



Federated States of Micronesia INFRASTRUCTURE DEVELOPMENT PLAN FY2016-FY2025

Prepared by:

Department of Transportation, Communication & Infrastructure

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Introduction

This Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 comprises the following:

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The following Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 documents are available:

- Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025** (all parts)
- FSM Infrastructure Development Plan FY2016-FY2025 Outline** (Introduction, Volume 1 & Annexes)
- National Infrastructure Development Plan FY2016-FY2025** (Volume 2)
- Chuuk State Infrastructure Development Plan FY2016-FY2025** (Volume 3)
- Kosrae State Infrastructure Development Plan FY2016-FY2025** (Volume 4)
- Pohnpei State Infrastructure Development Plan FY2016-FY2025** (Volume 5)
- Yap State Infrastructure Development Plan FY2016-FY2025** (Volume 6)
- FSM Infrastructure Development Plan FY2016-FY2025 Summary** (abbreviated outline and listings of projects)



The President
Palikir, Pohnpei
Federated States of Micronesia

Foreword

As the 8th President of the Federated States of Micronesia I am pleased to present to you an update of our Infrastructure Development Plan for the period FY2016 – FY2025. This ranks with the most important and significant plans of the last 10 years for FSM as a nation.

The key for me is that this Plan presents a truly collaborative approach to infrastructure development for our country. As well as setting out the case for developing infrastructure across the FSM, it documents the priority projects in stand-alone State Plans providing a direct connection to communities and their needs.



I particularly welcome the inclusion of projects directly linked to climate change adaptation – these are important first steps to a mainstream infrastructure adaptation program in future Plans. FSM citizens can also look forward to schools, hospitals, roads and other facilities that are kept in better condition as we improve the way we manage our infrastructure over its life.

A realistic level of funding is included in the Plan, representing 70 percent of FSM’s infrastructure needs over 10 years. This sets the challenge for the FSM governments and our development partners to work together to close the funding gap, beginning with the Development Partners Forum that we will convene in 2016.

Finally I recognize the considerable effort that has gone into the Plan from State Infrastructure Planning and Implementation Committees and the State Executives. The assistance of the Asian Development Bank is also acknowledged for providing the technical assistance team that supported the Plan development.

I commend this Infrastructure Development Plan to the people of FSM, at home and abroad, and look forward to the support of our development partners as we begin the challenge of delivering on our vision.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter M. Christian".

Peter M. Christian

President of the Federated States of Micronesia

Executive Summary

Plan Investments

This Infrastructure Development Plan for the Governments of the Federated States of Micronesia was prepared by the Department of Transportation, Communication and Infrastructure in consultation with the States of Chuuk, Kosrae, Pohnpei and Yap. The Plan covers the infrastructure in ten sectors: electric power, water/wastewater systems, solid waste management, road and pedestrian facilities, maritime transportation, air transportation, telecommunications, education, health and government administrative buildings.

The priority infrastructure development projects that make up the majority of the Plan have been identified and prioritized by each of the governments through a structured and transparent process to produce project listings that best meet their development needs over the next 10 years. This included assessing the priority development projects against nine strategic objectives to ensure that they make a strong contribution to one or more of the objectives associated with the FSM's economic development, social development, environment and institutional capacity.

The priority infrastructure development projects in the ten sectors at National and State level plus project management costs, institutional projects and infrastructure maintenance represent a total investment of \$1,082 million over the 10-year Plan period. For the first time a project specifically targeted at cross-sector climate change adaptation is included. This project in Yap will be followed in the future by similar projects identified through the Joint National/State Action Plan processes that are now coming on-line across the FSM.

The Plan incorporates the following investments by sector and by government:

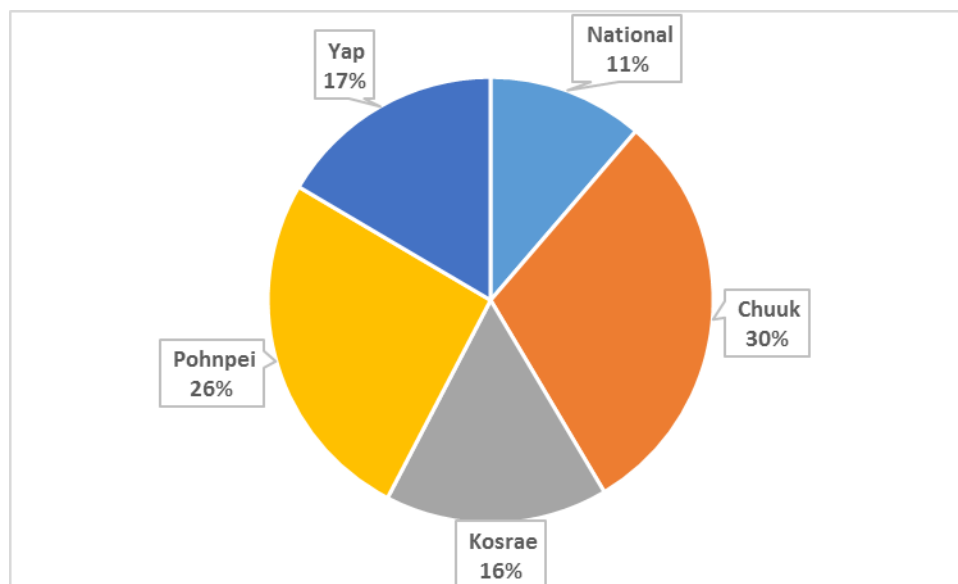
Infrastructure Sector	Planned Infrastructure Investment (\$ millions)					
	National	Chuuk	Kosrae	Pohnpei	Yap	All
Electric Power	-	7.8	17.6	62.6	7.1	95.1
Water/Wastewater Systems	-	7.0	14.6	35.7	16.8	74.1
Solid Waste Management	-	3.5	0.3	4.5	3.7	12.0
Road and Pedestrian Facilities	-	95.0	51.0	45.0	18.1	209.0
Maritime Transportation	-	8.5	21.6	6.7	41.9	78.7
Air Transportation	0.5	34.2	31.0	0.6	32.8	99.1
Telecommunications	13.4	-	-	-	-	13.4
Education	69.3	44.7	3.0	73.1	15.7	205.8
Health	-	73.0	18.5	15.3	1.7	108.5
Government Administrative Buildings	28.1	-	1.1	5.2	16.9	51.3
Climate Change Adaptation	-	-	-	-	4.0	4.0
Program Management	7.5	10.0	4.0	5.0	4.0	30.5
Development Subtotal:	118.7	283.7	162.7	253.8	162.4	981.4
Institutional	2.4	2.0	-	-	-	4.4
Infrastructure Maintenance	1.2	40.6	12.6	25.5	16.3	96.2
Total Infrastructure Investment:	122.3	326.3	175.3	279.3	178.7	1,082.0

Implementation has been planned over three periods; Period 1: FY2016 to FY2019, Period 2: FY2020 to FY2023, Period 3: FY2023 to FY2025. Appropriation of all Amended Compact funding arrears is included in Period 1. The proposed sources of funding for the FSM’s 10 year infrastructure investment program by implementation period are outlined in the following table:

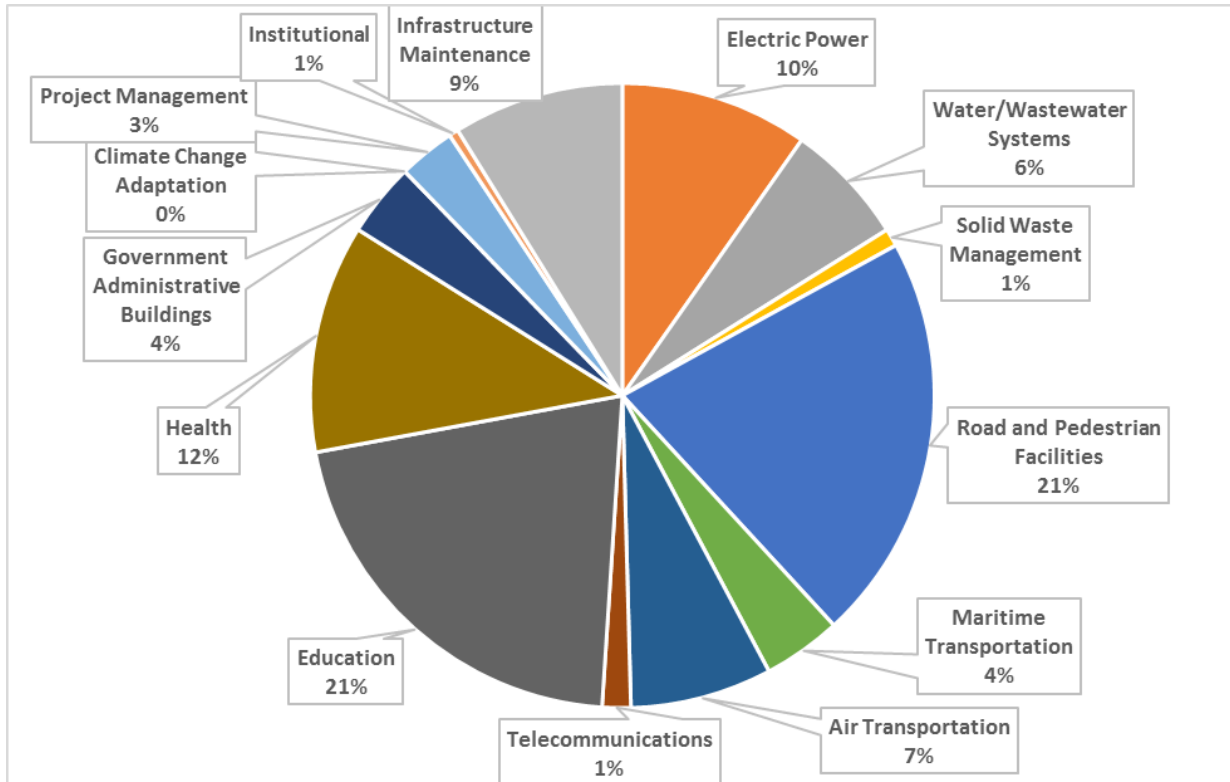
Infrastructure Investment Funding Source	Funding Amount (\$ millions)			
	FY2016 FY2019	FY2020 FY2022	FY2023 FY2025	FY2016 FY2025
FSM National Government	77.2	48.9	48.9	175.0
FSM State Governments (matching maintenance funds)	4.8	3.6	2.4	10.8
Bilateral Development Partners				
Amended Compact	207.4	71.7	23.8	302.9
Compact Trust Fund			24.5	24.5
US Federal Agencies	27.0			27.0
European Union	16.5	8.7	10.8	36.0
Japan	20.0	15.0	15.0	50.0
PR China	24.4	15.0	15.0	54.4
UN Climate Adaptation Funds	7.2	11.8	12.0	31.0
Multilateral Development Partners				0.0
Asian Development Bank	17.0	16.5	16.5	50.0
World Bank Group		10.5	10.5	21.0
Total:	401.5	201.7	179.4	782.6

The following charts illustrate the infrastructure investments by sector/activity and by government, as well as infrastructure funding by source.

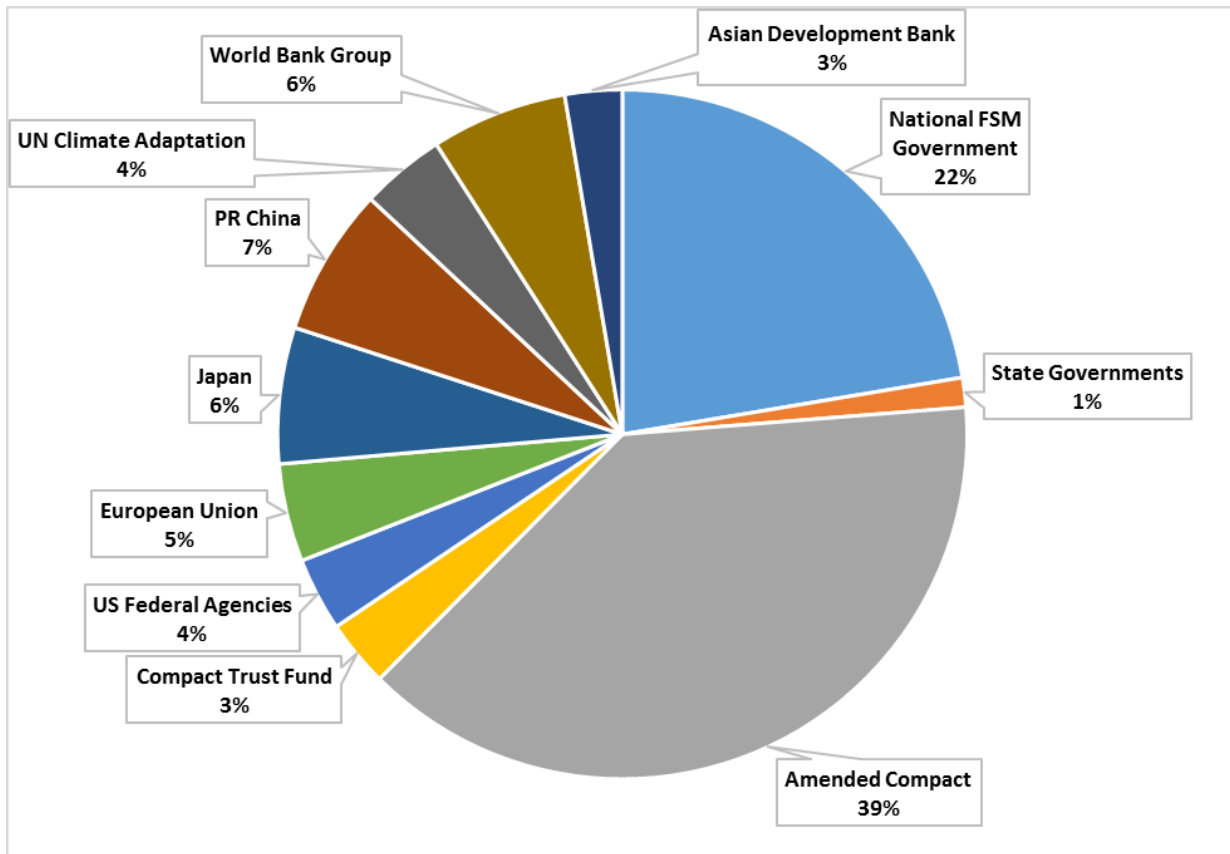
Infrastructure Investments by Government



Infrastructure Investment by Sector and Activity



Infrastructure Funding by Source



Plan Implementation

Accountability for implementing the Plan at State level will lie with the Infrastructure Planning and Implementation Committees that were established more than 10 years ago. An important improvement in this Plan is the establishment of a Project Management Office in each State, responsible to the Committee for the day-to-day planning and implementation of projects, initially on Amended Compact funded projects and progressively for the projects funded from other sources.

At National level the Department of Transportation, Communication and Infrastructure will assume the overall program coordination role, supported by the Program Management Unit, and will work closely with the Departments of Finance and Administration and Foreign Affairs as the interfaces with bilateral and multilateral development partners.

With a number of projects having already been designed under the initial 2004 Infrastructure Development Plan, implementation of this Plan will begin immediately.

Acronyms & Abbreviations

ADB	Asian Development Bank	JEMCO	Joint Economic Management Committee
ADF	ADB Asian Development Fund	JICA	Japanese International Cooperation Agency
AIP	FAA Airport Improvement Program	JNAP	Joint National Action Plan
Amended Compact	Amended Compact of Free Association	JSAP	Joint State Action Plan
CC	Climate Change	KIPIC	Kosrae Infrastructure Policy Implementation Committee
CMD	Compact Management Division	KSDP	Kosrae Strategic Development Plan
Compact	Compact of Free Association	KUA	Kosrae Utilities Authority
COM	College of Micronesia	OCR	Ordinary Capital Resources
CPUC	Chuuk Public Utility Corporation	ODA	Overseas Development Assistance
CTF	Compact Trust Fund	ODAD	Overseas Development Assistance Division
DFA	Department of Foreign Affairs	OEEM	Office of Environment and Emergency Management
DOI	US Department of Interior	OIA	Office of International Affairs
DRD	Department of Resources and Development	O&M	Operations and Maintenance Plan
DTCI	Department of Transportation, Communication and Infrastructure	PMO	Project Management Office
EDF	European Development Fund	PMU	Program Management Unit
EIA	Environmental Impact Assessment	PSDP	Pohnpei Strategic Development Plan
ENSO	El Niño-Southern Oscillation	PUC	Pohnpei Utilities Corporation
EU	European Union	RUS	USDA Rural Utilities Service
FAA	US Federal Aviation Administration	SDC	Sustainable Development Council
FSM	Federated States of Micronesia	SDP	Strategic Development Plan (2004 – 2023): Achieving Economic Growth and Self-Reliance
FSMTC	FSM Telecommunications Corporation	SPC	Secretariat of the Pacific Communities
FY	Financial Year (1 October to 30 September)	UNFCCC	United Nations Framework Convention on Climate Change
GDP	Gross Domestic Product	USDA	US Department of Agriculture
ICT	Information and Communication Technology	US	United States of America
IDP	Infrastructure Development Plan FY2016 – FY2025	YSPSC	Yap State Public Service Corporation
IDP 2004	Infrastructure Development Plan FY2004 – FY2023		
IMF	Infrastructure Maintenance Fund		
IPIC	Infrastructure Planning and Implementation Committee		

Volume 1 Plan Outline

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Part 1 Context

1.1 Country Information

1.1.1 General and Demographic information

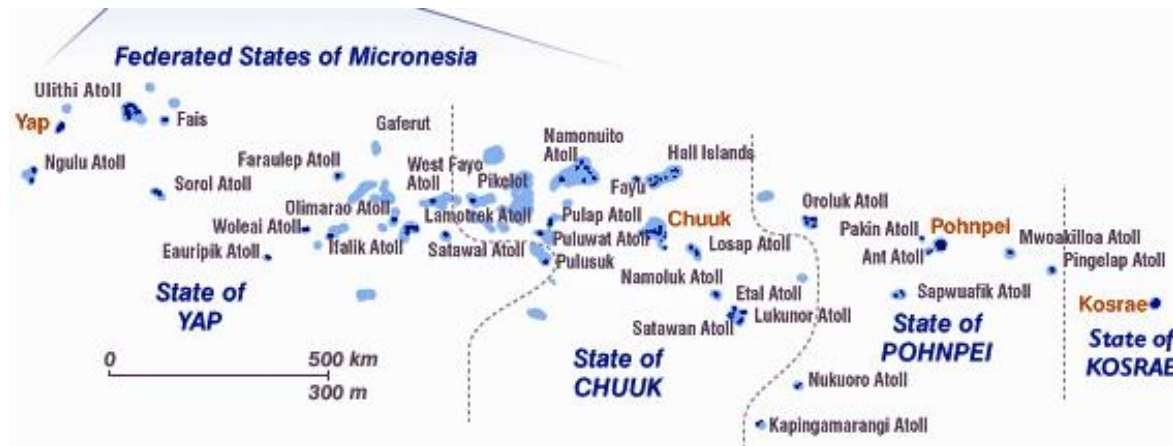
The Federated States of Micronesia (FSM) is a sovereign country comprised of 607 small islands spread over more than one million square miles of ocean in the Western Pacific. Only 67 of the islands are inhabited. Total land mass area is small, amounting to 270.8 square miles, with only 6 percent of the land arable. The other two Compact of Free Association nations are its closest neighbors, Marshall Islands to the northeast and Palau to the west. North of the FSM lie the United States territories of Guam and the Northern Mariana Islands.

The FSM's population is predominately Micronesian and comprised of eight major ethnolinguistic groups and numerous spoken dialects. Each state has its own languages, culture, local government, and traditional systems. With such diversity, English is the country's official language of government (although less so at the state or municipal levels), and for secondary and tertiary education. Communal values influence politics, daily business and personal transactions in both direct and indirect ways.

Twenty-two percent of all inhabitants live in "urban" town areas but may own property elsewhere in their respective states.

Land is part of family trusts that pass down land use rights, surface and subsurface, from generation to generation within the extended matrilineal family system. Clans hold many parcels, leading to fractional ownership and uncertain boundaries and titles. By Constitution, only citizens can own land. Domestic corporations that have non-citizen shareholders may not own land.

Figure 1 – Map of the Federated States of Micronesia



At the time of the 2010 census FSM had a population of 102,843 comprised of: Yap 11,377, Chuuk 48,654, Pohnpei 36,196 and Kosrae 6,616. This population count was a decline of 4,344 persons (-4.1 percent) relative to the 2000 census total. At the state level between 2000 and 2010, Chuuk and Kosrae had negative growth while in Pohnpei and Yap the rate of growth was positive but very low at 0.4 percent and 0.1 percent respectively. Out-migration to the United States and other parts of Micronesia is the primary cause of the overall decline in population with a reducing fertility rate also contributing.

Long-range population projections suggest a continuation of little or no population growth for the foreseeable future. Projections to 2030 suggest no population growth from 2010 and less than 10percent total growth up to 2050. The level of urbanization in FSM remains relatively low at 22

percent¹. Most people live a rural lifestyle largely dependent on their gardens and fishing for daily food requirements, although imported food is an increasing part of the diet. People are attracted to urban centers for incomes directly or indirectly derived from offshore transfers in the form of grants from the United States (US) and other donors.

Based on a 2008 poverty assessment², 11 percent of the population suffered from food poverty, while 29.9 percent of the population suffered from basic needs poverty. The opportunities for income generation are limited, especially in the rural parts of the country. With the stagnation of real incomes since 2005 accentuated by sharp decreases in gross domestic product (GDP) since 2012, poverty will have worsened.

1.1.2 Government Framework

The Constitution of the FSM provides for three separate branches of government at the national level similar to those of the U.S. The National Congress, however, is unicameral. It has four at-large senators, one from each state that serves four years, and ten senators who have two-year terms. The President and Vice President are senators at-large elected by Congress rather than by popular vote. The last Congressional election for four-year terms was in March 2015. The 19th FSM Congress elected Pohnpei's Peter M. Christian to be the eighth President of the Federated States of Micronesia.

The nation itself is a loose federation. State affiliation tends to overshadow national identity.

The FSM Constitution limits the FSM national government's (executive branch) power and confers "residual powers" to the states, necessitating a complex and lengthy consultative process before the implementation of new national policies, regulations and programs.

1.1.3 Compact of Free Association

In 1986 FSM entered into a Compact of Free Association (Compact) with the US. FSM has full control over all aspects of domestic and foreign policy, with the exception of defense and security issues for which the United States is responsible. The Compact also affords the US defense and operating rights in FSM and grants FSM citizens access to US federal programs and favorable provisions for travelling to and working in the US.

A second Compact agreement, the Amended Compact of Free Association (Amended Compact), came into effect in 2004 and provides \$1.8 billion of funding over twenty years, including contributions to a Compact Trust Fund (CTF) intended to replace the direct financial assistance that concludes in 2023.

1.2 Economic and Strategic Planning

1.2.1 The Economy

The FSM economy has languished over the last decade and real GDP growth has averaged -0.4 percent. This has resulted in declining living standards and contributed to net outward migration. An ongoing excess of imports over exports sees a continuing deficit in the trading account of the balance of payments. The economy is firmly tied to overseas aid which is significant relative to domestic revenues at the State level and is dominated by funding coming from the Amended Compact.

