-related impacts will be assessed and site specific Resettlement Action Plans will be prepared if necessary which will include guidelines on the application of Voluntary Land Donation. A Labor Management Procedure (LMP), Stakeholder Engagement Plan (SEP) including GRM, and a Land Due Diligence Assessment will be prepared prior to appraisal.



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