Most recently the March 2012 JEMCO resolution that no further Amended Compact infrastructure grants will be made until the IDP 2004 is updated has led to a decline in construction activity of 26 percent in FY2013 followed by 41 percent in FY2014. Along with a 15 percent decline in domestic fisheries in 2013 this has contributed to the worst period of economic performance since the start of Amended Compact

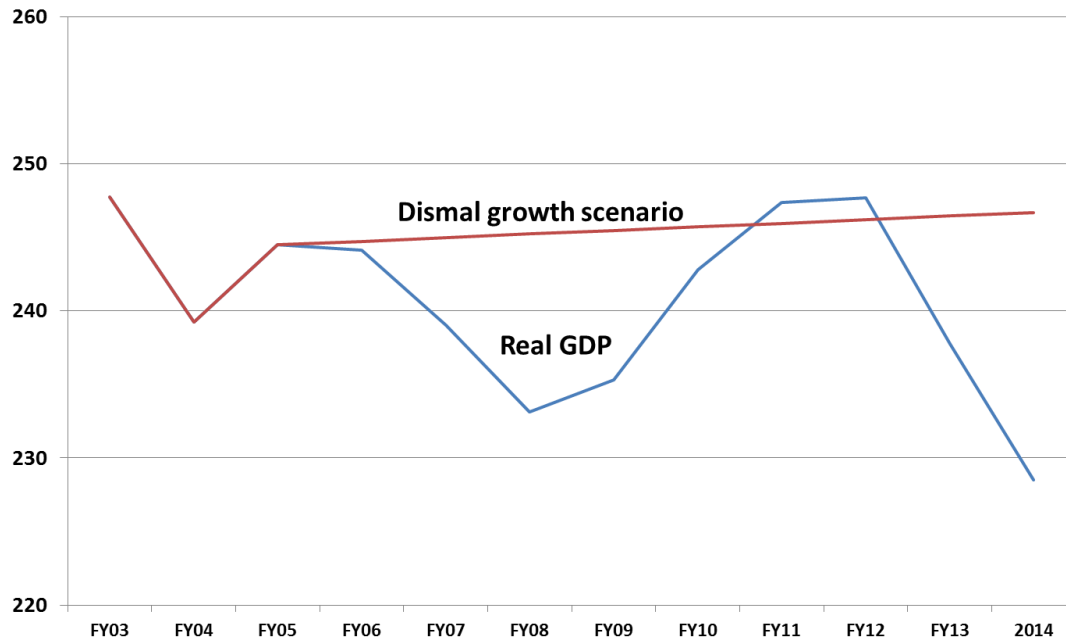
¹ (Jones, 2011) - The State of Pacific Towns and Cities

² (World Bank, 2014) - International Development Association and International Finance Corporation Country Partnership Strategy for the Federated States Of Micronesia for the period FY2014 – 2017

in FY2004 with sharp contractions in GDP of -3.6 percent in FY2013 followed by -3.4 percent in FY2014 as illustrated in Figure 2.

At the end of FY2015 there is \$111.3 million in unallocated Amended Compact infrastructure funds. Obtaining the release of these funds is critical to restoring construction activity and getting GDP out of negative growth. Infrastructure development will contribute to significant improvement in GDP with the availability of Amended Compact arrears and annual appropriations over the next four years.

Figure 2 – Real GDP Levels (\$ millions)



Source: CMD presentation to JEMCO, August 2015 – “Dismal growth scenario” was the lowest forecast growth scenario in the SDP

In view of past economic performance and the end of Amended Compact grants in 2023 the FSM governments developed an economic growth strategy, the **2023 Action Plan** (section 1.2.3), the aim of which is to ensure that the transition from Amended Compact grants to CTF revenue does not threaten service delivery. The thrust of the plan is to grow the economy by strengthening the private sector while lessening the dependence on the public sector. The overall target of 2 percent per annum economic growth is dependent on reforming structure, tax and public administration. The economic growth target also requires improved performance in six key areas: tourism, agriculture, fisheries, energy, information and communication, and infrastructure.

Expanding public infrastructure will add to the productive capacity of the economy in the longer term and in the short term create jobs. To facilitate this a key component of the 2023 Action Plan is to accelerate appropriation of the Amended Compact infrastructure arrears of \$111.3 million over four years (FY2016 to FY2019). Together with the renewed flow of annual Amended Compact infrastructure funds, this will provide a \$207.4 million boost to the construction sector in particular and the economy in general.

1.2.2 Previous Strategic and Infrastructure Planning

Strategic Development Plan 2004 – 2023

FSM’s Strategic Development Plan 2004 – 2023: The Next 20 Years, Achieving Economic Growth and Self-Reliance (the SDP) was prepared with broad participation of a wide range of stakeholders and

provides a road map for social and economic development in FSM for the period 2004 – 2023. The SDP states four main objectives:

1. Stability and security - to maintain economic assistance at levels that support macroeconomic stability; achievement of this objective requires levels of funding close to prevailing levels, to avoid the large periodic step downs in funding that were a characteristic of the first 14- year Compact funding package.
2. Improved enabling environment for economic growth - to be achieved through the FSM commitment to economic reform and the provision of an enabling environment to support open, outward - oriented and private sector led development.
3. Improved education and health status – use of the annual Compact grant to support the provision of basic services in education and health.
4. Assured self-reliance and sustainability - to be achieved through establishment of a Trust Fund that would, after a period of time, replace the annually appropriated transfers from the US.

The sustained growth strategy presented in the SDP has six key areas:

1. macroeconomic stability
2. good governance
3. developing an outward-oriented, private sector-led economy
4. investing in human resources (improved health and education services)
5. investing in infrastructure
6. long-term environmental sustainability

The SDP consists of three volumes. Volume 1 provides for the macro-economic framework and the policies for each sector, Volume 2 contains the sector planning matrices and Volume 3 is the Infrastructure Development Plan.

1.2.3 Recent Economic and Strategic Planning

Working with Development Partners

While the US through the Amended Compact and Federal grants is the dominant partner, other main bilateral partners include Australia, China, Japan, the European Union through regional bodies such as the Secretariat of the Pacific Communities, and the United Nations.

Historically, FSM’s dialogue and coordination with non-US bilateral development partners has been weak due to the dominance of the Compact, but with 2023 looming has recently been strengthened. An Overseas Development Assistance (ODA) policy was approved by Congress in January, 2014. The purpose of the policy is to establish approaches to managing ODA such that benefits are maximized for all stakeholders. The policy acknowledges, recognizes and respects the unique circumstances of each state but also seeks commonalities across FSM. Implementation of the policy began in 2014.

A Development Partners Meeting took place in November, 2012 with the purpose of accelerating implementation of the SDP and seeking development partner support across four broad areas:

1. growing the local economy through enhancing agriculture production and the production of value added agriculture products, maximizing benefits of FSM’s fisheries resources, promoting tourism, developing clean, renewable energy sources
2. developing economic infrastructure, including transport, communications, and power
3. improving health and education services
4. mainstreaming responses to climate change and mitigating threats to the environment

A second Development Partners meeting is scheduled for 2016 where development partners will be invited to commit to funding IDP priority projects.

2023 Action Plan

The FSM Governments prepared the **2023 Action Plan** in 2014 aimed at addressing the fiscal and economic challenges leading up to and post FY2023. It is based on the mutual principals of Amended Compact which are to “promote the economic advancement, budgetary self-reliance, and economic self-sufficiency of the FSM”. The 2023 Action Plan includes a long-term fiscal reform strategy and a long-term sustainable growth strategy with the emphasis on private sector led growth.

With infrastructure investments an important driver for economic growth, directly by generating employment and income and indirectly facilitating the development of other sectors of the economy, a key component of the plan is to eliminate the infrastructure funding backlog within four years.

1.2.4 State Strategies

Chuuk

Chuuk is currently developing a strategic development plan to guide the future development of the State.

Kosrae

In 2013 the **Kosrae Strategic Development Plan: 2014 – 2023** (KSDP) was finalized, recognizing the needs and aspirations of the Kosrae community and stakeholders in Kosrae. The KSDP takes a 10 year view of Kosrae and its place in Federated States of Micronesia and the North Pacific region and the opportunities and concerns that it faces.

Additional aspects of the KDSP are included in Volume 4.

Pohnpei

The **Pohnpei State Strategic Development Plan** (PSDP) is a strategic policy document intended to organize and integrate existing sector plans and programs, and the SDP to meet the unique needs of Pohnpeian citizens and residents and to present a unified vision of Pohnpei’s future.

Additional aspects of the PDSP are included in Volume 5.

Yap

Yap is currently without its own strategic development plan.

1.2.5 Sector Policies

Sector Policies

The goals and institutional reforms included in the IDP 2004 for each sector have largely been incorporated into the IDP. More recently policies have been released for the energy and telecommunications sectors, and more relevant objectives in the education sector have been identified in State school repair and construction master plans and in the College of Micronesia Master Plan.

Energy Sector Policy

The National Energy Policy³ has four primary components: Policy and Planning, Conventional Energy (fossil fuel), Energy Efficiency and Conservation, and Renewable Energy.

The policy has targets to increase the share of renewable energy to 30 percent of energy supply by 2020 and to increase energy efficiency by 50 percent, also by 2020. With the electric power sector being an important component of the larger energy sector these targets have been taken into consideration when identifying and prioritizing projects in the IDP.

³ (DRD, DoE, 2010) - Federated States of Micronesia Energy Policy, Volumes I and II

Telecommunications Sector Policy

The Information and Communications Technology (ICT) Policy⁴ aims at:

1. achieving accessible and affordable communications for all
2. strengthening ICT human resources and increasing human resource development opportunities through ICT
3. improving economic growth and sustainable development through ICT
4. utilizing ICT for good governance
5. creating an enabling ICT environment through policy reform and improved legal frameworks

The aims of the policy have been taken into consideration when identifying and prioritizing projects in the IDP.

1.3 Infrastructure Planning

1.3.1 Infrastructure Development Plan 2004-2023

The **Infrastructure Development Plan 2004-2023** (IDP 2004) (Volume 3 of the SDP) was prepared by the Department of Transportation, Communication and Infrastructure (DTCI) in consultation with the States and under the guidance of a national IDP Steering Committee. IDP 2004 assessed the state of infrastructure and the needs in nine sectors and incorporated a program and budget covering the period FY2004-FY2023. Special consideration was given to the likely funding available from the Amended Compact and from other sources.

The National Vision and Objective statements in IDP 2004 for Infrastructure are:

Vision: To improve the life and livelihood of all FSM citizens with affordable, reliable and environmentally sound infrastructure.

Objective: To promote the sustainable social and economic development of FSM through the provision and utilization of cost-effective, safe, reliable and sustainable infrastructure.

The IDP 2004 included \$748 million of indicative funding for infrastructure investments to be implemented over the 20-year period. The IDP 2004 also included a further \$878 million of “unfunded projects” for a total of \$1,626 million. Amounts by sector are shown in Table 1.

Actual funding in FY2004 to FY2015 amounted to \$600 million representing 80 percent of IDP 2004 indicative funding with eight years of the IDP 2004 to run. If the withheld Amended Compact funding FY2013 to FY2015 had been granted actual funding would be around 90 percent of the IDP 2004 indicative funding.

Compared with the average IDP 2004 funding of \$35 million per year, the actual average funding rate of around \$58 million per year with full Amended Compact funding demonstrates FSM’s ability to source additional infrastructure funds.

⁴ (DTCI, DoC, 2012) - Federated States of Micronesia National ICT and Telecommunications Policy

Table 1 – Planned IDP 2004 Sector Investments

Sector	IDP 2004 Project Totals 2004-2023 (\$ Millions)			Actual FY2004 to FY2015 ¹		
	Funded	Unfunded	Total	Total (\$ millions)	% of IDP Funded	% of IDP Total
Electric Power	81.1	56.9	138.0	48.0	59%	35%
Water/Wastewater Systems	141.9	266.2	408.1	41.0	29%	10%
Solid Waste Management	40.8	102.5	143.3	0.3	1%	0%
Roads and Pedestrian Facilities	120.9	155.6	276.5	56.8	47%	21%
Maritime Transportation	88.5	141.6	230.1	32.5	37%	14%
Air Transportation	68.4	17.1	85.5	237.8	348%	278%
Telecommunications ²				51.4		
Education	135.4	138.1	273.5	45.8	34%	17%
Health	32.5	0.0	32.5	11.2	34%	34%
Government Administrative Buildings	27.3	0.0	27.3	17.5	64%	64%
Infrastructure Maintenance ³				36.2		
Program Management (incl. PMU, designs)	10.7	0.0	10.7	21.1	197%	197%
TOTAL	747.5	878.0	1,625.5	599.6	80%	37%

Notes:

1. Estimate based on Amended Compact Grants, ODA Funding & National & State Government appropriations
2. Telecommunications Systems was included in IDP 2004 as a sector but did not have an investment plan
3. Maintenance funding included in IDP 2004 sector funding

1.3.2 Infrastructure Development Plan 2016 - 2025

This **Infrastructure Development Plan FY2016 – FY2025** (the IDP or Plan) outlines the governments of the FSM priorities and plans for major infrastructure initiatives over the next 10 fiscal years. This is the second infrastructure development plan and the prioritization of projects will be reviewed at regular intervals as part of the national and state planning and budgeting processes. The next review of project priorities will be undertaken in FY2019.

The IDP includes infrastructure development initiatives of national, state and local significance. It is the result of extensive consultation with infrastructure managers and stakeholders at national, state and local level and covers the following sectors:

- electric power
- water/wastewater systems
- solid waste management
- roads and pedestrian facilities
- maritime transportation
- air transportation
- telecommunications
- education
- health
- government administrative buildings

The IDP presents a systematic approach to infrastructure planning, coordination and implementation, setting out the governments' priorities for infrastructure investments, developed at the national level and across the states and sectors on a project by project basis. In particular the IDP provides:

- the foundation for medium and longer term infrastructure budget planning through its overview of the scale and sequencing of future investment and financing needs
- a strengthened institutional framework for infrastructure planning and implementation at program and project levels
- an approach for transitioning to whole-of-life asset management
- consolidated guidance for FSM's development partners on the priorities and scope of FSM's infrastructure needs over the next 10 years

1.3.3 Amended Compact Requirements

Article V of the Amended Compact sets out the Pre-Award Requirements for grant assistance including the submission of annual implementation plans developed by the Government of the FSM in conjunction with its budget process. It further goes on to describe additional requirements for infrastructure assistance, including:

(e) The Government of the Federated States of Micronesia shall develop and submit a nationwide infrastructure development plan (IDP) to the Government of the United States for review. Projects may be phased over two or more years. The annual implementation plan for the infrastructure sector referred to in (b) above, shall include a list of integrated state and national priorities for new and reconstructed capital infrastructure to be financed by Compact funds, cost requirements, and implementation schedule. This project list and any revision thereto shall be submitted to the Government of the United States. Insofar as Grant funds are involved, the IDP shall be subject to the concurrence of the Committee.

1.4 Environment and Climate

The SDP incorporates an Environment Sector Strategic Plan with its own strategic goals, policies and outcomes, including:

Strategic Goal 1: Mainstream environmental considerations, including climate change, in national policy and planning as well as in all economic development activities

(SDP, section 7.2.1)

FSM's climate change profile and vulnerability and disaster risk reduction have been documented in a range of reports, including:

- Analysis of Integrating Disaster Risk Reduction and Climate Change Adaptation in the US Pacific Islands and Freely Associated States⁵
- Climate Change Profile, Federated States of Micronesia⁶
- Climate Variability, Extremes and Change in the Western Tropical Pacific⁷

⁵ (Anderson, 2012) - Analysis of Integrating Disaster Risk Reduction and Climate Change Adaptation in the US Pacific Islands and Freely Associated States, Technical Report 201105, Hazards, Climate, and Environment Program

⁶ (GCCA, July 2013) - Climate Change Profile, Federated States of Micronesia, Version 2

⁷ (ABM/CSIRO, 2014) - Climate Variability, Extremes and Change in the Western Tropical Pacific: New Science and Updated Country Reports, Pacific-Australia Climate Change Science and Adaptation Planning Program

1.4.1 Environmental Planning

The Environmental Sector Strategic Plan includes the following outcome measure for Strategic Goal 1:

Environmental Impact Assessments (EIA) carried out for 100% of all government and non-government development activities to minimize adverse impacts of development on the nation's environment from 2005 onwards

(SDP, section 7.2.1, para 57)

Environmental legislation does not necessarily require EIAs on all projects however in keeping with the intent of Strategic Goal 1 and the above outcome measure **all IDP projects will comply with relevant environmental planning provisions**, unless explicitly exempt.

1.4.2 Current Climate

Due to the geographical spread of the FSM, the climate varies on an east to west basis. There is little seasonal variation in temperature with less than 3°F (1.5°C) between the average hottest and coolest months. There are two distinct seasons; a wet season from November to April and a dry season from May to October. Droughts, tropic storms, storm waves, flooding and landslides all affect FSM.

FSM's climate can vary considerably from year to year due to the El Niño-Southern Oscillation (ENSO) that sees both El Niño and La Niña events on a cyclic basis. El Niño events are associated with drier conditions and occasional droughts when associated water and food shortages can occur. During La Niña, above-average numbers of tropical storms occur as well as more rainfall.

1.4.3 Expected Future Climate

Predictions of climate change in countries of the Western Pacific, including FSM, has been developed under Pacific-Australia Climate Change Science and Adaptation Planning Program⁷. All emissions scenarios show that temperatures will rise in FSM, as will sea level and ocean acidification. The intensity and frequency of days of extreme rainfall are projected to increase and tropical storm frequency is projected to decline.

The ENSO is expected to continue to influence variability in FSM's climate however as there is no consistency in projections of future ENSO activity it is not possible to determine whether inter-annual variability in rainfall will change in the future.

For the period to 2100, the latest global climate model projections and climate science findings indicate:

1. El Niño and La Niña events will continue to occur in the future (very high confidence), but there is little consensus on whether these events will change in intensity or frequency;
2. annual mean temperatures and extremely high daily temperatures will continue to rise (very high confidence)
3. average annual rainfall is projected to increase (medium confidence), with more extreme rain events (high confidence)
4. drought frequency is projected to decrease (medium confidence)
5. ocean acidification is expected to continue (very high confidence)
6. the risk of coral bleaching will increase in the future (very high confidence)
7. sea level will continue to rise (very high confidence)
8. wave height is projected to decrease in December–March (low confidence), and waves may be more directed from the south in the June–September (low confidence)

1.4.4 Response to Climate Change

National Level

The National Climate Change Policy of 2009⁸ includes the following key elements related to infrastructure:

1. Mitigation

.....

- c. To maintain and enhance FSM as a negative carbon country through effective management of our natural sinks, bio-sequestration, promotion of renewable energy and energy efficiency and other appropriate means.
- d. To prioritize actions that address both mitigation and adaptation such as water development using renewable energy (solar water desalination) and other relevant actions.

2. Adaptation

- a. To require all development activities in FSM to take into account projected climatic changes in the design and implementation as stipulated in the FSM Strategic Development Plan/Infrastructure Development Plan (SDP/IDP).
- b. To use eco-system based approaches where applicable.

3. Technology Transfer

- a. To optimize the use of local technologies where available.
- b. To identify technologies that are locally appropriate.
- c. To enhance easy access to, and sustainable use of new technologies.

4. Finance

- a. To maximize the use of local resources through establishment of sustainable financing mechanism to support adaptation, mitigation and resource management initiatives.

In 2012 FSM published an Action Plan⁹ and in 2013 passed a Climate Change Law¹⁰, a key requirement being that certain National Departments prepare plans and policies on climate change consistent with the provisions of the Climate Change Policy.

In June 2013 Government produced the Nation Wide Integrated Disaster Risk Management and Climate Change Policy¹¹ under which the DTCl will integrate the Policy into its infrastructure development policy and plans.

A Council on Environmental Management and Sustainable Development (or Sustainable Development Council) chaired by the Vice-President was established through Presidential Order No. 14. The functions and purposes of the Sustainable Development Council are to advise and make recommendations to the President on matters affecting the environmental management and sustainable development of the FSM.

Potential projects and the approach to climate proofing were previously addressed in a study in 2006¹². In 2014 DTCl prepared a Climate Adaptation Guide for Infrastructure¹³. This provides a first step in mainstreaming climate change in all infrastructure projects in FSM.

State Level

Climate Change Action Plans have been developed for Kosrae and Yap; preparation of an Action Plan for Pohnpei is ongoing and for Chuuk has yet to start.

⁸ (GoFSM, 2009) - Nationwide Climate Change Policy 2009.

⁹ (GoFSM, 2012) - National Climate Change and Health Action Plan, December 2012.

¹⁰ (GoFSM, 2013a) - Eighteenth Congress Of The Federated States Of Micronesia Second Regular Session, 2013 Congressional Bill No. 18-72, C.D.1, C.D.2, C.D.3 Pc No. 18-178 Public Law No. 18-34.

¹¹ (GoFSM, 2013b) - Nation Wide Integrated Disaster Risk Management and Climate Change Policy

¹² (ADB Pacific Studies Series, 2006) - Climate Proofing – A Risk-based Approach to Adaptation

¹³ (DTCl, DoI, 2014) - Climate Adaptation Guide for Infrastructure

The current State Action Plans identify requirements for infrastructure under three headings, and their relevance to the IDP are summarized as:

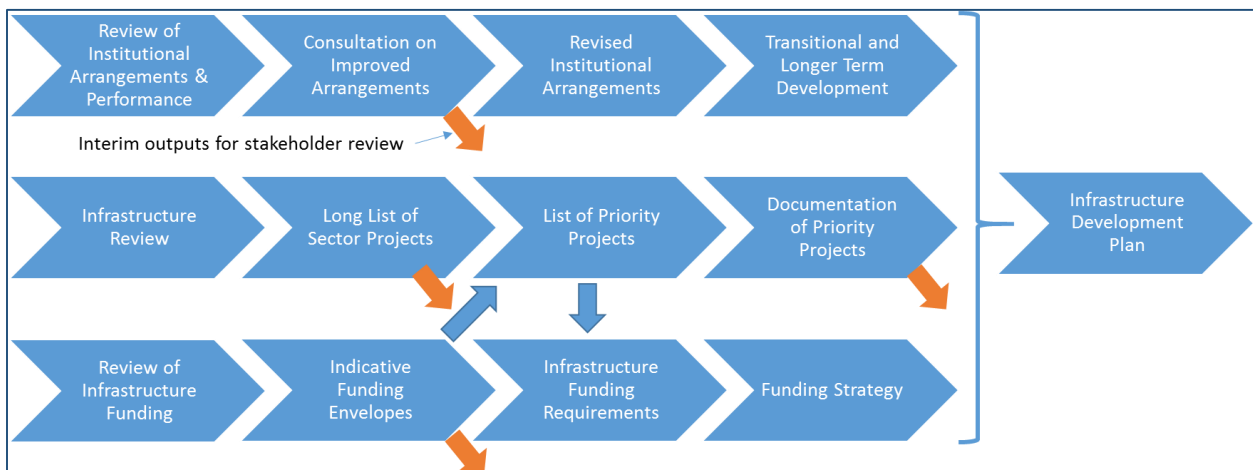
- Strengthen the integrity of the development consent process and environmental impact assessments: environmental concerns, including both impacts and geo-hazard issues should be identified:
- early in the scoping phase, so that the costs of mitigation can be allowed for when setting budget
- during design, so that appropriate mitigation measures are part of the design
- during construction to ensure the appropriate environmental management plan is followed and mitigations properly implemented
- Apply Land Use Planning: available flood, sea level change and landslide risk maps are used particularly in assessing sites for infrastructure development
- Actively Enforce Building Codes: in the absence of formal building codes, adopt and follow standards and practices that are appropriate to the infrastructure being developed, including aspects relevant to climate change adaptation

1.5 Plan Development Process

1.5.1 Components and Overall Approach

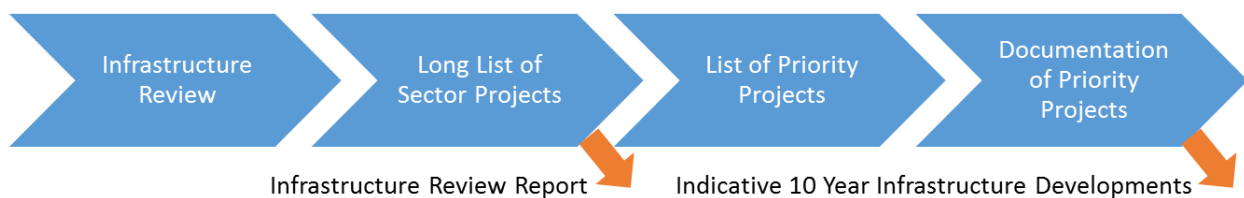
Development of the IDP involved three main components; **infrastructure**, **institutional** and **funding**, and the overall approach illustrated in Figure 3.

Figure 3 – IDP Development Approach



The three components are described below.

1.5.2 Infrastructure



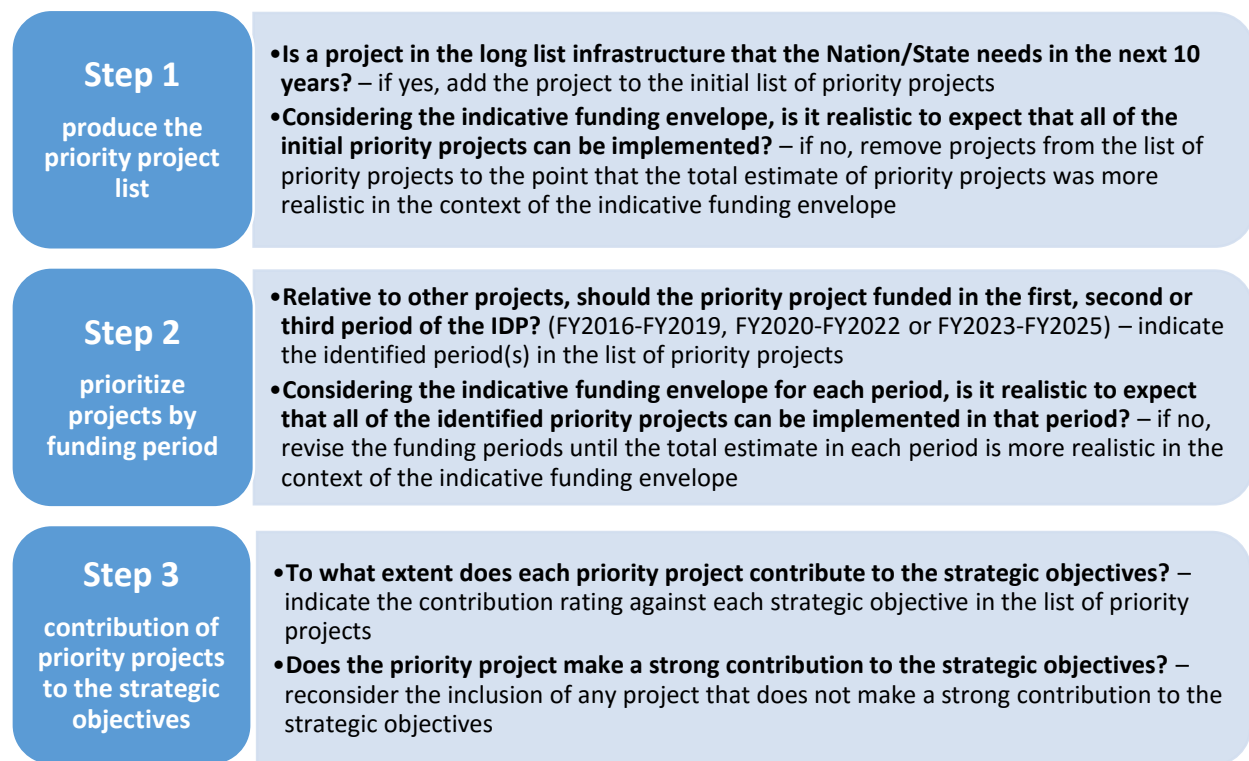
The **infrastructure review** determined the current status of infrastructure in the ten sectors across FSM, including the demand for infrastructure and current infrastructure performance. Background reports and data were reviewed and visits were made to the States to learn of the demands and needs from the

Executive and infrastructure managers. From these sources **long lists of sector projects** were produced and the results documented in the **Infrastructure Review Report**.

Subsequent to the infrastructure review and long lists of projects, additional interactions at national level and in each State produced a **list of priority projects** for each jurisdiction with the **indicative funding envelopes** providing guidance on the total funding available for the priority projects. The additional interactions also collected and/or confirmed all of the information for the **documentation of priority projects** in the form of the **priority project outlines** included in Part 4 of each of the following IDP volumes.

Project prioritization was undertaken with a group that included representatives of the Executive and Legislature, infrastructure managers and civil society representatives. Inputs to the process included current Infrastructure Planning and Implementation Committee (IPIC) listings and priorities and the long list of projects. The process set out in Figure 4 was followed by the group to identify, prioritize and rate the projects included in their IDP.

Figure 4 – Project Prioritization



The prioritization group also assessed the contribution that each priority project makes to the Strategic Objectives (section 2.2) to produce a **Strategic Rating** out of 10. Priority projects were rated for their contribution to each of the nine component objectives using the contribution ratings in Table 2. The Strategic Rating was determined using the following formula:

$$\text{Strategic Rating (out of 10)} = \sum \text{Rating of each strategic objective} / 4.5$$

The **indicative 10 year infrastructure developments** from each State project prioritization exercise were consolidated in a report to the Governor for review and endorsement. Any revisions to the information provided have been carried forward into the IDP.

Table 2 – Contribution ratings

Rating 1	The project will make little or no contribution to the strategic objective
Rating 2	The project will make a low contribution to the strategic objective
Rating 3	The project will make a medium contribution to the strategic objective
Rating 4	The project will make a high contribution to the strategic objective
Rating 5	The project will make a very high contribution to the strategic objective

1.5.3 Institutional Component

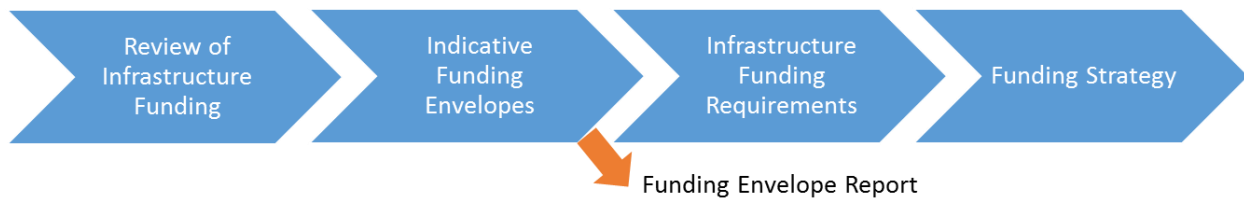


The **review of institutional arrangements & performance** determined the strengths and weaknesses of the institutional arrangements that have been in place in the period since 2004. Background reports and data were reviewed, discussions were held with the Program Management Unit (PMU) and visits were made to the States to learn of their IDP implementation issues and expectations.

A number of alternative models were developed for **consultation on improved arrangements** with national and state stakeholders, at the conclusion of which a **Report on Institutional Strengthening** was finalized.

The recommended institutional arrangements were strongly endorsed by all State Governors and supported by the President. **Revised institutional arrangements** were subsequently developed in more detail, including identification to changes in legislation and regulations. Actions for **transitional and longer term development of the institutional arrangements** have been identified and incorporated into the IDP.

1.5.4 Funding Component



The **review of infrastructure funding** identified \$608 million of indicative baseline funding for infrastructure development expected from traditional sources over the next 10 years, including from:

- National Government revenue
- Amended Compact
- multilateral development banks
- bilateral development assistance

The **indicative funding envelopes** set out the availability of infrastructure development funding by source by year for each state and the national program and provided guidance to the identification of priority projects. The indicative funding envelopes did not:

- factor in future one-off project funding that is additional to the baseline funding

- include any provision for UN-related climate change adaptation funding

A **Funding Envelope Report** provided full details of the review of infrastructure funding and the resultant indicative funding envelopes.

The **infrastructure funding requirements** derived from the **lists of priority projects** exceed the indicative baseline funding, recognizing the availability of additional funding for infrastructure development in addition to the baseline funding.

The **funding strategy** set out in Part 3 incorporates:

- an increase in the indicative baseline funding to \$751.9 million, including \$31 million of climate adaptation funding over 10 years
- the annual appropriation of funds by source and by sector over the duration of the IDP

Part 2 Infrastructure Strategy

2.1 Role of Infrastructure

Infrastructure is a critical component of the economic and social fabric of society. In the context of the IDP it is the fundamental facilities and systems providing the services and facilities necessary for the economy and society to function. It comprises the roads, bridges, schools, hospitals, ports, airports, water supply, waste water, solid waste, electrical grids and telecommunications; the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions.

One way to increase economic output quickly is to expand public infrastructure that would add to the productive capacity of the economy in the longer term and create jobs in the near term. A key component of the Action Plan is the accelerated spending of the infrastructure arrears of \$126 million over the next four years.

Development literature and field experience worldwide underscore the influence of market expanding infrastructure in fostering economic growth and productivity, particularly in emerging economies and there is ample evidence that market expanding infrastructure both raises growth and lowers income inequality.

(2023 Action Plan)

2.2 Strategy Objectives

2.2.1 Vision and Objective

The national **Vision** and **Objective** statements in IDP 2004 remain appropriate for the IDP:

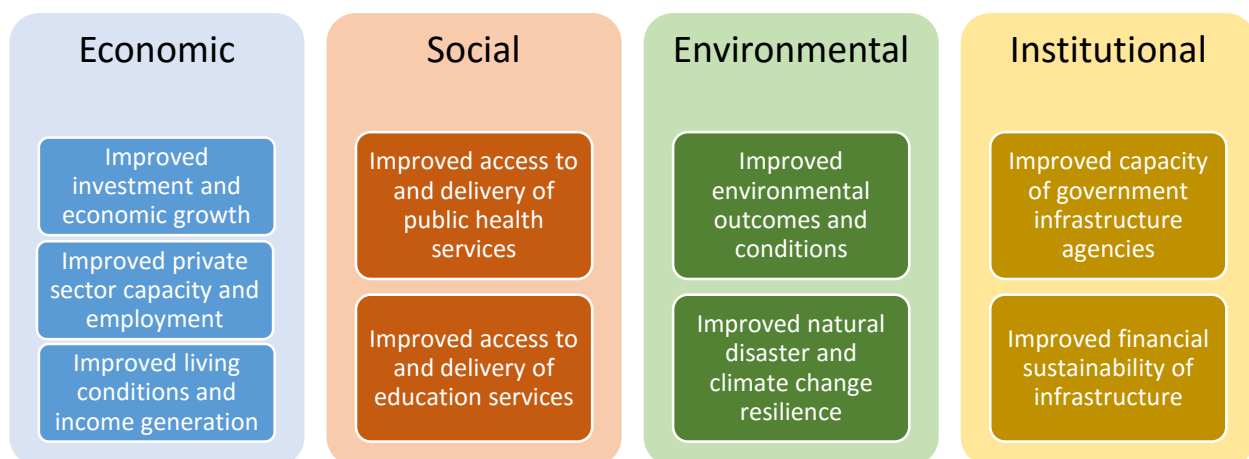
Vision: To improve the life and livelihood of all FSM citizens with affordable, reliable and environmentally sound infrastructure.

Objective: To promote the sustainable social and economic development of FSM through the provision and utilization of cost-effective, safe, reliable and sustainable infrastructure.

2.2.2 Component Objectives

Taking into account the strategic statements in the IDP 2004 and more recently the 2023 Action Plan and the challenges presented by climate change, the component objectives in Figure 5 have been adopted in the IDP. All priority infrastructure projects have been rated against these objectives to ensure the overall alignment of the IDP investments with its strategic objectives.

Figure 5 – Component Strategic Objectives



2.3 Sector Objectives

Within the overall infrastructure development objectives each sector has a number of identified goals consistent with those incorporated into the IDP 2004.

2.3.1 Electric Power

The **Goal** is to develop electric power infrastructure to ensure that all areas of the country are provided with electric power in an efficient and effective manner in accordance with demand such that:

1. households are provided with power for basic livelihood purposes
2. local manpower can realize production opportunities and potential
3. power is available for basic services such as schools, hospitals, water and wastewater systems
4. national targets for renewable energy are achieved

2.3.2 Water/Wastewater Systems

The **Goal** is to provide water and wastewater infrastructure that:

1. meets the demand for water supply and wastewater infrastructure in an effective and efficient manner
2. improves existing water abstraction, treatment and distribution systems
3. evaluates and institutes technologically appropriate liquid waste management systems
4. improves and initiates wastewater facilities to increase coverage and contribute towards improvements in public health and environmental conditions
5. contributes towards the prevention of water borne diseases through the provision of potable water supplies

2.3.3 Solid Waste Management

The **Goal** is to provide solid waste management infrastructure that:

1. meets the demand for solid waste infrastructure in an effective and efficient manner
2. evaluates and institutes technologically appropriate solid waste management systems
3. reduces volume of solid waste for disposal by maximizing recycling and separation opportunities thereby minimizing the land area required
4. prevents solid waste having adverse effects on the terrestrial and marine environments

2.3.4 Road and Pedestrian Facilities

The **Goal** is to provide road and pedestrian facilities infrastructure that:

1. enables transportation facilities to be adequate in terms of condition, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. meets the demand for road and pedestrian infrastructure in an effective and efficient manner, including concrete/asphalt paving of all primary road systems
3. incorporates pedestrian walkways in the design and construction of roads
4. extends cross-island and inner roads to facilitate agricultural and other development
5. is resilient to the impacts of climate change

2.3.5 Maritime Transportation

The **Goal** is to provide maritime transportation infrastructure that:

1. enables market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. provides improved dock facilities to meet both fisheries and commercial shipping needs
3. facilitates modern, safe and efficient inter-state and inter-island passenger and cargo vessels
4. coordinates and facilitates the improvement of aids to navigation

2.3.6 Air Transportation

The **Goal** is to provide air transportation infrastructure that:

1. provides adequate air transportation facilities and services in terms of condition, frequency, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country
2. enables air carrier airports to improve safety and eliminate payload restrictions
3. improves all domestic airports to the required standards of safety

2.3.7 Telecommunications Systems

The **Goal** is to provide telecommunications systems infrastructure to:

1. achieve accessible and affordable communications for all
2. strengthen information and communications technology (ICT) human resources and increase human resource development opportunities through ICT
3. improve economic growth and sustainable development through ICT
4. utilize ICT for good governance
5. create an enabling ICT environment through policy reform and improvements in legal frameworks

2.3.8 Education

The **Goal** is to provide education infrastructure that:

1. ensures that the learning experience is enhanced and diversified
2. improves student and faculty interest and morale, and thereby improves the effectiveness of education and significantly increases the student retention rates through graduation from elementary or secondary schools
3. removes constraints on the availability of high school education for all graduates of elementary school, and to provide an array of post-secondary education opportunities for all high school graduates who seek further education
4. continues to assist and strengthen private educational institutions to the nation
5. is supported by facilities improvement programs that address the need for maintenance, renovation and construction of new facilities to support quality student instruction
6. is supported by equipment maintenance guidelines
7. is resilient to potential natural disasters and the impacts of climate change

2.3.9 Health

The five strategic goals of health care¹⁴ are to:

1. improve primary health care services

¹⁴ (DHSA, 2013) - Department of Health and Social Affairs Annual Report 2013

2. improve secondary health care services
3. prioritize health promotion services on major health problems
4. develop a sustainable health care financing mechanism
5. improve capacity and accountability systems

In support of those goals, the **Goal** of health infrastructure is to:

1. provide modern and efficient hospital facilities to meet the health needs of the nation
2. facilitate an upgraded the curative health system to minimize the needs for referrals to foreign medical facilities
3. provide health care facilities within reasonable access of all citizens
4. have facilities improvement programs that address the need for maintenance, renovation and construction of new facilities
5. have adequate funds for maintenance to prevent rapid deterioration of facilities
6. be resilient to potential natural disasters and the impacts of climate change

2.3.10 Government Administrative Buildings

The **Goal** is to provide government administrative building infrastructure that:

1. provides modern and efficient facilities required for government personnel to effectively undertake their functions
2. provides an environment that enables equipment used by government personnel to be adequately maintained
3. encourages a high morale and work ethic amongst government employees by providing a suitable work environment
4. provides elected officials with suitable office space and chambers in which to conduct their responsibilities

Part 3 Investment Strategy

3.1 FSM Infrastructure Funding

3.1.1 National Government

Fiscal position

The National Government has a relatively low level of debt providing latitude for judicious borrowing, including to leverage grant funds from other sources.

Infrastructure development

Prior to FY2014 national infrastructure projects were funded by donors including a 10 percent allocation from Amended Compact infrastructure grants. In FY2014 the government cut the Amended Compact infrastructure grant allocation to 5 percent and from FY2015 onwards the National Government receives no infrastructure funding from the Amended Compact.

As a response to the March 2012 Joint Economic Management Committee (JEMCO) resolution to withhold infrastructure grants pending the updating of the IDP 2004, the National Government is making a specific allocation from its own revenue amounting to \$10 million in both FY2015 and FY2016 for State priority infrastructure projects. In addition there have been separate National Government appropriations for outer island airstrip improvements and power generation. The indicative estimate for FY2017 onwards is \$11 million as shown in Table 3.

Infrastructure maintenance

National Government funding for maintenance of national and state assets is set out in Table 3.

The National Government provides a general appropriation for maintenance; \$3.36 million in FY2016 and FY2017. The indicative estimate for FY2018 onwards is \$3.5 million.

In addition the National Government appropriates funding for the maintenance of state secondary roads and water supply. The planned/indicative estimate for FY2016 onwards is \$2.8 million.

Up until FY2014 the National Government received an allocation under the Amended Compact for Infrastructure Maintenance Fund (IMF) funding. The estimated amount of the National Government's unspent IMF allocation is \$430,000, plus the National Government's matching funds.

3.1.2 State Governments

Fiscal position

The National Government's aggregate fiscal outcome in recent years masks the large difference between the performance of the four State Governments. Their performance varies but in FY2014 it was at an all-time low. For the first time all States recorded deficits and declines in their economies in the same year.

Infrastructure development

The States are dependent on development partner funding and National Government appropriations for virtually all infrastructure development.

Infrastructure maintenance

State governments struggle to match the 5 percent IMF Amended Compact infrastructure funding for maintenance. The Office of International Affairs' (OIA) process for releasing IMF grants requires physical evidence of the appropriation and deposit of matching funds by the States.

The amounts identified for maintenance in Table 3 include the funds required from the States to match the Amended Compact IMF grants. The funds required from FY2016 to FY2023 to match the Amended

Compact IMF grants and arrears for all States averages \$1.9 million per annum. From FY2024 the funds required to match the CTF IMF grants is estimated at \$0.6 million per year.

Table 3 – FSM Governments infrastructure development and maintenance funding

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
National Government General Maintenance										
National	150,000	150,000	-	-	-	-	-	-	-	-
Chuuk	460,000	460,000	1,477,700	1,477,700	1,477,700	1,477,700	1,477,700	1,477,700	1,477,700	1,477,700
Kosrae	300,000	300,000	423,500	423,500	423,500	423,500	423,500	423,500	423,500	423,500
Pohnpei	-	-	984,550	984,550	984,550	984,550	984,550	984,550	984,550	984,550
Yap	300,000	300,000	614,250	614,250	614,250	614,250	614,250	614,250	614,250	614,250
Non-specific Indicative	2,150,000	2,150,000	-	-	-	-	-	-	-	-
Total	3,360,000	3,360,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
National Government state secondary roads, water supply maintenance										
National	-	-	-	-	-	-	-	-	-	-
Chuuk	1,182,160	1,182,160	1,182,160	1,182,160	1,182,160	1,182,160	1,182,160	1,182,160	1,182,160	1,182,160
Kosrae	338,800	338,800	338,800	338,800	338,800	338,800	338,800	338,800	338,800	338,800
Pohnpei	787,640	787,640	787,640	787,640	787,640	787,640	787,640	787,640	787,640	787,640
Yap	491,400	491,400	491,400	491,400	491,400	491,400	491,400	491,400	491,400	491,400
Indicative	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000
Total	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000
National Government Development Funding										
National	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Chuuk	4,011,000	4,011,000	4,011,000	4,011,000	4,011,000	4,011,000	4,011,000	4,011,000	4,011,000	4,011,000
Kosrae	1,150,000	1,150,000	1,150,000	1,150,000	1,150,000	1,150,000	1,150,000	1,150,000	1,150,000	1,150,000
Pohnpei	2,672,000	2,672,000	2,672,000	2,672,000	2,672,000	2,672,000	2,672,000	2,672,000	2,672,000	2,672,000
Yap	1,667,000	1,667,000	1,667,000	1,667,000	1,667,000	1,667,000	1,667,000	1,667,000	1,667,000	1,667,000
Total	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
All Governments Matching IMF Funding										
National	-	-	-	-	-	-	-	-	-	-
Chuuk	507,600	507,288	506,842	506,261	505,545	504,695	503,709	502,589	257,120	261,645
Kosrae	145,475	145,386	145,258	145,091	144,886	144,642	144,360	144,039	73,689	74,986
Pohnpei	338,200	337,992	337,695	337,308	336,831	336,264	335,607	334,861	171,312	174,327
Yap	210,999	210,870	210,684	210,442	210,145	209,791	209,382	208,916	106,880	108,761
IMF Arrears	1,531,268	1,531,268	1,531,268	1,531,268	-	-	-	-	-	-
Total	2,733,542	2,732,804	2,731,746	2,730,370	1,197,407	1,195,392	1,193,058	1,190,405	609,000	619,718
TOTAL DEVELOPMENT	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
TOTAL MAINTENANCE	10,424,809	10,424,071	10,563,014	10,561,637	7,497,407	7,495,392	7,493,058	7,490,405	6,909,000	6,919,718

Source: CMD

3.2 Amended Compact and other US Grant Funding

The US government provides infrastructure development and maintenance assistance to FSM through Federal grants (and potentially loans) and the Amended Compact.

3.2.1 Amended Compact

Under the Amended Compact FSM is to receive payments of \$92.7 million per year (2004 dollars) with annual partial adjustments for inflation as sector grants, to finance an annual audit, and as contributions into the CTF. The Amended Compact provides a minimum 30 percent of sector grant funding for public infrastructure (\$24 million in FY2015) and sets out the funding priorities.

The highest priority shall be given to primary and secondary education capital projects and projects that directly affect health and safety, including water and wastewater projects, solid waste disposal projects, and health care facilities. Second priority shall be given to economic development-related projects, including airport and seaport improvements, roads, sea walls, and energy development including renewable energy that cannot be funded through the rate structure.

(Amended Compact, Article II Economic Assistance Implementation)

Five percent of the sector grant for infrastructure is set aside for the IMF.

The FSM Congress legislates the distribution of the Amended Compact sector grants (Table 4). From FY2015 on, all the grants are distributed to the States.

Table 4 – Distribution of Amended Compact sector grants

	FY2012	FY2013	FY2014	FY2015 on
National	10.00 %	10.00 %	5.00 %	0.00 %
Chuuk	38.00 %	38.00 %	40.11 %	42.22 %
Kosrae	10.90 %	10.90 %	11.50 %	12.10 %
Pohnpei	25.31 %	25.31 %	26.72 %	28.13 %
Yap	15.79 %	15.79 %	16.67 %	17.55 %

Source: FSM Congress

The allocation of Amended Compact infrastructure grants is undertaken on an annual basis by the US and FSM through JEMCO which has three representatives from the US and two from the FSM. JEMCO decisions are intended to be reached on a consensus basis.

In August 2004 JEMCO delegated to the OIA the authority to approve individual projects that comply with the Fiscal Procedure Agreement requirements and conform to the consolidated list of projects that are consistent with the IDP. This resolution delegated the final approval of infrastructure grants to the OIA Grant Manager in Hawaii.

From FY2004 to FY2012, JEMCO allocated a total of \$204 million for infrastructure. In March 2012 JEMCO passed a resolution that no further Amended Compact infrastructure grants will be made until the IDP 2004 is updated. The combination of the FY2013 to FY2015 funds that have not been allocated by JEMCO and the allocated funds that have not been granted by OIA over FY2004 to FY2012 is equal to \$111.3 million (“the arrears”, \$105.2 million for development and \$6.1 million for IMF).

From FY2024 the Amended Compact funding shifts from direct grants to a drawdown from the CTF. The CTF is intended to accumulate sufficient funds by FY2023 to generate income equivalent to the Compact grants. At the current level of the fund and expected future contributions the amount in the CTF in FY2023 is unlikely to be enough for the revenue from the fund (after maintaining the real value of the capital) to match 2023 Compact grants.

The indicative infrastructure funding from the CTF from FY2024 is \$12.2 million, of which \$0.6 million is for the IMF, about half the Amended Compact infrastructure grant amounts in FY2023. This is based on opening capital in FY2024 of \$1,015 million, the fund value maintained in real terms and a 4 percent distribution.

The indicative Amended Compact/CTF infrastructure funding from FY2016 to FY2025 is shown in Table 5. Over the ten year IDP period the total funds are \$327.5 million (\$310.6 million for development and \$16.9 million for IMF).

Table 5 – Amended Compact assistance to FSM (including CTF)

	FY2016	FY2017	FY2018	FY2019	FY20FY20	FY2021	FY2022	FY2023	FY2024	FY2025	Total
Amended Compact											
Infrastructure Grants (30%)											
	24,045,480	24,030,720	24,009,576	23,982,048	23,948,136	23,907,840	23,861,160	23,808,096	12,180,000	12,394,368	216,167,424
FSM - IMF Grants											
	1,202,274	1,201,536	1,200,479	1,199,102	1,197,407	1,195,392	1,193,058	1,190,405	609,000	619,718	10,808,371
Infrastructure Development (excl IMF)											
	22,843,206	22,829,184	22,809,097	22,782,946	22,750,729	22,712,448	22,668,102	22,617,691	11,571,000	11,774,650	205,359,053
Arrears for Development											
	26,303,998	26,303,998	26,303,998	26,303,998							105,215,990
Arrears for IMF											
	1,531,268	1,531,268	1,531,268	1,531,268							6,125,070
Total Amended Compact/CTF Funding for Development (including arrears)											
National	2,786,387	2,786,387	2,786,387	2,786,387							11,145,547
Chuuk	20,084,441	20,078,520	20,070,040	20,058,999	9,605,358	9,589,196	9,570,473	9,549,189	4,885,276	4,971,257	128,462,748
Kosrae	5,636,369	5,634,672	5,632,242	5,629,077	2,752,838	2,748,206	2,742,840	2,736,741	1,400,091	1,424,733	36,337,808
Pohnpei	14,080,773	14,076,828	14,071,178	14,063,822	6,399,780	6,389,012	6,376,537	6,362,357	3,254,922	3,312,209	88,387,418
Yap	6,559,235	6,556,774	6,553,249	6,548,659	3,992,753	3,986,035	3,978,252	3,969,405	2,030,711	2,066,451	46,241,522
Total	49,147,204	49,133,182	49,113,095	49,086,943	22,750,729	22,712,448	22,668,102	22,617,691	11,571,000	11,774,650	310,575,043
Total Amended Compact/CTF for the IMF (including arrears)											
National	107,403	107,403	107,403	107,403							429,613
Chuuk	1,239,851	1,239,540	1,239,093	1,238,512	505,545	504,695	503,709	502,589	257,120	261,645	7,492,299
Kosrae	358,666	358,576	358,448	358,282	144,886	144,642	144,360	144,039	73,689	74,986	2,160,575
Pohnpei	658,430	658,223	657,925	657,538	336,831	336,264	335,607	334,861	171,312	174,327	4,321,318
Yap	369,191	369,061	368,876	368,634	210,145	209,791	209,382	208,916	106,880	108,761	2,529,636
Total	2,733,542	2,732,804	2,731,746	2,730,370	1,197,407	1,195,392	1,193,058	1,190,405	609,000	619,718	16,933,441

Source: CMD

3.2.2 US Federal Programs

Federal Aviation Administration

FSM’s air transportation sector has benefited greatly across all states from the Federal Aviation Administration’s (FAA) Airport Improvement Program¹⁵ (AIP).

Between FY2004 and FY2015 AIP grants and matching funds totaled \$192 million¹⁶. An additional \$30.5 million of AIP grants and matching funds have been identified for two projects included in the IDP. A number of other IDP priority projects are strong candidates for AIP funding.

Department of Agriculture

The Rural Utilities Service (RUS) of the US Department of Agriculture (USDA) administers programs that provide infrastructure to rural communities¹⁷.

FSM qualifies for RUS programs that cover infrastructure in the water/wastewater, solid waste, electric power and telecommunications sectors. FSM Telecommunications Corporation has a current RUS loan and a number of IDP priority projects are strong candidates for RUS program funding.

USAID

USAID has no regular development program in the FSM, however it responds to requests for disaster relief.

¹⁵ www.faa.gov/airports/aip/overview/

¹⁶ (DTCI, DCA, 2015) - Airport Improvement Program in FSM

¹⁷ www.rd.usda.gov/about-rd/agencies/rural-utilities-service

3.3 Bilateral Development Partner Funding

3.3.1 Australia

Australia's aid program focuses on reforms in support of budgetary and economic self-reliance, environmental management and development coordination. A major area of support has been through Australia's Pacific Patrol Boat Regional Program, which aims to protect and manage the region's vital fisheries resources. While maintenance of the three patrol boats is critical to fisheries management under the fixed asset definition of infrastructure these vessels are not a concern of the infrastructure plan.

There is currently no Australian participation in FSM's infrastructure development.

3.3.2 China

The Peoples Republic of China assistance to FSM includes infrastructure, agricultural technical assistance and scholarships. Recent infrastructure investments include the Okat Bridge in Kosrae (\$12.7 million in FY2014), the Chuuk State Government Complex (\$10 million in FY2015) and an untied grant of \$9.4 million scheduled for FY2016. Indicative funding for FY2017 to FY2025 is \$5 million per year. Future assistance will be better coordinated in line with the FSM ODA Policy and the IDP.

3.3.3 European Union

The European Union's (EU) assistance to FSM is currently focused on renewable energy and is managed by the local office of the Secretariat for the Pacific Communities' (SPC) Economic Development Division, North Pacific ACP Renewable Energy and Energy Efficiency Project (North-REP). Funding of \$10 million has been provided for the five years to FY2015 from the European Development Fund EDF 10 and has been used for solar power in Chuuk, Kosrae and Yap and to refurbish the hydropower station on Pohnpei.

EDF 11 which runs from FY2016 to FY2020 has a total funding of \$18 million. This has been programmed for village access to electricity/solar for Chuuk, solar and transmission line upgrading for Pohnpei, proper sizing transformers on Kosrae and improving the efficiency and reliability of electricity of the outer islands of Yap. Around 75 percent of expenditure is expected to be used for equipment in FY2016 and FY2017.

Funding beyond FY2020 is expected to be similar to EDF 11 levels at \$3.6 million per year although the EDF 12 focal sectors are yet to be determined.

3.3.4 Japan

Japan's assistance to FSM is administered by the Japan International Cooperation Agency (JICA) providing technical cooperation and grant aid.

Economic and social infrastructure forms the most significant component of grant aid with the most recent projects being the lengthening of the runway plus facility improvements at Pohnpei International Airport completed in 2012 at a cost of \$37 million. This was followed by provision of the inter-island passenger and cargo vessel *Four Winds* in 2015 at a cost of \$11.1 million.

With the Japanese Government's record of assistance to FSM over more than 30 years, indicative funding of \$4 million per year for infrastructure is included in the IDP.

3.3.5 Summary

Estimated bilateral funding over FY2016 to FY2025 amounts to \$140.4 million and is shown in Table 6.

Table 6 – Estimated Bilateral Funding

	FY2016	FY2017	FY2018	FY2019	FY20FY20	FY2021	FY2022	FY2023	FY2024	FY2025
China (PRC)										
Total	9,400,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
EU										
EDF 11 (\$18m, 2015-2020)	6,750,000	6,750,000	1,500,000	1,500,000	1,500,000	-	-	-	-	-
Indicative	-	-	-	-	-	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000
Total	6,750,000	6,750,000	1,500,000	1,500,000	1,500,000	3,600,000	3,600,000	3,600,000	3,600,000	3,600,000
Japan										
Total	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Total Bilateral	21,150,000	16,750,000	11,500,000	11,500,000	11,500,000	13,600,000	13,600,000	13,600,000	13,600,000	13,600,000

Source: CMD / ODAD / MFA

3.4 Multilateral Bank Funding

3.4.1 Asian Development Bank

The ADB provides loans, guarantees, equity investments, grants, and technical assistance to FSM. Loans are financed from ordinary capital resources (OCR) and the Asian Development Fund (ADF). OCR loans are provided at a quasi-market rate. ADF is a donor fund replenished every four years that provides loans at concessional terms (long maturities, lower interest rates) as well as grants.

ADB’s indicative lending envelope for the FSM from FY2015 to FY2017 comprising \$7.35 million of OCR and \$8.73 million from the ADF¹⁸ is being utilized for Pohnpei Port.

Based on ADB’s country plans and average lending over recent years, an indicative \$5 million per year is included in the IDP from FY2018 with follow-on technical assistance grants in FY2016 and FY2017. The IDP’s institutional component includes priority projects that are strong candidates for ADB technical assistance funding.

3.4.2 World Bank Group

The World Bank’s program focuses on two themes that support FSM’s SDP:

1. strengthening the enabling environment for private sector development to help sustain growth; and
2. promoting a sustainable medium term fiscal situation to improve service delivery¹⁹

Up until FY2014 the World Bank has assisted FSM with a mix of investments, technical assistance and analytical activities.

The World Bank’s engagement with FSM over the Country Partnership Strategy period (2014 – 2016) in FSM includes the following infrastructure-related sectors:

1. improving electricity supply and efficiency including increased use of renewable energy
2. enhancing telecommunications access and affordability
3. improving the management of the impact of climate change and natural hazards

Most significantly the Palau-FSM Regional Connectivity Project will bring fiber-optic connectivity to Yap and Chuuk, improved satellite connectivity to Kosrae and establishment of the FSM Telecommunication Regulation Authority. The FSM component of the project is financed by a FSM IDA17 grant allocation (\$12.4 million) and FSM’s portion of the regional grant allocation (\$38.6 million).

¹⁸ (ADB, 2014) - Country Operations Business Plan October 2014, Federated States of Micronesia 2015–2017

¹⁹ (World Bank, 2014) - International Development Association and International Finance Corporation Country Partnership Strategy for the Federated States Of Micronesia for the period FY2014 – 2017

The Energy Sector Development project (IDA 16 \$14.4 million) includes improvements to electric power generation and energy master planning.

The IDP includes indicative World Bank funding for infrastructure of \$3.5 million per year from FY2019.

3.4.3 Multilateral Bank Summary

Table 7 shows total multilateral bank grants of \$26 million over FY2016 to FY2025 and \$45 million of debt funding making a total of \$71 million available over the period of the IDP.

Table 7 – Estimated Multilateral Bank Funding

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
ADB										
Grants Total	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Loan Total	-	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Total ADB	500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000	5,500,000
World Bank										
Indicative					3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
Total World Bank	-	-	-	-	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000
ADB and WB Grants Total	500,000	500,000	500,000	500,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
ADB and WB Grants & Debt Total	500,000	5,500,000	5,500,000	5,500,000	9,000,000	9,000,000	9,000,000	9,000,000	9,000,000	9,000,000

Source: CMD / ODAD

3.5 Climate Change Funding

A major source of Climate Change (CC) financing is through the United Nations Framework Convention on Climate Change (UNFCCC). FSM’s first proposal to the UNFCCC Adaptation Fund, “Enhancing the climate change resilience of vulnerable island communities in FSM”, seeks \$8.9 million for coastal management infrastructure over five years from FY2016 (total \$9 million available to FSM for FY2016 to FY2020). The IDP includes additional Adaptation Fund funding of \$2 million per year from FY2021.

Funding under the Green Climate Fund (GCF) will depend on international funding pledges being honored by 2020. FSM is receiving technical assistance to prepare proposals for this funding and the IDP includes indicative GCF funding of \$2 million per year from FY2020.

Total climate change funding projected over FY2016 to FY2025 from the Adaptation Fund and the Green Climate Fund amounts to \$31 million.

3.6 Summary of Available IDP Funding

Total available funding for the IDP over FY2016 to FY2025 is estimated at \$751.9 million of which \$655.7 million is for development and \$96.2 million for maintenance. The annual total annual amounts are shown in Table 8 and Figure 6.

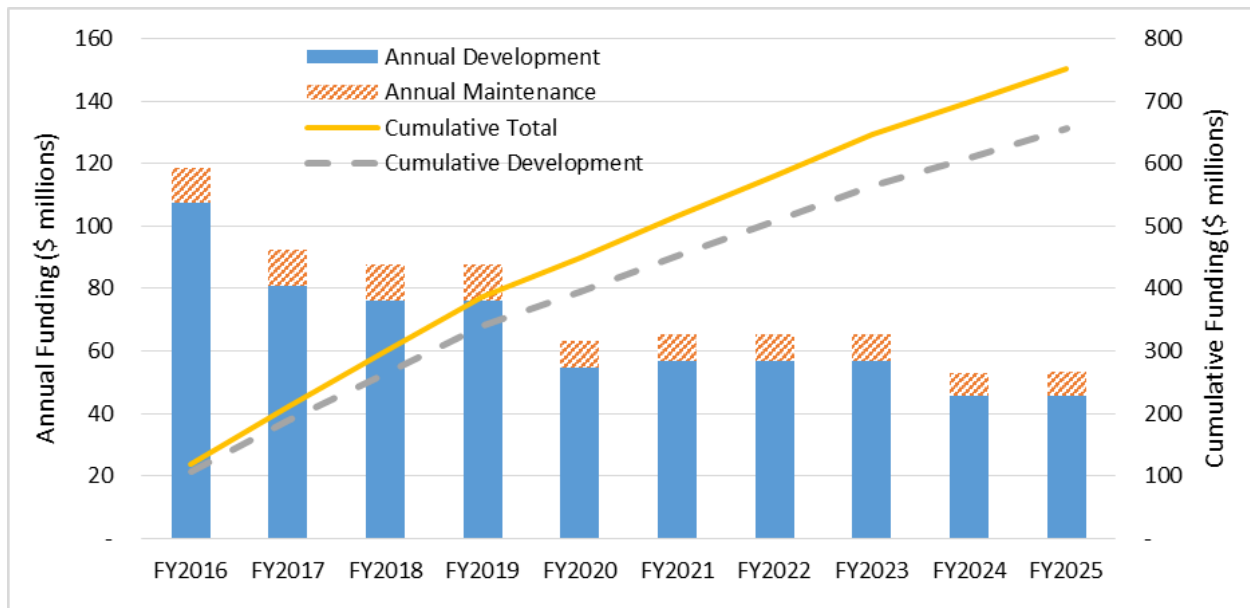
Each state receives a funding allocation under the IDP according to the source of funding. Amended Compact funds are split according to the formula set by the FSM Congress. Funds associated with bilateral donors, multilateral banks and climate change may be for specific projects, in which case there is a direct allocation to the appropriate state. The underpinning nature of infrastructure warrants a more even distribution of infrastructure funding than the Amended Compact funding formula. The IDP allocates these funds to a pool and then distributes 25 percent each to Chuuk and Pohnpei, 20 percent to Kosrae and Yap and the remaining 10 percent to the National Government.

On this basis Chuuk is allocated 40 percent of total available infrastructure funding, Pohnpei 27 percent, Yap 17 percent, Kosrae 14 percent and the National Government 2 percent.

Table 8 – Total Available IDP Funding

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Total IDP Funding										
Development	107,252,204	80,778,182	76,033,095	76,006,943	54,620,729	56,652,448	56,608,102	56,557,691	45,511,000	45,714,650
Maintenance	11,412,083	11,410,607	11,763,493	11,760,740	8,694,814	8,690,784	8,686,116	8,680,810	7,518,000	7,539,437
TOTAL	118,664,287	92,188,789	87,796,587	87,767,683	63,315,543	65,343,232	65,294,218	65,238,501	53,029,000	53,254,086
National										
Development	1,786,387	3,286,387	3,286,387	3,286,387	500,000	500,000	500,000	500,000	500,000	500,000
Maintenance	364,807	364,807	214,807	214,807	-	-	-	-	-	-
TOTAL	2,151,193	3,651,193	3,501,193	3,501,193	500,000	500,000	500,000	500,000	500,000	500,000
Chuuk										
Development	58,457,941	30,102,020	28,781,040	28,769,999	19,691,358	20,250,196	20,231,473	20,210,189	15,546,276	15,632,257
Maintenance	4,659,363	4,658,739	5,138,047	5,136,885	3,670,950	3,669,249	3,667,278	3,665,038	3,174,100	3,183,150
TOTAL	63,117,303	34,760,760	33,919,087	33,906,883	23,362,308	23,919,445	23,898,751	23,875,227	18,720,376	18,815,407
Kosrae										
Development	11,476,369	11,594,672	10,542,242	10,539,077	8,762,838	9,218,206	9,212,840	9,206,741	7,870,091	7,894,733
Maintenance	1,786,131	1,785,953	1,479,197	1,478,864	1,052,072	1,051,585	1,051,020	1,050,378	909,678	912,272
TOTAL	13,262,500	13,380,625	12,021,438	12,017,941	9,814,911	10,269,791	10,263,860	10,257,119	8,779,769	8,807,004
Pohnpei										
Development	22,615,273	22,761,328	21,443,178	21,435,822	15,146,780	15,711,012	15,698,537	15,684,357	12,576,922	12,634,209
Maintenance	2,642,001	2,641,586	3,088,041	3,087,267	2,445,851	2,444,718	2,443,404	2,441,912	2,114,813	2,120,844
TOTAL	25,257,274	25,402,914	24,531,219	24,523,088	17,592,631	18,155,729	18,141,942	18,126,268	14,691,736	14,755,053
Yap										
Development	12,916,235	13,033,774	11,980,249	11,975,659	10,519,753	10,973,035	10,965,252	10,956,405	9,017,711	9,053,451
Maintenance	1,959,782	1,959,523	1,843,402	1,842,918	1,525,940	1,525,233	1,524,413	1,523,482	1,319,409	1,323,171
TOTAL	14,876,016	14,993,296	13,823,650	13,818,577	12,045,693	12,498,267	12,489,665	12,479,887	10,337,120	10,376,622

Figure 6 – Total Available IDP Funding



3.7 Plan Funding Requirements

3.7.1 Overall Funding Requirements

Infrastructure development

The overall funding requirements for infrastructure development are shown in Table 9 (\$981 million) exceed available infrastructure development funding (\$656 million) by around 50 percent. The equivalent measure between total project costs and available funding in IDP 2004 is 117 percent.

The additional funding required to cover the indicated shortfall is reasonable:

1. in the context of section 1.3.2, infrastructure funding between FY2004 and FY2015 was more than 60 percent above the pro-rata IDP 2004 funding over 12 years (assuming full Amended Compact infrastructure development grants),
2. given that no funding has been included from significant US Federal programs,
3. with other development partners providing large one-off project funding in the past outside of their annual funding envelopes, and
4. with climate change funding is likely to increase.

Table 9 – IDP Development Funding Requirement

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Total IDP Development Funding Requirement	80,597,000	40,416,000	81,935,000	266,928,000	136,323,000	109,873,000	111,667,000	73,013,000	36,889,000	40,262,000
National	1,378,000	10,731,000	10,263,000	46,356,000	8,608,000	1,372,000	17,201,000	2,738,000	6,348,000	13,748,000
Chuuk	39,030,000	10,594,000	27,703,000	83,995,000	41,598,000	39,839,000	29,324,000	8,425,000	1,000,000	1,000,000
Kosrae	22,420,000	4,590,000	17,534,000	25,678,000	24,940,000	25,263,000	6,000,000	10,332,000	18,400,000	7,253,000
Pohnpei	16,720,000	7,779,000	12,598,000	65,835,000	29,130,000	21,324,000	46,564,000	33,821,000	2,852,000	15,673,000
Yap	1,049,000	6,722,000	13,837,000	45,064,000	32,047,000	22,075,000	12,578,000	17,697,000	8,289,000	2,588,000

Infrastructure maintenance

The overall funding requirement of \$96.2 million for infrastructure maintenance is shown in Table 10. This requirement matches with the available funding for infrastructure management.

Table 10 – Total IDP Maintenance Funding Requirement

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Total IDP Maintenance Funding Requirement	11,412,083	11,410,607	11,763,493	11,760,740	8,694,814	8,690,784	8,686,116	8,680,810	7,518,000	7,539,437
National	364,807	364,807	214,807	214,807	-	-	-	-	-	-
Chuuk	4,659,363	4,658,739	5,138,047	5,136,885	3,670,950	3,669,249	3,667,278	3,665,038	3,174,100	3,183,150
Kosrae	1,786,131	1,785,953	1,479,197	1,478,864	1,052,072	1,051,585	1,051,020	1,050,378	909,678	912,272
Pohnpei	2,642,001	2,641,586	3,088,041	3,087,267	2,445,851	2,444,718	2,443,404	2,441,912	2,114,813	2,120,844
Yap	1,959,782	1,959,523	1,843,402	1,842,918	1,525,940	1,525,233	1,524,413	1,523,482	1,319,409	1,323,171

3.7.2 Appropriation Profiles

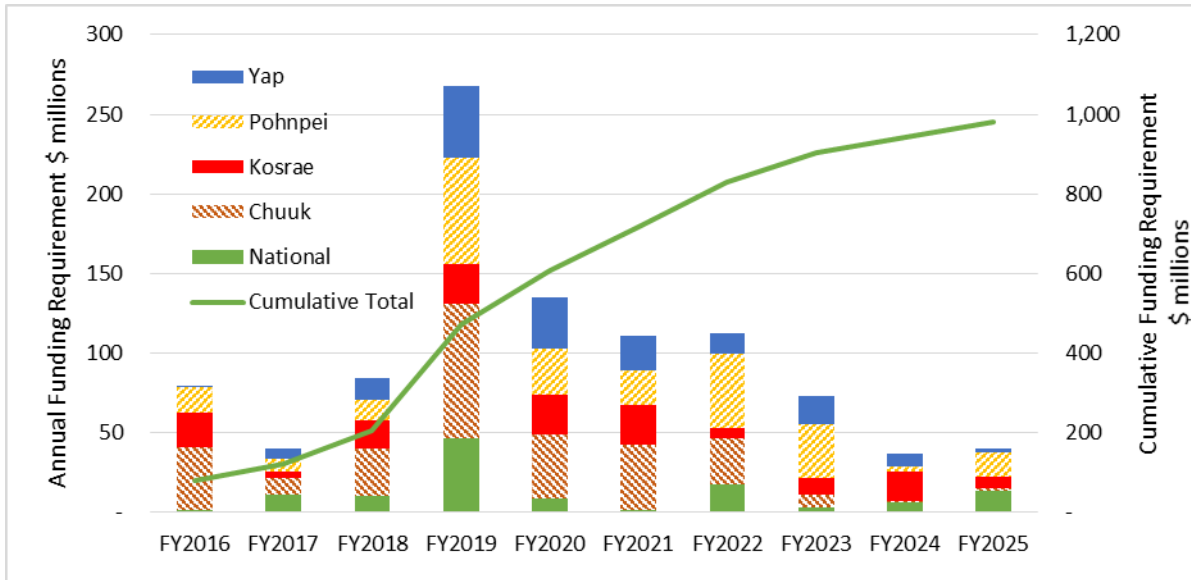
Infrastructure development

Each government identified and prioritized the projects included in the IDP. The estimated infrastructure development appropriations align with these priorities, taking into account a number of constraints and demands particularly for the first IDP period (FY2016 to FY2019).

Projects that are already designed and ready to move to construction are profiled for appropriation in FY2016. The remaining projects prioritized into the first IDP period are profiled taking account of the logistics, the need to develop the State PMOs and their short-term capacity, and considering their different support demands. These demands included projects where goods are to be purchased, that can be scheduled in an early year; projects where a limited amount of design is required, and construction procurement can follow on immediately, such as road rehabilitation; and projects where a full design is required, which will require procurement of a design consultant entity.

Projects in the other IDP periods (FY2020 to FY2022 and FY2023 to FY2025) are profiled more on the basis of smoothing overall resource demand on the State PMOs and consultant and contractors resources. The estimated annual and cumulative appropriation profiles are shown at Figure 7.

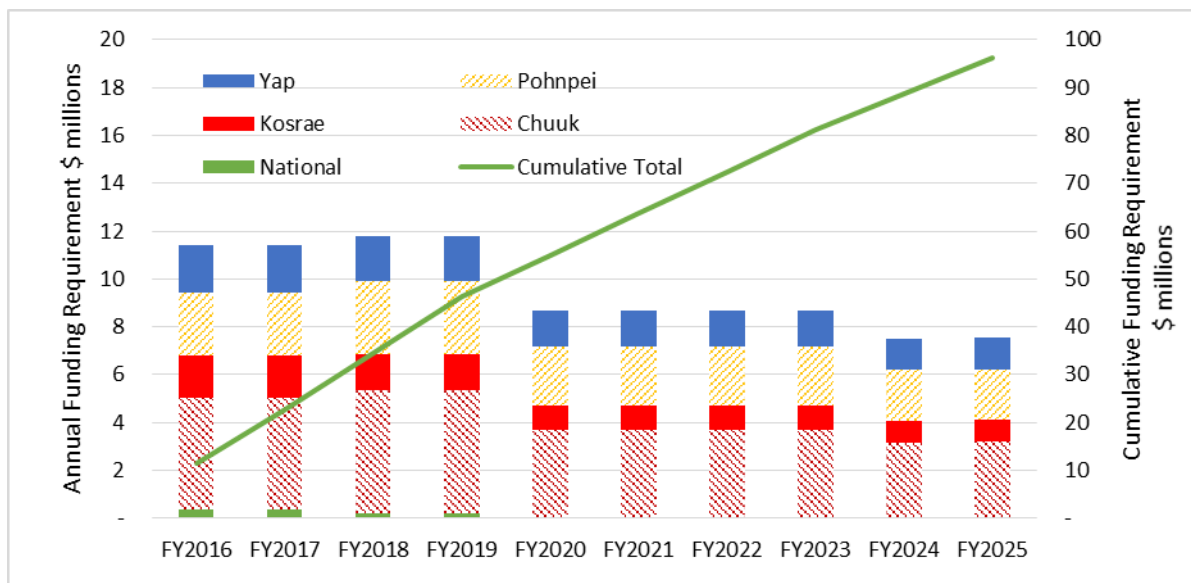
Figure 7 – Infrastructure Development Appropriations Profile



Infrastructure maintenance

The profiling of the infrastructure maintenance appropriations also matches the available funding profile with the estimated annual and cumulative appropriation profiles shown at Figure 8.

Figure 8 – Infrastructure Maintenance Appropriations Profile



3.7.3 Available Funding and Estimated Appropriations

Infrastructure development

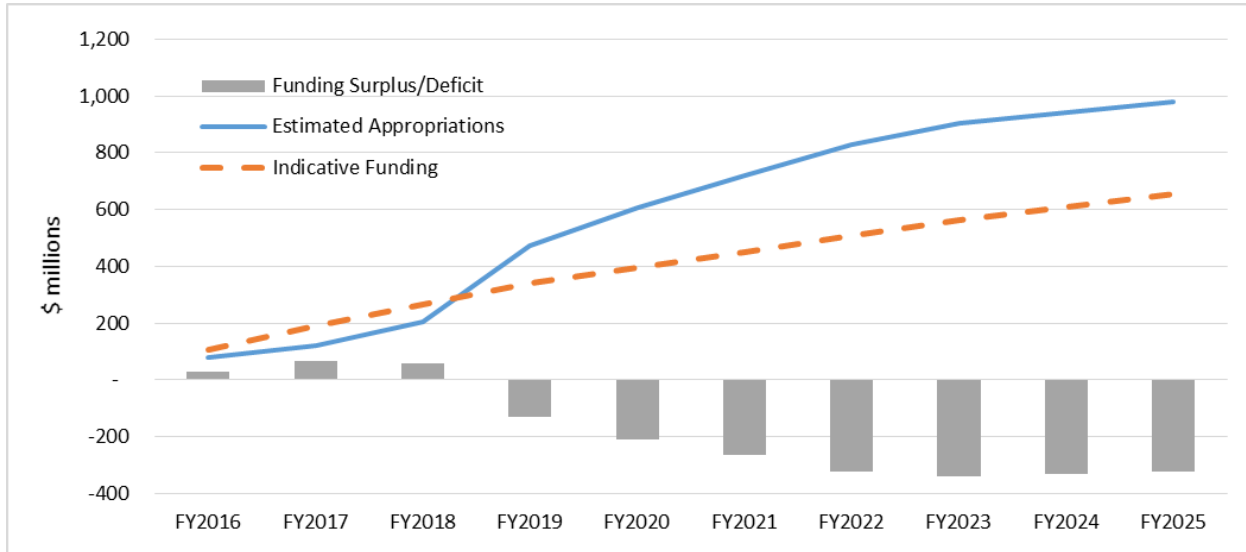
The IDP appropriation profile broadly balances with the available funding over the first four years as shown at Figure 9A. In the first three years available funding is greater than is required due to the

backlog of design and procurement required as a result of the March 2012 JEMCO resolution. From FY2019 onwards the requirement for funding exceeds the available funds. The different governments have significantly different funding versus appropriation profiles as is highlighted in Figure 9B to Figure 9F.

From FY2019 onwards estimated appropriations exceed available funding so additional funding needs to be identified and/or priorities reassessed to defer projects or remove them from the IDP. The planned review of the IDP in FY2019 will provide the opportunity to undertake this reassessment.

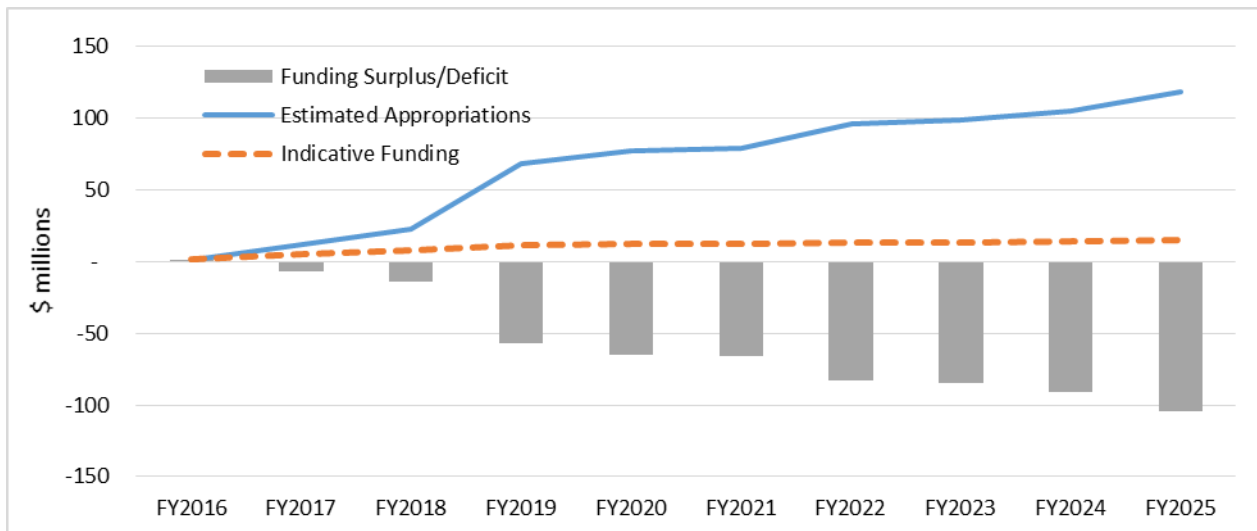
Figure 9 – Available Funding and Estimated Appropriations

A. IDP Cumulative Appropriations and Funding



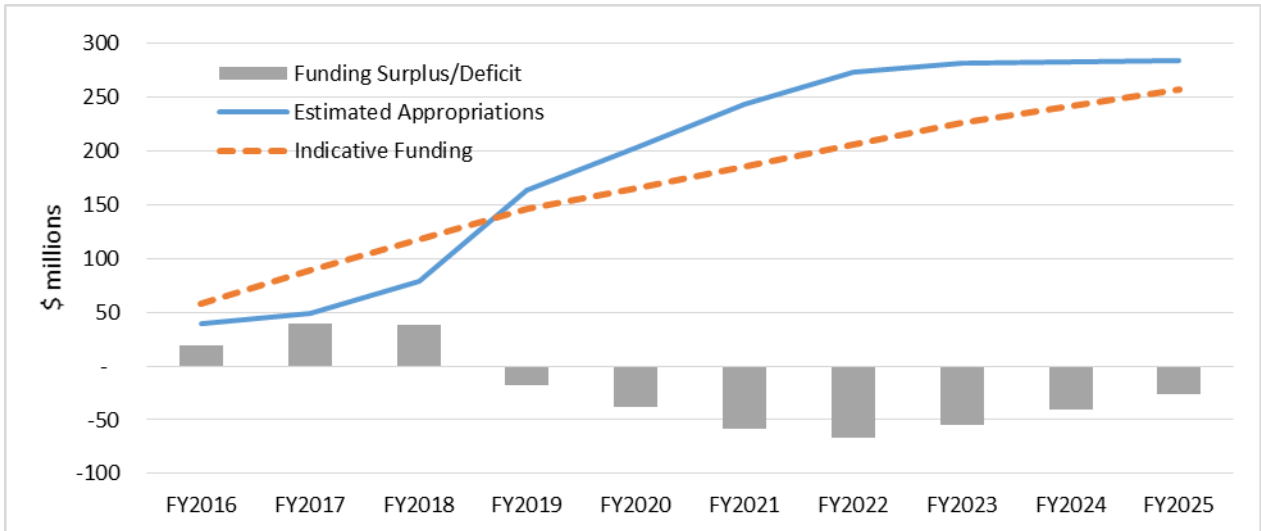
B. National Government Cumulative Appropriations and Funding

National Government funding is less than planned appropriations from FY2017, which becomes significant from FY2019 and the shortfall increases in subsequent years.



C. Chuuk State Cumulative Appropriations and Funding

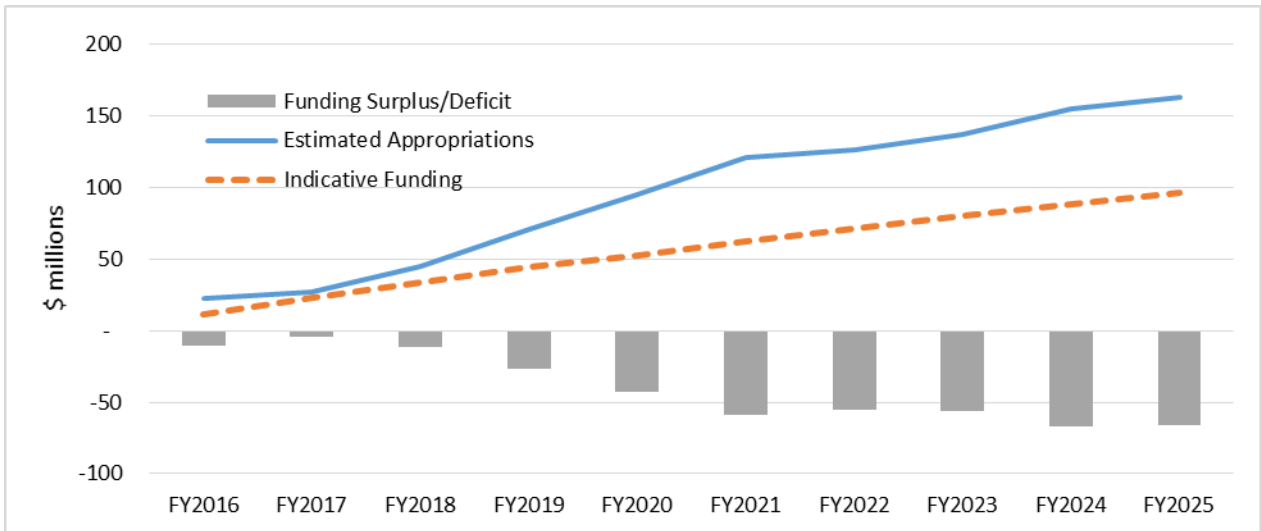
Chuuk planned appropriations do not exceed available funding until FY2020, reach a peak shortfall in FY2022 and then decline to almost balance by FY2025.



D. Kosrae State Cumulative Appropriations and Funding

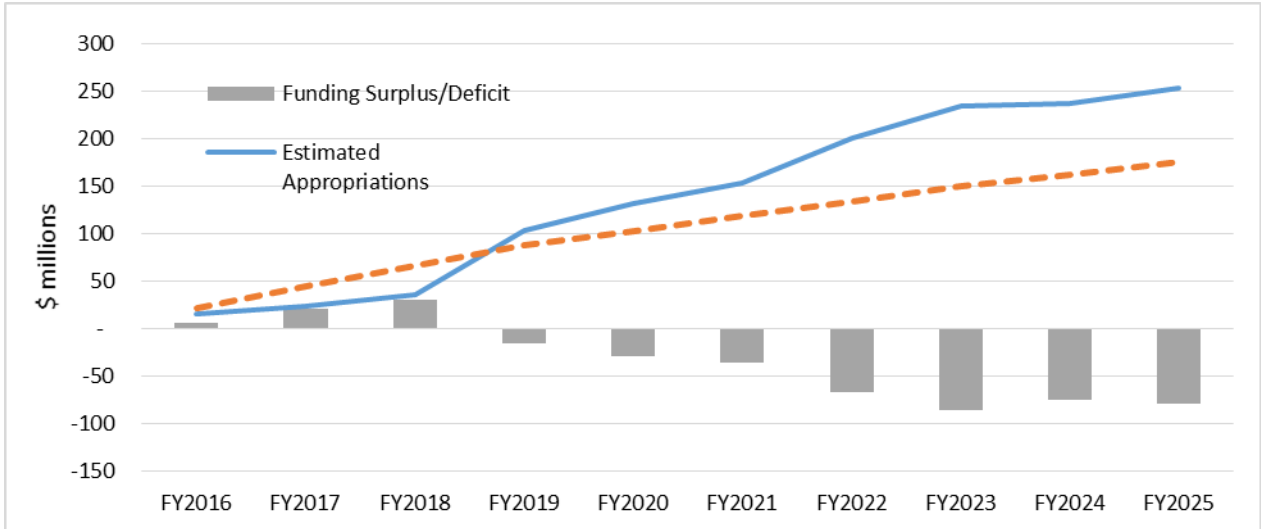
Kosrae planned appropriations are close to matching available funding until FY2019. From then on the funding gap increases to around \$50 million by FY2021 and remains at this level for the remainder of the planning period.

The funding required for the Kosrae State Hospital construction grant in FY2016 exceeds Kosrae’s Amended Compact arrears and FY2016 appropriation.



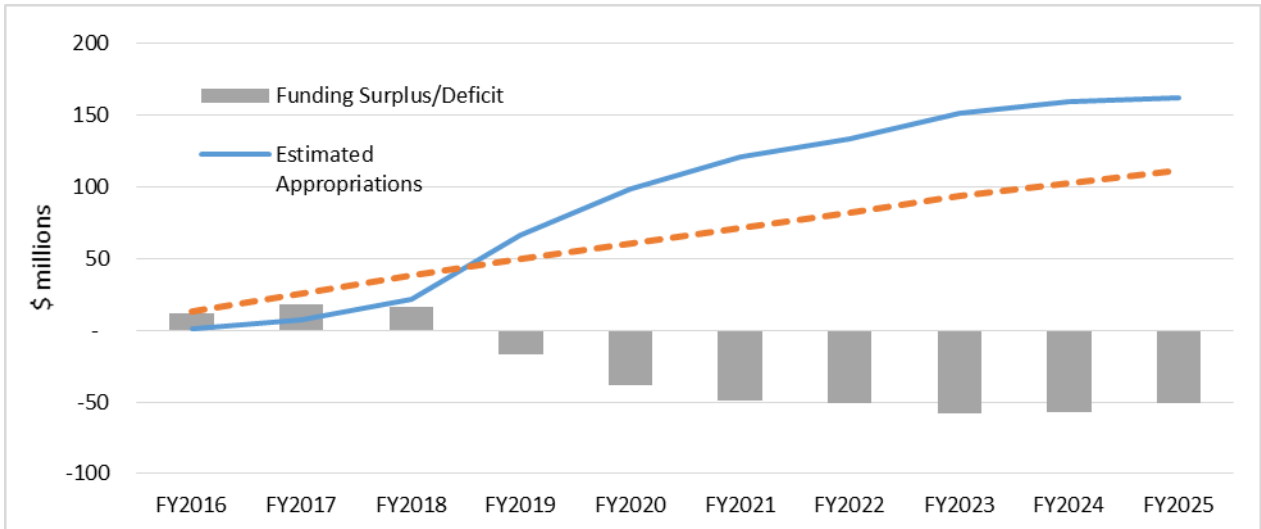
E. Pohnpei State Cumulative Appropriations and Funding

Pohnpei’s priority projects can be funded until FY2020. From then on a shortfall opens up to peak in FY2023 and remains significant until the end of the planning period.



F. Yap State Cumulative Appropriations and Funding

Without any projects ready for construction in Yap there is a significant surplus of available funding until FY2019. Subsequently the funding shortfall opens up and remains substantial until the end of the planning period.



Infrastructure maintenance

With infrastructure maintenance appropriations intended to match the availability of funding, there is no issue with the funding shortfalls. Rather, the challenge for infrastructure maintenance is for the States to provide the matching funds so that the Amended Compact IMF funding can be utilized as it becomes available.

Part 4 Management and Implementation

4.1 Current Situation

IPICs were established in each State and at National level to coordinate IDP 2004 infrastructure implementation. At National level the Economic Policy Implementation Committee fulfilled the IPIC role although this and the Pohnpei State IPIC are no longer active.

Within the National Government, DTCl has responsibility for the delivery of infrastructure, including Amended Compact projects, and similar departments deliver infrastructure at State level. Large development partner programs have their own implementation units. Overall there is no consistency of implementation processes.

Amended Compact situation

The PMU was established in 2005 by regulation to deliver Amended Compact funded infrastructure projects in IDP 2004 and is currently a section within DTCl with contracted staff. The PMU is responsible for both program management and project management for all Amended Compact development projects. This includes:

for **program management**: systems, procedures, compliance with Amended Compact requirements and FSM IDP regulations, preparation of consolidated annual FSM program reviews and program liaison with the States

for **project management**: all documentation and procurement for design, construction and contract supervision services, review of preliminary and final designs with some consultation with the States and direct contract supervision by PMU staff located in the States

Issues with the current PMU arrangements include:

1. there is no clear and uniform process for the progression of a project, from the initial listing in the IDP, through pre design, detailed design and construction
2. State IPIC are not involved in scope changes
3. PMU project managers and engineers located in the States are not accessible by the State stakeholders
4. the flow of information between all the stakeholders is poorly documented and inconsistent

4.2 Strategic Considerations and Guiding Principles

4.2.1 Strategic considerations

Future institutional arrangements will incorporate the following strategic considerations:

Strong and strategic oversight at the program level – strategic oversight is a government function that will not be outsourced, although it can be reinforced with contracted expertise

Involvement of the States – State involvement is critical to planning and implementing clearly defined projects that meet stakeholder requirements

Autonomy of the States – the autonomy of the States in planning and implementing their programs is recognized in the institutional arrangements, notwithstanding the need to work to a consistent set of processes

Local capability to be developed – there will be a clear path for “localizing” the institutional arrangements over time and ensuring that those arrangements endure beyond the end of the IDP

International best practice will be considered – best practice program delivery arrangements such as “Centers of Excellence” will be considered to efficiently utilize resources and maintain consistency across the program

4.2.2 Guiding principles

In addition to the strategic considerations, the institutional arrangements are designed to achieve the following principles:

1. program and project management processes ensure transparency of decision making
2. competitive bidding processes will be followed to ensure best value outcomes
3. there will be appropriate standards and sanction and segregation of roles and functions to maintain probity and integrity
4. capability building of local resources will be a primary responsibility of any external resource

4.3 Initial Institutional Arrangements

The initial institutional arrangements in this section takes into account the above strategic consideration and guiding principles and will apply to all Amended Compact funded infrastructure delivery.

4.3.1 Strategic oversight

A reformed PMU residing within DTCL will collate information for program level Amended Compact infrastructure delivery.

The National Government to US Government interface will be through the Department of Finance and Administration.

Jointly CMD and PMU will develop and implement coordinated processes for controlling both financial and delivery aspects of the Amended Compact infrastructure program.

In time it is intended that this oversight arrangement will apply to all infrastructure programs as a long term development initiative with the Government to Government/Development Partner interface being managed by CMD or the Aid Coordination Group depending on the funding source.

4.3.2 Governance

Effective State IPICs provide the basis for strong governance of infrastructure delivery at the State program and project level once the coordinated control processes have been established.

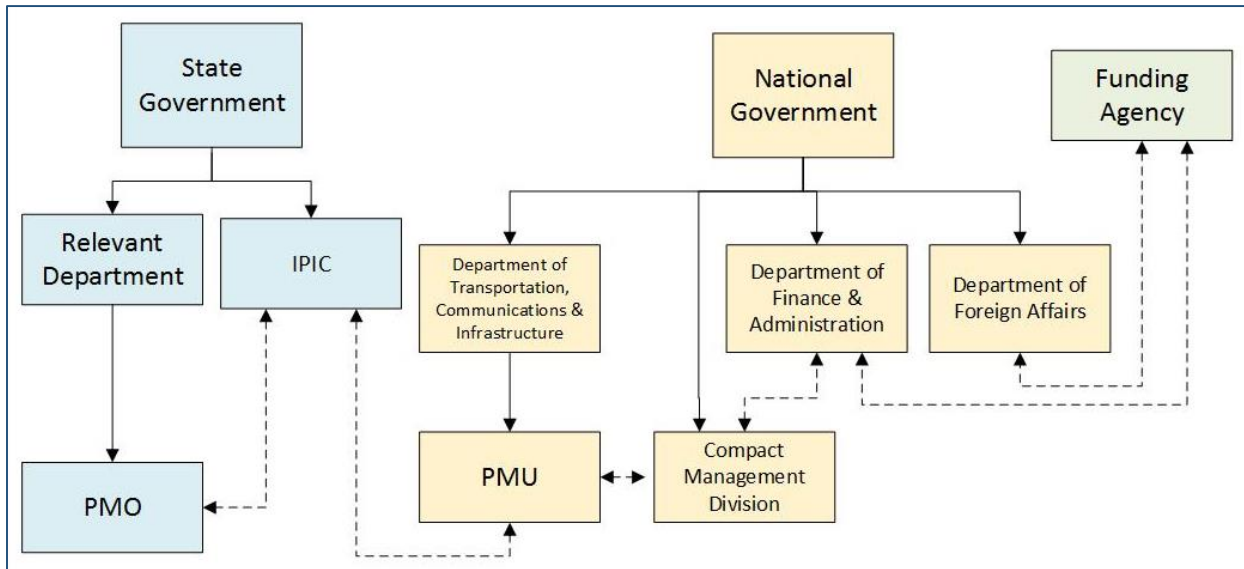
Most importantly the upgraded role of the IPICs and establishment of the implementation framework outlined below will allow the devolution of planning and implementation responsibilities to the States without compromising control, integrity and governance. The reinstatement of the Pohnpei State IPIC is a priority action for the incoming State Executive.

4.3.3 Implementation model

The implementation model retains the PMU within DTCL but restructures the unit to focus on **Program Management**. The PMU will provide ongoing support to each State to ensure standards are developed and shared, subsequent design and construction contracts are consistent with appropriate risk management and provide peer review expertise as required.

Project Management, from initial planning, through design to construction completion, is devolved to the States by the formation of four Project Management Offices (PMOs). The PMOs will undertake all the project management activities from initial design through to construction and completion.

The general structure of the implementation model is shown in Figure 10.

Figure 10 – Organization Chart of Infrastructure Delivery

A key part of the model is for a single external party to undertake the initial PMO role in each State. Each State will have its own contract with the external party establishing direct accountability to each State. This arrangement provides an optimum balance between State responsibility and consistency and efficiency across the four States.

The model addresses the key aspects of delivering an infrastructure program across FSM by:

- establishing an immediate increase in project management capacity by engaging the external party to operate in each State
- providing the States with direct involvement in the planning and implementation of their State program and projects
- retaining PMU to provide guidance on standards and contracts, risk management and conduct peer reviews and program management oversight
- retaining PMU as a National Government entity to ensure appropriate controls and segregation of duties
- having PMU provide central coordination of Amended Compact activities and institutional interfaces on program delivery matters, including tracking and reporting of program status, expenditure and funding availability
- using one external party to undertake all four PMO roles to provide consistency across all States in terms of project management approaches, processes and methodologies
- enabling performance comparison between States to facilitate continuous improvement and identification of particular weaknesses and solutions
- providing opportunities for State government employees to build skills and knowledge by working as part of or with the external PMO entity
- obligating the external PMO entity to developed capacity in each State
- sharing knowledge on technical and project management matters across all States via the PMU
- providing a foundation for the delivery of all infrastructure programs and projects over time
- providing greater opportunities for local companies to be involved in design and construction contracts

In the case of the Pohnpei State PMO, additional support will be provided to DTCl to assist in delivery of National Amended Compact infrastructure projects.

Proposed PMU Structure

The PMU’s current technical/engineering focus needs to change. In addition to a Program Manager and administration support, the following skills and expertise are required refocus the unit in its program management and coordination role:

Contracting/Procurement Expertise

- establish, maintain and support standard procurement and contract documentation
- provide ongoing guidance to the States on scope definition, contract duration, special conditions of contract and risk management
- conduct peer reviews
- manage the prequalification of design consultants and contractors

Program Management Skills

- manage the current and future program portfolio, including tracking each project on a time, cost and quality basis in support of the States
- preparing periodic reports
- working with the States to plan and adjust programs to offset delays
- liaising with the funding agency on technical and other matters

Engineering Expertise

- support the engineering staff in each State by advising/developing appropriate local standards
- conducting peer reviews of design consultant proposals and design submissions, where required
- establishing and managing a consolidated engineering library including designs, standards and cost information for use across FSM
- assisting with the prequalification of design consultants and contractors
- supporting and building project management capacity of DTCl staff engaged in project management of National infrastructure projects

Proposed State Project Management Offices

Each State PMO will initially have external party resources to establish its project management capability supplemented by State and other FSM resources. The following resources will be required in each PMO.

Project Management skills

A Project Manager/PMO Manager is required in each State with larger State programs potentially requiring additional project manager(s).

Contracting Officers

Each PMO requires staff with the ability to undertake procurement and contracting responsibilities. A Project Manager may be able to undertake this role in States with smaller programs.

Resident Engineers and Inspectors

Resident Engineers and Inspectors are required in each State PMO and these could be State employees or other local resources. Other local resources can be progressively brought in as part of the capacity building process to initially understudy experienced staff.

Technical Specialists

From time to time specialist technical advice may be required on complex or challenging projects and the contract with the external party will enable technical specialists to work within the PMO on a short term basis.

General Considerations

The cost of each PMO is estimated to be between 5 and 7 percent of the State program which is within international benchmarks and internationally recognized as a legitimate program cost.

The IDP includes provision for the required funds for the PMU and State PMOs; the PMU funds will continue to come from the National Government, and the PMO funds are part of the Amended Compact component of each State's infrastructure development program (noting that Amended Compact PMO funding is dedicated to the delivery of Amended Compact projects).

The external party engaged to manage the PMO will be excluded from participating in any further contract for the design, construction or supervision on an IDP project for which it has project management responsibilities to ensure probity is maintained.

The external party will be contractually bound to build local project management capacity in each State and will have its capacity building plans and performance regularly reviewed by IPIC.

The link between each State PMO and the PMU is very important. The PMU will provide strong process guidance, contracting expertise, engineering standards and OIA liaison, legitimizing its role and avoiding being isolated from the PMOs.

The roles and responsibilities for each party involved in planning, implementation and management of the IDP's Amended Compact component are documented in Annex A.

4.4 Process Enhancements

All infrastructure projects require defined project management processes from pre-design through funds release, design and construction to successful completion. Best practice processes incorporate key steps, hold points, client reviews and concise and complete documentation to support such processes.

It is also good practice to release funds at two stages; initially to release funds to enable the full project design to be undertaken and then, prior to the construction procurement process commencing, the funding required for construction. This approach facilitates the orderly progress of the project while ensuring that after design there is a review of the project scope, time and cost and any changes are formally signed off before committing funds for construction.

Pre-Design and initial funds release

The PMO will fully document the project scope and formally agree this information with its IPIC, including:

- project outline, scope and justification
- other options considered if relevant
- reference to IDP, sector and prioritization
- whole of life cost estimate broken down to estimates for project management, design, construction and maintenance
- delivery strategy, including number and type of contracts, project phasing and timing, links to other projects and arrangements for construction supervision
- risks and issues that need to be resolved, for instance site access or geotechnical data
- outline program broken down to include key review points at say 30 percent design, end of design and construction completion

The project will be submitted for the release of initial (generally design) funds once endorsed by the IPIC. Once the initial funds have been appropriated, the PMO will conduct (if required) a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the design consultant.

Design and construction funds release

The PMO will formally review each project with the IPIC twice during design. The PMO will also hold regular client meetings with sector representatives.

The IPIC reviews will be held when the design is 30 percent complete and when it is 100 percent complete (but still subject to review). The 30 percent design review will ensure that designs remain on an agreed path before significant design costs are incurred.

Following a design being accepted as complete a second submission will be made to the funding agency for the appropriation of construction funds.

Construction procurement

Once construction funds have been appropriated, the PMO will conduct a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the construction contractor and any required supervision consultant.

Variations

The PMO will process variations generally as follows:

- variations in scope require IPIC approval to ensure project outcomes remain fully agreed
- variations in scope or cost that require additional funding will be endorsed by IPIC before submission to Government and/or OIA (as required) for approval
- change orders to a contract will be processed in accordance with the PMU's contract management manual

Completion

The PMO will prepare a Project Completion Report for endorsement by the IPIC. This report will include analysis of the project on a time, cost and quality basis and the PMO will ensure that all contract completion activities are finalized, including provision of as-built drawings and operations and maintenance (O&M) manuals.

4.5 Transitional Arrangements and Longer Term Developments

4.5.1 Transitional arrangements

The target for the implementation model to be in place is Q3 FY2016.

Transition to the implementation model

The transition from the existing arrangements to the State-focused implementation model is complex and needs to be completed quickly to minimize any further delays in infrastructure delivery. DTCl will establish the overall transition program and responsibilities and manage its implementation.

The role of PMU during the transition period will be three-fold:

1. to refocus itself on the evolved program management role identified in the implementation model, including the recruitment of staff to fill any gaps in required skills and expertise
2. support DTCl in implementing the transition program
3. continue to manage on-going projects until the PMOs are in place and ready to take responsibility for their infrastructure delivery

The overall transition program will involve DTCl working closely with State representatives to:

1. define the scope of services required to meet the PMU and State requirements for project management services and capacity building
2. undertake a procurement process to identify the preferred external party that is best suited and able to fulfill the role and functions identified for the PMO in each State, including the ability to build the capacity of local resources
3. develop a draft contract agreement for each State to negotiate with the preferred external party – the draft contract agreements will have common general terms, conditions and schedules and any requirements that may be particular to any State

Each State will then enter into its own contract with the external party.

Other transition activities

In parallel with the transition to the implementation model:

The Attorney General will prepare legislation required to facilitate and support the institutional arrangements and work with State counterparts to make complementary changes to State legislation.

The Secretaries of Finance and Administration and TCI will prepare replacement Procurement Regulations for IDP Projects to establish a single set of regulations for procurement of Amended Compact funded contracts and work with State counterparts on any complementary changes to State regulations.

4.5.2 Longer term developments

The institutional arrangements, including the implementation model, provide enhanced delivery for Amended Compact funded infrastructure with strong governance at State level and coordination of the program at a National level. When fully established and optimized, discussions will be held with development partners to deliver their infrastructure projects under the same arrangements. This has a number of advantages including:

- ensuring that the expertise, both private sector and that developed through capacity building, is employed to deliver all infrastructure
- providing development partners with clearly identified National and State-based entities to interface with on infrastructure projects
- ensuring FSM maximizes the infrastructure development funding opportunities available
- ensuring high standards of consistent governance and process are applied to all infrastructure projects

The funding of the PMO under such a revised arrangement will need to be agreed with the development partners.

Part 5 Sector Overview

5.1 Institutional Arrangements

5.1.1 Power and Water Sector Utilities

The public utilities corporations/authorities created during the 1990s continue to improve their management, financial, technical and service delivery capacities and performance, assisted by ongoing infrastructure investment from external funding sources. Broadly the utilities are now at the point that their management and administration and O&M activities are covered by tariff revenue. However service extension and rehabilitation will require external funding for the foreseeable future.

All power utilities are actively planning and implementing renewable energy projects and are moving steadily towards the Energy Policy targets.

Water and wastewater services in Kosrae remain the responsibility of the Department of Transportation and Infrastructure. However a framework exists for future infrastructure projects to include transfer of responsibilities to the Kosrae Utilities Authority (KUA).

Chuuk Public Utilities Corporation (CPUC) receives Amended Compact funding support for four managerial positions. This support is due to finish no later than FY2018.

The Pacific Power Utilities Benchmarking Report Fiscal Year 2012²⁰ rates the performance of the FSM electric power utilities with their overall financial performance shown in Table 11.

Table 11 – Electric Power Utilities Performance

Electric Power Utility	Operating Ratio ¹
Chuuk Public Utilities Corporation	108.2 percent
Kosrae Utilities Authority	111.4 percent
Pohnpei Utilities Corporation	109.1 percent
Yap State Public Services Corporation	106.8 percent
Pacific Average	98 percent

Note:

1. "OR" = $[(\text{total operating costs} + \text{depreciation}) / (\text{total revenue})] \times 100$
OR below 100 indicates profitability

The Pacific Water and Wastewater Utilities Benchmarking Report 2013²¹ rates the performance of the FSM water utilities with their overall performance shown in Table 12.

Table 12 – Water Utilities Performance

Water Utility	Overall Efficiency Indicator	Operating Cost Recovery Ratio
Chuuk Public Utilities Corporation	18 percent	30 percent
Pohnpei Utilities Corporation	66 percent	169 percent
Yap State Public Services Corporation (2012)	47 percent	127 percent
Southern Yap Water Authority (2011)	89 percent	92 percent

²⁰ (PPA, 2012) - Pacific Power Utilities Benchmarking Report Fiscal Year 2012

²¹ (PWWA, 2013) - Pacific Water and Wastewater Utilities Benchmarking Report 2013

Gagil-Tomil Water Authority	96 percent	103 percent
Pacific Benchmark	70 percent	120 percent

Note:

2013 indicators unless noted

Operating Cost Recovery Ratio:

operating revenues (excluding subsidies)
operating costs (excluding depreciation and debt servicing)

CPUC only started water billing in July 2012 with on-going new meter installation – further gains in operating cost recovery ratio were made in 2014²²

5.1.2 Solid Waste Management

There are effective, regulated solid waste management systems in place for the primary state population/activity centers and there is developing private sector involvement in solid waste management services. All primary landfill sites utilize the Fukuoka method and there is increasing separation of recyclable and hazardous wastes from general refuse.

Operational costs are funded from general revenues and there are currently no environmental levies on industry or consumers.

The solid waste management regulators and operators have identified the need for additional investment to improve existing facilities, develop new facilities and extend the scope and coverage of solid waste management, albeit still limited to the main population activity centers.

5.1.3 Roads and Pedestrian Facilities

Road and pedestrian facilities are largely the responsibility of state departments for infrastructure/public works. Although improvements to the condition of roads and bridges are required, the road networks in the primary population/activity centers are largely in place with the exception of the Southern Namoneas and Faichuk groups in Chuuk lagoon.

The key institutional challenge is to introduce an approach to road and bridge asset management that delivers safe and serviceable road conditions at optimum whole-of-life costs. Extensive development of both public sector road management capacity (including planning, inspection and contract management capacity), and private sector maintenance and construction capacity is required.

5.1.4 Maritime Transportation

Port development and management is the responsibility of independent authorities in Kosrae, Pohnpei and Yap that retain revenue generated from operations and have responsibility for operating costs and making investments. In Chuuk the port is the responsibility of the Department of Transportation and Public Works. These agencies have broader responsibilities for navigational aids throughout their respective States although this is limited in practice.

The private sector provides stevedoring services at the major ports.

Regulation of maritime safety and security is a national responsibility within DTCI and is a key component of planned revisions to transportation legislation. The capacity of DTCI’s Marine Division in this area is currently limited and will be developed as part of implementing revised legislation. There are opportunities to leverage regional capabilities in this area through the Micronesia Shipping Commission.

²² (CPUC, 2014) - CPUC – Annual Report FY 2014

5.1.5 Air Transportation

In the IDP “**airport**” refers to the international airports, one in each State, and “**airstrip**” refers to the aircraft landing facilities on the outer islands.

Airport development and management is the responsibility of independent authorities in Kosrae and Pohnpei that retain revenue generated from operations and have responsibility for operating costs and making investments. In Chuuk and Yap the airport is the responsibility of the Department of Transportation and Public Works.

The Civil Aviation Division within DTCI provides an oversight function of all airports and outer island airstrips and works closely with the US Federal Aviation Agency on aviation safety and security. DTCI’s Civil Aviation and Infrastructure Divisions liaise with the State departments responsible for outer island airstrip infrastructure and maintenance.

Regulation of aviation safety and security is also a key component of planned revisions to transportation legislation. The capacity of Civil Aviation Division will need to be developed as part of the introduction of the revised legislation. Again there are opportunities to leverage regional capabilities in the area of aviation safety and security.

5.1.6 Telecommunications

The FSM Telecommunications Act of 2014 established the FSM Telecommunication Regulation Authority and opened the door to market competition. Establishing and building the Authority’s capacity is part of the current regional telecommunications connectivity project.

FSM Telecommunications Corporation (FSMTC) currently remains the sole telecommunications provider and continues to improve management, financial, technical and service delivery capacities and performance. FSMTC is proactive in leveraging external investments, particularly connections to the international fiber optic network, to bring contemporary telecommunications services and pricing to consumers.

FSMTC’s financial position has reached the point that it is able to enter into at least concessional loans to invest in new infrastructure and facilities.

5.1.7 Education

There are Boards of Education in each State and the College of Micronesia (COM) has a Board to manage its affairs.

Sector coordination is undertaken through the FSM Association of Chief State School Officers comprised of the Secretary of Education, State Directors of Education and the COM President.

5.1.8 Health

Within the health sector there are a number of regulatory responsibilities that include licensing medical professionals and setting food safety standards.

There is also a Healthcare Coalition established under a memorandum of understanding comprised of the Secretary of Health, State Directors of Health and the head of private health provider Genesis. The role of the Coalition is to coordinate on operational and emergency response matters, ensuring that medical resources across the whole of FSM can be mobilized as and when required. The Coalition also acts as FSM’s oversight group on projects and grants in the health sector.

5.1.9 Government Administrative Buildings

The national or state infrastructure/public works agency is responsible for government administrative buildings.

5.2 Sector Plans

5.2.1 Current Sector Plans

Table 13 – Sector Plans and Studies

Sector	Title	Status
Air Transportation	Airport Master Plan (all States)	Completed 2012
Maritime Transportation	Regional Study on Maritime Transport Systems in the North Pacific Countries	Draft May 2015
	Pohnpei Port Scoping Study	Completed in 2011
Electric Power	Regional Energy Plan	In Progress
Solid Waste Management	FSM draft National Solid Waste Management Strategy 2010-2014	Unknown
Education	School Facility Repair and Construction Master Plan (Chuuk, Pohnpei & Yap)	Completed 2012/13
	College of Micronesia - FSM Space Utilization and Facilities Master Plan (all campuses)	Completed 2013
Climate Change	Kosrae Joint State Action Plan	Completed 2015
	Kosrae Shoreline Management Plan	Completed 2014
	Yap Joint State Action Plan	Completed 2015
Tourism	National Tourism Policy and State Investment Plans	Draft 2015

5.2.2 Proposed Sector Plans

Maritime Transportation

The domestic maritime transportation sector requires plans for each State. An early and appropriate maritime project in each State will be selected to prepare the first stage of the maritime sector plan by identifying and documenting all existing maritime assets, including jetties, landing places, nature of access from land and sea. This information will also form part of the asset register as described in section 6.3.

Most sector planning can be done in isolation from the other sectors however an integrated approach to air and maritime transportation planning for the outer islands is important so that the two modes complement rather than compete with each other, avoiding the risk of separately planned services failing.

Air Transportation

The intended development of Airport Safety and Security Plans under the AIP is an important step towards having IDP air transportation projects considered for implementation funding under this program.

Education

An Education Sector Infrastructure Code will be developed at State level, with coordination at National level, to set minimum spatial planning standards for education buildings, additional to Building Codes.

This will be generated out of the early design stages of initial projects and compiled as standard documents by the PMU.

Health

A Health Sector Infrastructure Code will be developed at State level, with coordination at National level, to set minimum spatial planning standards for health buildings, additional to Building Codes. This will be generated out of the early design stages of initial projects and compiled as standard documents by the PMU.

Part 6 Institutional Aspects

6.1 Whole of Life Costs

The costs associated with new infrastructure do not end with purchase or construction. It is one step in the life cycle of an asset that begins with the initial identification of needs through to the disposal of the asset at the end of its useful life. The stages of the asset life cycle include: concept and planning, detailed design specification, construction/supply, contract supervision, operation and maintenance and disposal/decommissioning. Each stage requires planning and coordination and involves costs and time.

When all these costs are combined, the total may be more than double the cost of the initial purchase/construction price²³. Neglecting to consider and budget for whole of life costs results in preventative maintenance not being undertaken and a generally shorter life than expected. With the cost-effectiveness of preventative maintenance well established²³, this represents a waste of scarce resources and imposes an unnecessary burden of infrastructure renewal on future budgets where money could be better utilized elsewhere.

The provision of adequate funding for preventative maintenance as part of a whole of life approach to asset management is a key institutional issue for FSM, like other Pacific Island countries.

The IDP distinguishes between the costs of keeping an asset in a usable condition (**maintenance costs**) and the costs of using the asset to deliver services (**operating costs**). Maintenance costs are generally related to standardized activities of a routine or periodic nature that can be reasonably estimated. Operating costs on the other hand are related to service delivery that can be highly variable over the life of an asset and between similar assets used in similar situations.

Each of the priority projects included in the National and State IDP volumes incorporate an estimate of the maintenance costs over the life of resulting asset, providing an estimate of the whole of life cost of owning the asset and keeping it in a usable condition (but not operating it and delivering services). Unlike maintenance costs, FSM sector managers have a reasonable understanding of, and make reasonable budgetary provision for, the cost of operating their assets.

Standardized maintenance cost factors for the IDP sectors are shown in Table 14.

Table 14 – Maintenance Cost Factors

Sectors & Components	Life (Years)	Maintenance Costs per annum (percent Construction Cost ¹)	Maintenance Costs over Asset Life (percent of Construction Cost)
	(A)	(B)	(A x B)
Electric Power			
Poles & wires	20	2.5 percent	50 percent
Solar Power (feed-in)	20	3.0 percent	60 percent
Diesel Generators	15	15.0 percent	225 percent
Water/Wastewater Systems			
Pipes, Tanks	50	2.0 percent	125 percent
Plants	30	4.0 percent	120 percent
Solid Waste Management	20	2.0 percent	40 percent

²³ (PIAC, 2013) - Infrastructure Management in the Pacific

Sectors & Components	Life (Years)	Maintenance Costs per annum (percent Construction Cost ¹)	Maintenance Costs over Asset Life (percent of Construction Cost)
	(A)	(B)	(A x B)
Roads and Pedestrian Facilities			
Paved Roads	20	3.5 percent	70 percent
Bridges	50	3.0 percent	150 percent
Maritime Transportation			
Docks	50	3.0 percent	150 percent
Other Facilities	20	3.0 percent	60 percent
Air Transportation			
Runways & Aprons	20	12.0 percent	240 percent
Other Facilities	20	3.0 percent	60 percent
Telecommunication Systems	50	8.0 percent	400 percent
Health	50	4.0 percent	200 percent
Education	50	2.5 percent	125 percent
Government Administrative Buildings	50	3.0 percent	150 percent
Vehicles, Plant and Equipment	10	20.0 percent	200 percent
Vessels	20	20.0 percent	400 percent

Notes:

Based on 8 percent discount rate applied to whole of life maintenance costs
 In addition to the quoted reference²³, total maintenance costs per annum are based on broad assessments internationally of similar types and standards of infrastructure

6.2 Infrastructure Maintenance

Like other Pacific Island countries FSM has difficulty in achieving key infrastructure maintenance objectives: cost effective asset preservation, and acceptable levels of infrastructure safety and amenity.

Virtually all sectors in all jurisdictions consider that funding for infrastructure maintenance is inadequate. The exception is in the utility sectors where tariff revenue now provides a reasonable amount for preventative maintenance of water, wastewater and electric power assets (and the delivery of services).

Effectively 10 percent of Amended Compact infrastructure funds are set aside for maintenance (5 percent Amended Compact and 5 percent matching funds) and the National Government allocates maintenance funds from local revenue. Despite funding being available for infrastructure maintenance, there is little in the way of formal infrastructure maintenance programs other than in the utility sectors. The capacity of the States to match the available Amended Compact IMF funding is a major constraint that is compounded by the OIA’s requirements for releasing those funds. The unspent Amended Compact IMF funds through to FY2015 are \$6.1 million (around \$12.2 million in total with the matching funds).

Although the annual funding for maintenance from IMF and National Government sources is in the order of \$6 million, this is still a relatively small proportion of the total maintenance needs across FSM.

Adopting an average maintenance funding rate of 3 percent from Table 14, the IDP infrastructure development program by itself will generate a maintenance funding requirement between 4 and 5 times the current level of maintenance funding without even considering the maintenance funding requirement for existing infrastructure assets.

Improving the maintenance of FSM’s infrastructure is a major institutional challenge that needs to be addressed through the IDP, not just with the infrastructure sector agencies, but with the governments and their policies, strategies and management of financial resources. The following section 6.3 sets out the FSM’s planned transition to contemporary asset management, supported by technical assistance projects that are part of the IDP institutional component.

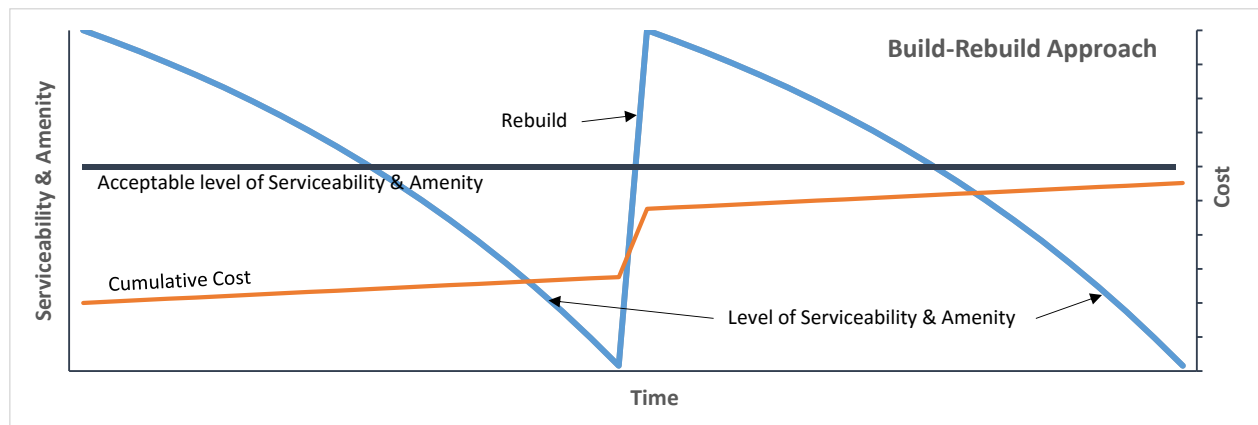
6.3 Transition to Contemporary Asset Management

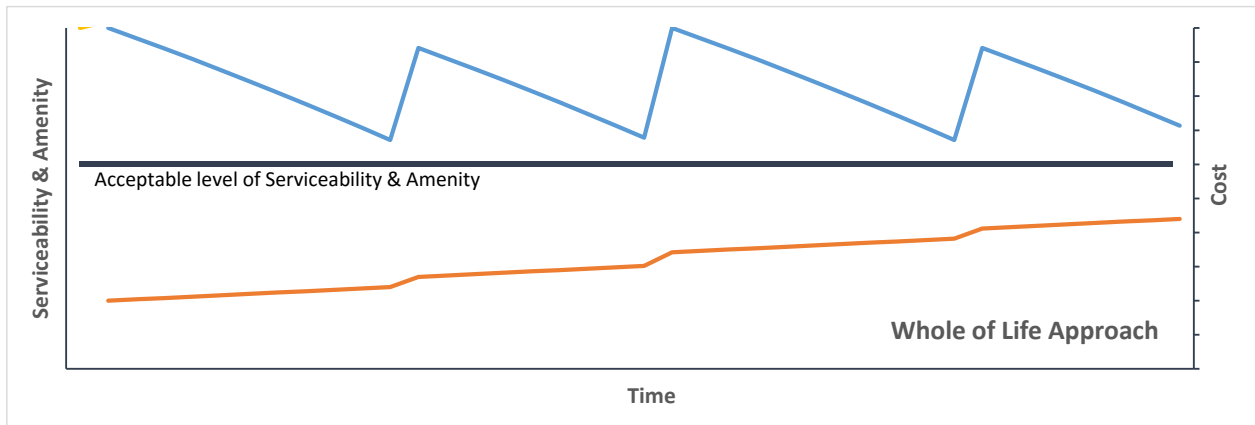
6.3.1 Introduction

Good quality and sustainable infrastructure is vital to the national economy. It delivers essential services, drives economic growth and is a significant contributor to the quality of life of the population. With the buildup of infrastructure assets over the years and questions over the level of investment beyond 2023, it is essential that the FSM takes steps towards an approach to asset management that minimizes costs on a whole-of-life basis.

The broad objective is to minimize the life-cycle cost of infrastructure assets whilst maintaining acceptable levels of amenity and serviceability. This contrasts with the “build then rebuild” approach that is characterized by the asset being replaced before the intended design life being reached and low levels of serviceability and amenity over much of the asset life. These two approaches are illustrated in Figure 11.

Figure 11 – Asset Lifecycle Approaches





The whole of life costs can be heavily influenced by the design of infrastructure assets so it is critical that designs are sympathetic to the prevailing climatic conditions and skills and equipment available in the FSM.

In summary, the whole of life approach is founded on the principles of:

1. maintaining the serviceability and amenity of assets at acceptable levels in the most cost effective manner, and
2. infrastructure design and construction that is appropriate to the FSM

The core benefits that will accrue to the FSM from this approach are:

1. the total capital and recurrent investment in infrastructure assets is minimized over the whole of life, and
2. assets generally meet the users' needs for serviceability and amenity and avoid the cost and other impacts that arise from sub-standard assets

6.3.2 Implementing Whole-of-Life Asset Management

DTCI is the National Government's lead agency for planning and implementing a whole-of-life approach to asset management and will work in close coordination and cooperation with its counterpart agencies in the States.

Policy

The FSM Governments will establish an **infrastructure asset management policy** that includes an overall policy statement, elements of policy specific to infrastructure sub-sectors and responsibilities for policy application and implementation.

A core principle will be "**keeping good assets good**", that is resources should be prioritized to ensure that assets of good standard do not deteriorate unnecessarily and incur higher whole of life costs and/or fail to meet the required standards for serviceability and amenity.

Strategies

The infrastructure asset management policy will be supported by an **overall strategy** and **separate sector strategies**. These strategies will describe the approaches and methodologies that the FSM Governments will follow in implementing the policy, including:

1. strategy objectives and performance measures (e.g. condition and safety of roads, quality and availability of water)
2. classification of assets
3. broad allocation of available resources between and within sub-sectors

4. addressing the backlog of sub-standard infrastructure to bring it to a standard that makes ongoing maintenance cost effective
5. action plans for implementing the asset management policy and strategies at sub-sector level

Information

Implementation of the policy and strategies is highly dependent on the **availability and quality of asset information**, particularly the following components:

asset registers – records of ownership, location, physical, administrative and cost information for individual assets that provide base information for asset management planning, programming and evaluation

collection tools – systems, procedures, equipment and resources that ensure that asset register information is collected and is complete, timely and of suitable quality

analysis and modelling tools – systems, procedures, equipment and resources that facilitate analysis of asset register information to prepare programs and evaluate the effectiveness of asset management – this can vary from integrated spreadsheets to specialist modelling software

Programs

With the above policy, strategies and information in place, it will be possible to develop **asset management programs** for each sector in each State, separated out for each asset category and program component (see below).

Asset management programs will be integrated into Government budget planning processes and have a single set of guidelines to provide a national basis for budget targets, criteria and prioritization.

Programs will be prepared on an annual basis with a three year outlook – an “approved” program and budget for Year 1 and “indicative” programs and budgets in Years 2 and 3. This will permit the infrastructure agencies to plan and implement asset management programs more efficiently, particularly through multi-year maintenance contract arrangements.

Accountability for and management of the programs will be integrated into the Government processes that include ongoing performance reporting and annual program evaluation.

Program Components

Each sector program will include the following asset management program components:

routine maintenance – maintenance undertaken on a continuous basis to address minor defects before they contribute to further damage or deterioration to the asset, such as potholes in roads, leaks in water supply systems or broken windows in Government buildings

periodic maintenance – maintenance undertaken on a cyclic basis to restore at least some of the serviceability and amenity of assets that are lost over time and to protect against further unnecessary deterioration such as resurfacing of roads, painting of Government buildings or intensive cleaning of water treatment facilities

rehabilitation – work that is undertaken to “renew” the asset when routine and/or periodic maintenance is no longer cost-effective, for example replacing failed hard-stand dock areas, replacing cladding of timber buildings or replacing lengths of water supply lines that are continually leaking

Capital Investment Projects

A capital investment project will generally be required when:

1. asset management program components are no longer cost-effective in maintaining the serviceability and amenity of the asset, for example to maintain a bridge to carry its design load or to maintain a building in a safe condition
2. the capacity or function of the asset no longer meets the needs of users, for example a road needs to carry more traffic, a water supply main needs to supply more water or a dispensary needs additional space to treat more patients

6.4 Institutional Projects

Asset Management

The IDP includes an institutional project to support the implementation of whole of life asset management in the FSM through technical assistance and capacity building, including:

Policy and Strategies – establish the overall asset management policy and strategy and sector strategies with the participation and commitment of all governments and stakeholders, including a basis for adequate and sustainable funding over and above capital investment

Asset Identification, Ownership and Registration – develop registers of infrastructure assets and progressively add details of ownership/responsibility, category, condition and maintenance need

Capacity – plan then develop and implement asset management capacity in terms of:

People – dedicated and sufficient resources with responsibility and skills for collecting and analyzing asset information and planning, managing and implementing asset management programs

Processes – procedures, guidelines and tools for evaluating and prioritizing asset management needs and monitoring and reporting the effectiveness of programs

Technology – appropriate systems to support the collection, recording, analysis, monitoring and reporting of asset management information

Budgets – adequate budget for a sustainable asset management capacity and optimized asset management programs

Private sector service providers – a sustainable and competitive pool of service providers to undertake asset management activities

Transportation Regulation

The IDP includes a technical assistance project to support DTCI's implementation of revised maritime and air transportation safety and security regulations, including any regional integration or cooperation.

FSM Building Code

At present projects are generally designed in accordance with international codes, standards and guidelines, but with only limited account taken of the specific circumstances of FSM. Some guidelines have been developed for specific aspects including seismic and wind loading and are summarized in Climate Adaptation Guide for Infrastructure²⁴.

It is therefore intended that a National Building Code will be developed, with State specific requirements where appropriate. The Code will be based on the International Building Code and other US based codes and standards, but take account of the requirements of FSM and incorporate existing state and national guidelines.

²⁴ (DTCI, DoI, 2014) – Climate Adaptation Guide for Infrastructure

Chuuk Land Registry

The IDP includes a project to support the efforts of Chuuk State to reestablish its land title records. This will involve the recovery of records kept in Guam and Hawaii, identification of land title boundaries through consultation with stakeholders and survey, and recording legally sufficient title information.

Successful implementation of the Chuuk IDP education and health sector programs depends on establishing public ownership over school and dispensary land through this and the targeted land definition and acquisition projects included in Volume 3. However the benefits of the project will be more far-reaching than just the implementation of the IDP projects.

List of Institutional Projects

The IDP institutional projects are listed in Table 15 and outlined in the following project proformas.

Table 15 – Institutional Projects

ID	Project Title	Required Funding (\$)	Target Period
IN/1	Asset Management Technical Assistance	2,000,000	All
IN/2	National Building Code	200,000	1
IN/3	Strengthen Transportation Regulation	200,000	1
IN/4	Re-establish Chuuk Land Title Records	2,000,000	2
Total Funding Required		4,400,000	

Project 1 – Asset Management Technical Assistance (IN/1)

Project Title:	Asset Management Technical Assistance	Sector:	Institutional
		Estimated Cost:	2,000,000
Project Description/Scope:	Plan, develop and implement a contemporary approach to asset management for infrastructure across FSM, including: <ul style="list-style-type: none"> • Policy and Strategies • Asset Registers • Capacity Development involving: <ul style="list-style-type: none"> • People • Processes • Systems and Equipment • Budgets • Private sector service providers 		
Agencies Responsible:	DTCI in conjunction with sector managers at national and state level		
Project Objectives/Outcomes:	Implement a whole of life approach to asset management such that costs are minimized and asset are maintained to acceptable levels of safety and amenity		
Project Justification:	Whole of life infrastructure costs are not minimized, asset management is not adequately funded and adequate levels of safety and amenity are not maintained		
Project Status:	Concept		
Inclusions:	To be defined as part of TA scoping		
Exclusions:	To be defined as part of TA scoping		
Risks & Dependencies:	To be identified as part of TA scoping		

Project I 2 – National Building Code (IN/3)

Project Title:	National Building Code	Sector:	Institutional
		Estimated Cost:	200,000
Project Description/Scope:	Develop and implement a National Building Code appropriate to the FSM based on the International Building Code and other relevant codes and standards and incorporating specific aspects on a state-by-state basis including seismic and wind loading.		
Agencies Responsible:	DTCI		
Project Objectives/Outcomes:	FSM infrastructure is designed and constructed according to relevant and appropriate codes and standards		
Project Justification:	At present projects are generally designed in accordance with international codes, standards and guidelines, but with only limited account taken of the specific circumstances of FSM		
Project Status:	Concept		
Inclusions:	State-specific provisions and implementation at national and state levels		
Exclusions:	To be defined as part of TA scoping		
Risks & Dependencies:	Available codes and standards do not adequately cover FSM’s needs		

Project I 3 – Strengthen Transportation Regulation (IN/3)

Project Title:	Strengthen Transportation Regulation	Sector:	Institutional
		Estimated Cost:	200,000
Project Description/Scope:	Provide assistance to establish the regulatory arrangements included in the revised transportation legislation, including the development of management, process and resource capacity		
Agencies Responsible:	DTCI – Divisions of Civil Aviation and Marine		
Project Objectives/Outcomes:	Undertake transportation regulation in accordance with revised legislation		
Project Justification:	FSM has identified gaps in its regulation of transportation and revised legislation is being developed – establishing the regulatory agencies and developing management, process and resource capacity is critical to fulfilling the objectives of the revised legislation		
Project Status:	Legislation is being prepared		
Inclusions:	To be defined as part of TA scoping		
Exclusions:	To be defined as part of TA scoping		
Risks & Dependencies:	To be identified as part of TA scoping		

Project I 4 – Reestablish Chuuk Land Title Records (IN/4)

Project Title:	Re-establish Chuuk Land Title Records	Sector:	Institutional
		Estimated Cost:	2,000,000
Project Description/Scope:	Reestablish Chuuk’s land title records from: <ul style="list-style-type: none"> • Information held by institutions in Guam and Hawaii • Collecting and registering of additional land tenure and title information • Consulting and negotiating with stakeholders 		
Agencies Responsible:	Division of Commerce and Industry		
Project Objectives/Outcomes:	Reestablish definitive land title records for Chuuk		
Project Justification:	Most matters dealing with land title in Chuuk are impacted by the absence of definitive land title records		
Project Status:	Planning		
Inclusions:	Establishment of land title records from existing and reconstructed information		
Exclusions:	Supporting/enabling legislation		
Risks & Dependencies:	Lack of legislative support for reestablishment of land title records		

Part 7 Monitoring & Reporting

Performance Indicators

A range of performance indicators that are influenced by the infrastructure in each sector (other than government administrative buildings) are included in Annex B. The indicators cover aspects including accessibility, quality, efficiency, safety and affordability/financial sustainability.

Monitoring and Evaluation

Infrastructure managers and IPICs will monitor ongoing infrastructure performance to identify and plan improvements to infrastructure performance and service delivery and changes in the IDP priority projects and priorities.

Reporting

The performance indicators will be measured on an annual (fiscal year) basis and reported by the National Government within 3 months of the end of the fiscal year.

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Annex A Infrastructure Development Responsibility Matrix

FSM Agency	Aid Coordination Group	Compact Management Division	DTCI	State IPICs	PMU ¹	State PMOs ¹
Activity						
Preparing the Annual Implementation Plan		Accountable			Responsible	Consulted
Collating submissions to JEMCO and OIA		Accountable			Responsible	Consulted
Collating other aid submissions (EU, JICA, etc.)	Accountable				Responsible	Consulted
Program coordination and performance analysis	Accountable				Responsible	Informed
Manage transition to the PMU/PMO model			Accountable		Responsible	Consulted
Project completion analysis and lessons learnt				Accountable	Responsible	Consulted
Knowledge management (design criteria, standards, terms, conditions)			Accountable		Responsible	Informed
Design consultant pre-qualification			Accountable		Responsible	Informed
Design consultant selection				Accountable		Responsible
Contractor pre-qualification				Accountable	Responsible	Informed
Contractor selection						Responsible
Peer reviews			Accountable		Responsible	Consulted
Project management				Accountable		Responsible
Forward project programs and cash flows - Compact		Accountable				Responsible
Forward project programs and cash flows –EU, JICA...	Accountable					Responsible
Planning and design				Accountable		Responsible

FSM Agency	Aid Coordination Group	Compact Management Division	DTCI	State IPICs	PMU ¹	State PMOs ¹
Activity						
Construction supervision				Accountable		Responsible
Scope and design verification				Accountable		Responsible
Capacity Building				Accountable	Informed	Responsible
Variation control				Accountable		Responsible

Notes:

1. PMU and PMO involvement in non-Compact infrastructure development projects is a longer term development and subject to agreement of the relevant funding agencies

Annex B Performance Indicators

B.1 Electric Power

Operational performance indicators for FSM electric power utilities are available from the annual **Pacific Power Utilities Benchmarking Report** prepared by the **Pacific Power Association** (www.ppa.org.fj)

Indicator	Baseline Year	Chuuk	Kosrae	Pohnpei	Yap
Accessibility Indicators					
1. Households with access to grid connected electrification (percent)	2012	80	77	96	57
2. Electricity production (000 kWh)	2012	13,866	5,463	32,351	12,255
3. Electricity load factor (percent)	2012	59.2	54.8	62.4	67.0
Quality Indicators					
4. System Average Interruption Frequency (SAIFI) events per customer	2012	(a)	(a)	(a)	16.7
5. System Average Interruption Duration (SAIDI) mins per customer	2012	78,120	845	(a)	17,704
Efficiency Indicators					
6. Specific fuel oil consumption (kWh per liter)	2012	3.68	3.58	3.23	3.81
7. Distribution losses (percent of output)	2012	28.1	1.8	19.0	25.1
8. Renewable energy share (percent)	2012	0.0	0.0	0.0	0.2
Affordability Indicators					
9. Average residential end-user electricity tariff (cents/kWh)	2012	0.56	0.40	0.49	0.44
10. Average commercial end-user electricity tariff (cents/kWh)	2012	0.59	0.42	0.49	0.46

Notes:

- (a) Information not included in the PPA Benchmarking Report

B.2 Water/Wastewater Systems

Operational performance indicators for FSM water and wastewater utilities are available from the annual **Pacific Water and Wastewater Utilities Benchmarking Report** produced by the **Pacific Water and Wastes Association** (www.pwwa.ws)

Indicator	Baseline Year	Chuuk CPUC	Kosrae DTI	Pohnpei PUC	Yap		
					YSPSC	GTWA	SYWA
Accessibility Indicators							
1. Access to improved urban water source (percent total population)	2012	90	82	(a)	93	92	100
2. Access to improved urban sanitation (percent total population)	2012	63	40	(a)	70	n/a	n/a
3. Availability of water supply in piped water supply systems (average hours per day)	2012	24	20	(a)	24	24	24
Efficiency Indicators							
4. Employees (per 1000 connections)	2013	14.6	9.6	7.2	14.9 (2012)	8.0	(a)
5. Non –revenue water (percent of water produced)	2013	72	100	16	47 (2012)	4	(a)
Affordability and Financial Sustainability Indicators							
6. Cost recovery (tariff revenue/operating cost (percent))	2013	30	n/a	169	127 (2012)	103	92 (2011)
7. Average tariff for water services (\$ per 1,000 gal)	2013	1.55	n/a	2.08	1.51	2.27	1.70
Safety Indicators							
8. No. of drinking water safety plans in place	2013	1	2	3	1	1	0
9. Drinking water quality compliance (%) – residual chlorine/microbiological	2013	100 / 85	0 / 50	83 / 96	90 / 90	100 / 71	0 / 70

Notes:

(a) Information not included in the PWWA Benchmarking Report

B.3 Solid Waste Management

Indicator	Baseline Year	Chuuk	Kosrae	Pohnpei	Yap
Accessibility Indicators					
1. Access to regular solid waste collection service in urban areas (percent of urban population)	20__				
2. Frequency of solid waste collection service in urban areas (number per week)	20__				
Quality Indicator					
3. Facilities with up-to-date environmental monitoring reports readily available (number)	20__				
Efficiency Indicator					
4. Cost of waste disposed (\$ per capita)	20__				
Sustainability Indicators					
5. Systems for sorting solid/recyclable/hazardous wastes (number)	20__				
6. Exported recyclable commodities or waste (number of shipping containers)	20__				

B.4 Roads and Pedestrian Facilities

Indicator	Baseline Year	Chuuk	Kosrae	Pohnpei	Yap
Accessibility Indicators					
1. Total road network (miles)	20__				
2. Paved roads (miles)	20__				
3. Unpaved roads (miles)	20__				
4. Registered motor vehicles (number)	2013	362	801	5,275	2,564
Quality Indicator					
5. Condition of roads (percent of road network in poor condition)	20__				
Efficiency Indicator					
6. Road network receiving regular routine maintenance (percent of road network)	20__				

B.5 Maritime Transportation

Indicator	Baseline Year	Chuuk	Kosrae	Pohnpei	Yap
Accessibility Indicators					
1. International container services (annual number of container ships)	2014	72	30	53	48
2. Container throughput (annual number of containers (TEU) imported & exported)	2014	1,155	421		714
Quality Indicator					
3. Vessel turnaround time (average time in days)	2014		<1.0	1.0	
Efficiency Indicator					
4. Delay waiting to enter port (average time in days)	20__				
Affordability Indicator					
5. Port charges (\$/Twenty-foot Equivalent Unit)	20__				
Safety Indicator					
6. Maritime incidents (Number)	20__				

B.6 Air Transportation

Indicator	Baseline Year	Chuuk	Kosrae	Pohnpei	Yap
Accessibility Indicators					
1. Operational airports/airstrips (number)	2015	1/3	1/-	1/3	1/2
2. Scheduled international airport in-bound passenger flights (average flights per week)	2015	7	6	8	3
3. Scheduled airstrip in-bound flights (average flights per week)	20__		n/a		
4. Cost of international airfreight (\$/ton-mile)	20__				
Quality Indicator					
5. IATA Level of Service for international airports	20__				
Safety Indicators					
6. Aviation incidents (number)	20__				
7. ICAO safety audit indicator for international airports	20__				

B.7 Telecommunications Sector

Indicator	Baseline Year	Chuuk	Kosrae	Pohnpei	Yap
Accessibility Indicators					
1. Mobile-cellular network coverage (percent of population)	20__				
2. Fixed broadband internet subscriptions (percent of population)	20__				
3. 3G (minimum) mobile-cellular network coverage (percent of population)	20__				
4. 4G (minimum) mobile-cellular network coverage (percent of population)	20__				
Quality Indicator					
5. Internet bandwidth (Mbit/s per capita)	20__				
Affordability Indicators					
6. Cost of mobile-cellular prepaid (\$ per minute local call)	2015	0.50	0.50	0.50	0.50
7. Cost of international mobile-cellular (\$ per minute call to Hawaii)	2015	0.75	0.75	0.75	0.75
8. Cost of 3G data (\$ per MB for pre-paid)	2015	0.08	0.08	0.08	0.08
9. Cost of fixed internet (\$/month for 512 kbps service)	2015	65	65	65	65

B.8 Education

Indicator	Baseline Year	Chuuk	Kosrae	Pohnpei	Yap
Quality Indicator					
1. Schools meeting the FSM School Accreditation Standards (percent)	2014	6	100	82	15

B.9 Health

Indicator	Baseline Year	Chuuk	Kosrae	Pohnpei	Yap
Accessibility Indicator					
1. Patient encounters provided in homes and dispensaries (number)	2014	77,156	8,738	135,604	18,281
Efficiency Indicator					
2. Average length of stay in State hospitals (days)	2014	4.9	5.3	4.6	4.8

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Federated States of Micronesia INFRASTRUCTURE DEVELOPMENT PLAN FY2016-FY2025

Volume 2:

National Infrastructure Development Plan FY2016-FY2025



This Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 comprises the following parts:

Introduction

Volume 1 Plan Outline

Annexes

Volume 2 National Infrastructure Development Plan

Volume 3 Chuuk State Infrastructure Development Plan

Volume 4 Kosrae State Infrastructure Development Plan

Volume 5 Pohnpei State Infrastructure Development Plan

Volume 6 Yap State Infrastructure Development Plan

The following Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 documents are available:

Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 (all parts)

FSM Infrastructure Development Plan FY2016-FY2025 Outline (Introduction, Volume 1 & Annexes)

National Infrastructure Development Plan FY2016-FY2025 (Volume 2)

Chuuk State Infrastructure Development Plan FY2016-FY2025 (Volume 3)

Kosrae State Infrastructure Development Plan FY2016-FY2025 (Volume 4)

Pohnpei State Infrastructure Development Plan FY2016-FY2025 (Volume 5)

Yap State Infrastructure Development Plan FY2016-FY2025 (Volume 6)

FSM Infrastructure Development Plan FY2016-FY2025 Summary (abbreviated outline and listings of projects)

Volume 2 National Infrastructure Development Plan

Foreword by the Secretary for Transportation, Communication and Infrastructure

On behalf of my Department and our national infrastructure partners, FSMTC and College of Micronesia, I am pleased to present this National Infrastructure Development Plan for the period FY2016 – FY2025.

For the first time the FSM’s Infrastructure Development Plan includes a consolidated view of the projects that national agencies will undertake, not only to support National Government functions but importantly to improve telecommunications and education infrastructure across the whole of FSM. In parallel with the physical infrastructure projects in the Plan my Department will continue to improve maritime and aviation safety and security with our US and regional partners.



The Plan will improve National Government facilities in Palikir and establish the Micronesia Village in Kolonia. The Micronesia Village will provide a real focus for FSM’s role in regional affairs by bringing together the North Pacific office of the Secretariat of the Pacific Communities with the offices of other regional, developmental and non-government organizations.

Video conferencing facilities will be provided for the Executive, Legislature and Judiciary in each State and at Palikir, improving communication and coordination between governments and reducing the time that officials spend off-island. Also, the Office of Environment and Emergency Management will implement an Emergency Warning System that can alert communities across FSM of emergency and disaster situations 24/7.

FSMTC will continue to roll out the latest communications technology with plans to bring 3G and 4G cellular services to the whole of FSM through an expanded cellular network. The availability of broadband internet services will also improve, particularly as improved connections to the international network become available in Chuuk, Kosrae and Yap.

The College of Micronesia will undertake a comprehensive infrastructure development program over the next 10 years to ensure its facilities continue to support FSM’s post-secondary education needs.

I commend this National Infrastructure Development Plan to you as DTCl and its national agency partners begin the task of delivering the Plan’s important infrastructure improvements.

A handwritten signature in black ink, appearing to read 'L. Weilbacher'.

Lukner Weilbacher

Secretary, Transportation, Communication and Infrastructure

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Part 1 Introduction

This Volume 2 of the IDP is known as the **National Infrastructure Development Plan FY2016 to FY2025** (the National IDP).

The National IDP includes the priority infrastructure investments for the National Government for the next 10 years identified by the relevant sector managers. The projects have been prioritized according to three periods; Period 1, FY2016 to FY2019 (during which the Amended Compact arrears are intended to be fully appropriated), Period 2, FY2020 to FY2022, and Period 3, FY2023 to FY2025.

The sector manager group assessed the contribution of each priority project to the IDP strategic objectives (Volume 1, section 2.2.2) to provide a Strategic Rating out of 10. Although strategic ratings are not comparable between projects and sectors due to variations in the scope of projects and inherent sector factors (and cannot be used to prioritize projects), the rating process has nonetheless confirmed that the priority projects each make a strong contribution to relevant strategic objectives.

During the development process the sector managers provided information for the priority projects outlines incorporated into the National IDP (Part 4).

Part 2 Plan Outline

2.1 Investment Strategy

2.1.1 Available Funding

Details of the funding available from FSM’s development partners and the National Government can be found in Volume 1, Part 3 of the IDP.

The National Government receives no Amended Compact funds according to the formula set by the FSM Congress. The underpinning nature of infrastructure warrants a more even distribution of infrastructure funding so funds associated with bilateral donors, multilateral banks and climate change are not allocated on a formula-basis. An amount equal to 10 percent of these funds is included in the National IDP, however the National Government may receive a greater or lesser amount on a program or project basis.

The funding available to the National Government is 2 percent of total available IDP infrastructure funding. Table N 1 shows the allocation over the 10 years of the IDP; \$14.6 million for development and \$1.2 million for maintenance.

Table N 1 – Total Available National IDP Funding

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
National										
Development	1,786,387	3,286,387	3,286,387	3,286,387	500,000	500,000	500,000	500,000	500,000	500,000
Maintenance	364,807	364,807	214,807	214,807	-	-	-	-	-	-
TOTAL	2,151,193	3,651,193	3,501,193	3,501,193	500,000	500,000	500,000	500,000	500,000	500,000

2.1.2 Priority Projects

The National IDP includes priority projects estimated at \$118.7 million across 4 of the 10 infrastructure sectors. The breakdown of project estimates by sector is shown in Figure N 1 and the listing of priority projects is included in Table N 2.

Figure N 1 – National IDP Breakdown by Sector

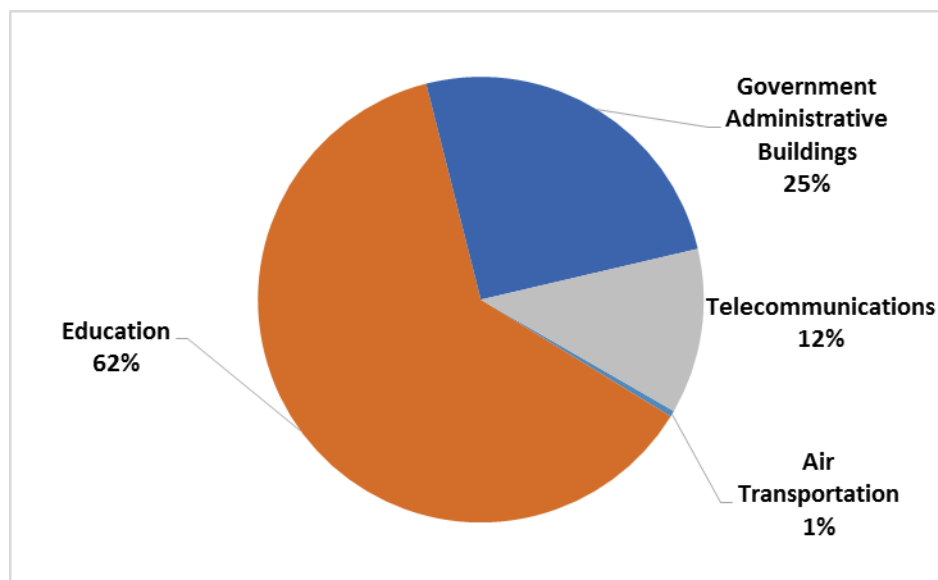


Table N 2 – National IDP Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
PM/1	National Program Management Unit	7,500,000	All	N/A
AT/1	Safety Management Systems for International Airports	500,000	1	6.4
TC/1	Terrestrial Fiber Optic Extensions in Pohnpei	4,000,000	1	8.9
TC/2	Terrestrial Fiber Optic in Yap	2,500,000	2	8.9
TC/3	Mobile Telecommunications Networks Improvements	2,800,000	1	8.7
TC/4	Solar Power for Telecommunications Facilities	2,500,000	1	6.7
TC/5	Emergency/Disaster Alert System	800,000	1	6.2
TC/6	Video Conferencing Facilities for all 3 Branches	750,000	1	7.8
ED/1	COM-FIT	1,283,000	All	N/A
ED/2	All Solar projects	2,000,000	3	7.8
ED/3	National Campus Student Center and New Health Clinic	5,430,000	1	7.8
ED/4	National Campus Marine and Applied Science Building	2,100,000	1	7.3
ED/5	National Campus Track and Field & Baseball Field	3,871,000	1	7.8
ED/6	National Campus Upgrade to Gymnasium	400,000	2	7.8
ED/7	Chuuk Nantaku Campus Design (Buildings 1&2)	2,169,000	1	7.3
ED/8	Chuuk - Nantaku Campus Buildings 1&2	14,500,000	1	7.3
ED/9	Kosrae Campus Multi-Purpose Building Stage-1	5,340,000	1	7.3
ED/10	Kosrae Campus Multi-Purpose Building Stage-2	2,900,000	1	7.3
ED/11	Kosrae Campus Learning Resource Center	3,100,000	3	7.6
ED/12	Pohnpei Campus VOCED Center	5,850,000	1	7.3
ED/13	Pohnpei Campus VOCED Center-2	1,000,000	1	7.3
ED/14	Pohnpei Campus Administration and Faculty Offices	5,600,000	3	7.3
ED/15	Yap Campus VOCED Center-1	3,492,000	1	7.3
ED/16	Yap FSM-FMI Campus Infrastructure Upgrade	1,133,000	1	7.3
ED/17	Yap Campus New Learning Resource Center	4,400,000	2	7.6
ED/18	Yap FSM-FMI Campus Classroom	800,000	2	7.3
ED/19	Yap Campus New Classroom Block	2,700,000	3	7.3
ED/20	Yap FSM-FMI Campus Road and Utility Improvements	1,200,000	3	7.3
GB/1	National Government Buildings Renovations	2,272,000	1/2	5.8
GB/2	Roads & Facilities Improvements at Palikir	1,460,000	1	5.8
GB/3	New Multi-Purpose Building at Palikir	2,400,000	2	6.9
GB/4	New Two-Story Executive Building at Palikir	4,931,000	1	6.2
GB/5	Backup Power Generation at Palikir	2,063,000	1	6.7
GB/6	Conference Center (Micronesian Village Phase 1)	9,400,000	2	7.8

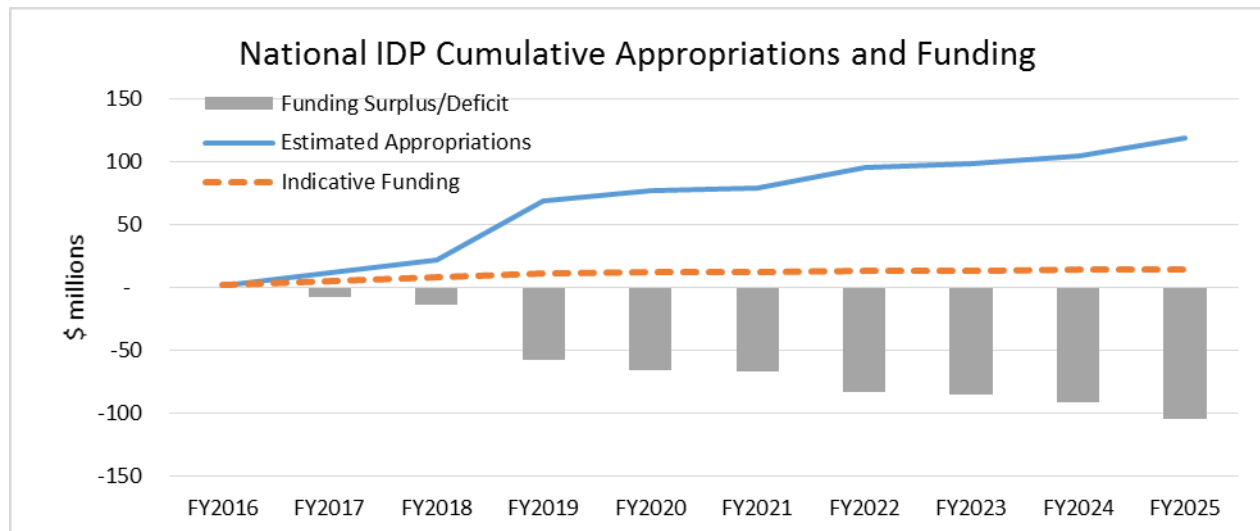
ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
GB/7	Programme Buildings (Micronesian Village Phase 2)	5,600,000	3	7.8
Total Development Funding Required		118,744,000		
MTCE	Infrastructure Maintenance	1,160,000		

2.1.3 Project Funding Requirements

Based on the project priorities identified during development of the National IDP, a funding appropriation covering the 10 year period has been estimated. In summary, as shown in Figure N 2, the National IDP priority projects exceed available funding by more than 700 percent.

This gives the National Government an immediate hurdle to implementing the National IDP. Notwithstanding the availability of around \$9.6 million of Amended Compact arrears, there is an indicative \$50 million gap in funding at the end of the initial four years in FY2019. This needs to be resolved prior to the planned review of the National IDP in FY2019.

Figure N 2 – National IDP Available Funding and Estimated Appropriations



2.1.4 Infrastructure Maintenance

The National Government has a total of \$1.16 million of maintenance funding available from FY2016 to FY2025. This includes \$0.43 million required to match the available Amended Compact IMF funding.

2.2 Management and Implementation

2.2.1 National Governance

DTCI is responsible for the delivery of National infrastructure. The PMU as part of DTCI will have responsibility for the coordination of program matters for the Compact Management Division.

2.2.2 Implementation model

National program management

The implementation model retains the PMU within DTCI but restructures the unit to focus on **Program Management**. The PMU will provide ongoing support to the DTCI to ensure standards are developed and shared, subsequent design and construction contracts are consistent with appropriate risk management

and will provide peer review expertise as required. The PMU will provide the central coordination of Amended Compact activities. In the longer term the role will be expanded to take responsibility for all aid funded infrastructure.

National delivery accountabilities

DTCI is accountable for **Project Management**, from initial planning, through design to construction completion. Projects will be delivered through existing project management groups in the COM and FSMTC. National Government infrastructure will be delivered by DTCI, supported by the Pohnpei Project Management Office.

General Considerations

The cost of the delivery activities is estimated to be between 5 and 7 percent of the National infrastructure development program which is within international benchmarks and internationally recognized as a legitimate program cost.

DTCI project management capacity requires development with the external party providing the PMO services to Pohnpei State assisting with this, as well as providing any additional resources required to deliver National infrastructure.

2.2.3 Process enhancements

All infrastructure projects require defined project management processes from scope definition through funds release, design and construction to successful completion. Best practice processes incorporate key steps, hold points, client reviews and concise and complete documentation to support such processes.

It is also good practice to release funds at two stages; initially to release funds to enable the full project design to be undertaken and then, prior to the construction procurement process commencing, the funding required for construction. This approach facilitates the orderly progress of the project while ensuring that after design there is a review of the project scope, time and cost and any changes are formally signed off before committing funds for construction.

DTCI will adopt the process developed for all infrastructure projects, as outlined in the IDP, reviewing the initial project scope, 30 percent design and the completed design with the client.

Funds will be released in two stages, initially to complete the design and then, upon design completion, for the construction of the project.

2.3 Institutional Projects

The IDP (Volume 1, section 6.4) contains a number of institutional projects that will have an impact on National State infrastructure:

- asset management policy, strategy and capacity at National and State level
- a FSM Building Code
- maritime and aviation safety and security capacity

Part 3 Infrastructure Development

3.1 Infrastructure Development to Date

The estimated National infrastructure development funding in the period FY2004 to FY2015 is shown in Table N 3 against the funding planned in the IDP 2004 over its whole 20 year period.

Table N 3 – Planned and Estimated Infrastructure Development Funding

Sector	IDP 2004 Total Funds FY2004-FY2025 (\$)	Estimated Development Funding FY2004-FY2015 (\$)¹		
		Amended Compact Grants	Estimated Other Funding	Estimated Total Funding
Electric Power			2,000,000	2,000,000
Water/Wastewater Systems				
Solid Waste Management				
Roads and Pedestrian Facilities				
Maritime Transportation			11,000,000	11,000,000
Air Transportation		276,000		276,000
Telecommunications		360,000	51,000,000	51,360,000
Education	16,000,000	390,000		390,000
Health				
Government Administrative Buildings	300,000			
Total \$:	16,300,000	1,026,000	64,000,000	65,026,000

Notes: 1. Estimated funding does not include maintenance and some project management and design costs

3.2 Sector Outlines and Priority Projects

3.2.1 Air Transportation

As part of DTCI’s Civil Aviation Division airport oversight role and work with the FAA, the Division will coordinate the development of Safety and Security Management Systems for each international airport (project AT/1 in Table N 4) to support elements of the sector goal to provide air transportation infrastructure that:

1. provides adequate air transportation facilities and services in terms of condition, frequency, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country
2. enables air carrier airports to improve safety and eliminate payload restrictions
3. improves all domestic airports to the required standards of safety

Further information on each project can be found in the Project Outlines in Part 4.

Table N 4 – Air Transportation Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
AT/1	Safety and Security Management Systems for International Airports	500,000	1	6.4
Total Funding Required		500,000		

3.2.2 Telecommunications Sector

The telecommunications projects in the National IDP are listed in Table N 5 and support the sector goal to provide telecommunications systems infrastructure to:

1. achieve accessible and affordable communications for all
2. strengthen information and communications technology (ICT) human resources and increase human resource development opportunities through ICT
3. improve economic growth and sustainable development through ICT
4. utilize ICT for good governance
5. create an enabling ICT environment through policy reform and improvements in legal frameworks

Further information on each project can be found in the Project Outlines in Part 4.

FSM Telecommunications Corporation

FSMTC is currently the sole telecommunications provider and continues to improve management, financial, technical and service delivery capacities and performance. FSMTC is proactive in leveraging external investments, particularly connections to the international fiber optic network, to bring contemporary telecommunications services and pricing to consumers.

In support of its plans to improve service delivery and accessibility FSMTC will undertake projects TC/1 through TC/4 listed in Table N 5 to:

1. double the number of cellular towers in FSM and provide 3G/4G capability across the cellular network
2. provide and extend terrestrial fiber optic services to support the availability of incoming fiber optic capacity
3. introduce renewable for FSMTC facilities to reduce costs and improve disaster resilience

Office of Environment and Emergency Management

OEEM is responsible for ensuring that the FSM is adequately prepared for natural disasters and other emergencies. In conjunction with the States, OEEM uses a VHF/HF radio network for communication with communities.

The current radio network is generally only used during working hours so providing communities with timely warning of emergency situation at other times can be problematic. OEEM will implement project TC/5 in Table N 5 to establish a 24/7 disaster/emergency alert capability.

Department of Transportation, Communication and Infrastructure

The Communication Division within DTCL supports the National Government's communications needs including leveraging FSM's improving broadband capacity. All branches of governments depend on effective communication across the whole of FSM that often requires being off-island for extended.

Communication Division will undertake project TC/6 in Table N 5 to establish video conferencing capabilities for each branch of each national and state government to improve the efficiency and effectiveness of government administration and communication.

Table N 5 – Telecommunications Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
TC/1	Terrestrial Fiber Optic Extensions in Pohnpei	4,000,000	1	8.9
TC/2	Terrestrial Fiber Optic in Yap	2,500,000	2	8.9
TC/3	Mobile Telecommunications Networks Improvements	2,800,000	1	8.7
TC/4	Solar Power for Telecommunications Facilities	2,500,000	1	6.7
TC/5	Emergency/Disaster Alert System	800,000	1	6.2
TC/6	Video Conferencing Facilities for all 3 Branches	750,000	1	7.8
Total Funding Required		13,350,000		

3.2.3 Education

The College of Micronesia (COM) provides accredited post-secondary education from six campuses spread across all States. In response to its education infrastructure needs COM has prepared a Master Plan²⁵ identifying the necessary steps to achieve the educational and community goals/vision of the College.

The development strategy for the six COM campuses is to:

- 1. Continue with COM-FSM being located across six campus locations with:**
 - a. the state campuses providing 100 and 200 courses and providing the role of transition into degree courses generally offered at the National campus
 - b. the existing National campus strengthened as the campus where most degree courses are offered
 - c. the existing Pohnpei campus being recognized as the Career and Technical Education Center and for the efficient use of resources be the sole vocational facility for the nation
 - d. there being one campus in two locations in Pohnpei each with their own character and offering but with increased sharing between the two
- 2. Focus on sustainability of the existing campuses buildings and infrastructure by:**
 - a. identifying funding source/s for maintenance and renewals
 - b. working through the proposed maintenance recommendations to address deferred maintenance and minimize the escalation of campus building maintenance and renewal costs
 - c. reducing the maintenance cost through the removal and replacement of buildings and infrastructure that contribute to a disproportionate amount of the operating and maintenance costs
- 3. Focus on the future sustainability of the COM-FSM campuses beyond 2023 by:**
 - a. following a staged development approach for each campus broken into 5, 10 and 10 + years with plan reviews/updates at 5 year intervals to assess the impact of changes in

²⁵ (COM, 2013) – College of Micronesia – FSM Space Utilization and Facilities Master Plan Study

actual and projected student numbers plus changes to education delivery, plus prioritizing the development of campus assets as follows:

- i. addressing any health and safety issues
 - ii. projects that have a link to educational outcomes
 - iii. other projects that assist to support better campus outcomes
- b. designing replacement and new buildings to be delivered through staged implementation and/or designed to have a multipurpose function allowing for change of use over time
 - c. focusing on sustainable design principles for new buildings i.e. passive solar design, material selection, use of natural ventilation and insulation to reduce operational cost
 - d. reducing the maintenance cost through the removal and replacement of buildings and infrastructure that contribute to a disproportionate amount of the operating and maintenance costs
- 4. Implement a development strategy that:**
- a. is fiscally responsible and is informed from an evidence base i.e. space utilization study, condition assessment, spatial review components
 - b. prioritizes the provision of dedicated classroom space for Vocational Education giving effect to the Board of Regents Two-Year Action Agenda's emphasis on vocational programming
 - c. works towards a permanent site for the Chuuk campus on the Nantaku site based on a review of the spatial requirements, proposed infrastructure servicing and access assumptions from the 2001 Master Plan
 - d. considers development beyond the traditional classroom and Learning Resource Center models acknowledging that with the availability of Wi-Fi the location for learning to occur is no longer restricted to just these spaces

The first five year plan for the development has been formalized into the COM Infrastructure Development Plan²⁶, and the projects are included in this National IDP (Table N 6). COM will undertake a review at the end of the five year period to ensure the Master Plan remains valid. Projects beyond the five-year period are included in the National IDP, drawing on the Master Plan but with a somewhat reduced scope.

The education projects in the National IDP are listed in Table N 6 and support the sector goal to provide education infrastructure that:

1. ensures that the learning experience is enhanced and diversified
2. improves student and faculty interest and morale, and thereby improves the effectiveness of education and significantly increases the student retention rates through graduation from elementary or secondary schools
3. removes constraints on the availability of high school education for all graduates of elementary school, and to provide an array of post-secondary education opportunities for all high school graduates who seek further education
4. continues to assist and strengthen private educational institutions to the nation
5. is supported by facilities improvement programs that address the need for maintenance, renovation and construction of new facilities to support quality student instruction
6. is supported by equipment maintenance guidelines
7. is resilient to potential natural disasters and the impacts of climate change

Further information on each project can be found in the Project Outlines in Part 4.

²⁶ (COM, -) - Infrastructure Development Plan, College of Micronesia-FSM, undated (information extracted from the COM Master Plan).

Table N 6 – Education Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
ED/1	COM-FIT	1,283,000	All	N/A
ED/2	All Solar projects	2,000,000	3	7.8
ED/3	National Campus Student Center and New Health clinic	5,430,000	1	7.8
ED/4	National Campus Marine and Applied Science Building	2,100,000	1	7.3
ED/5	National Campus Track and Field & Baseball Field	3,871,000	1	7.8
ED/6	National Campus Upgrade to Gymnasium	400,000	2	7.8
ED/7	Chuuk Nantaku Campus Design (Buildings 1&2)	2,169,000	1	7.3
ED/8	Chuuk - Nantaku Campus Buildings 1&2	14,500,000	1	7.3
ED/9	Kosrae Campus Multi-Purpose Building Stage-1	5,340,000	1	7.3
ED/10	Kosrae Campus Multi-Purpose Building Stage-2	2,900,000	1	7.3
ED/11	Kosrae Campus Learning Resource Center	3,100,000	3	7.6
ED/12	Pohnpei Campus VOCED Center	5,850,000	1	7.3
ED/13	Pohnpei Campus VOCED Center-2	1,000,000	1	7.3
ED/14	Pohnpei Campus Administration and Faculty Offices	5,600,000	3	7.3
ED/15	Yap Campus VOCED Center-1	3,492,000	1	7.3
ED/16	Yap FSM-FMI Campus Infrastructure Upgrade	1,133,000	1	7.3
ED/17	Yap Campus New Learning Resource Center	4,400,000	2	7.6
ED/18	Yap FSM-FMI Campus Classroom	800,000	2	7.3
ED/19	Yap Campus New Classroom Block	2,700,000	3	7.3
ED/20	Yap FSM-FMI Campus Road and Utility Improvements	1,200,000	3	7.3
Total Funding Required		69,268,000		

3.2.4 Government Administrative Buildings

The DTCL’s Infrastructure Division oversees management of the National Government’s administrative buildings, particularly within the Palikir Capital complex.

Infrastructure Division will coordinate the National IDP projects at Palikir to develop new Executive and multi-purpose buildings, renovate existing buildings and improve facilities including the provision of electric power from renewable sources and back-up power capacity.

The Micronesian Village project will be implemented, providing a National conference center and bringing Non-Government Organizations together in a single location.

The government administrative buildings projects listed in Table N 7 in support of elements of the sector goal to provide government administrative building infrastructure that:

1. provides modern and efficient facilities required for government personnel to effectively undertake their functions
2. provides an environment that enables equipment used by government personnel to be adequately maintained

3. encourages a high morale and work ethic amongst government employees by providing a suitable work environment
4. provides elected officials with suitable office space and chambers in which to conduct their responsibilities

Further information on each project can be found in the Project Outlines in Part 4.

Table N 7 – Government Administrative Buildings Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
GB/1	National Government Buildings Renovations	2,272,000	1/2	5.8
GB/2	Roads & Facilities Improvements at Palikir	1,460,000	1	5.8
GB/3	New Multi-Purpose Building at Palikir	2,400,000	2	6.9
GB/4	New Two-Story Executive Building at Palikir	4,931,000	1	6.2
GB/5	Backup Power Generation at Palikir	2,063,000	1	6.7
GB/6	Conference Center (Micronesia Village Phase 1)	9,400,000	2	7.8
GB/7	Programme Buildings (Micronesia Village Phase 2)	5,600,000	3	7.8
Total Funding Required		28,126,000		

3.3 Whole of Life Costs

The costs associated with new infrastructure do not end with purchase or construction. It is one step in the life cycle of an asset that begins with the initial identification of needs through to the disposal of the asset at the end of its useful life. When all these costs are combined, the total may be more than double the cost of the initial purchase/construction price.

The provision of adequate funding for preventative maintenance as part of a whole of life approach to asset management is a key institutional issue for FSM, like other Pacific Island countries.

Estimates of the National IDP priority project maintenance costs by sector over a 20 year period are included in Table N 8. Although some assets have a life other than 20 years, this period has been chosen to provide an indication of the maintenance funding required on an annual basis.

The annual percentage maintenance cost and the asset life factors can be found in Table 14 in Volume 1, Part 6, section 6.2 of the IDP.

Table N 8 – National IDP 20 Year Maintenance Costs

Sector	20 Year Costs (\$)		B / A	Annual Maintenance Cost (\$)
	Construction (A)	Maintenance (B)		
Telecommunications	12,461,000	6,469,000	52%	323,000
Education	63,136,000	31,873,000	50%	1,594,000
Government Administrative Buildings	25,889,000	15,533,000	60%	777,000
Total	101,486,000	53,875,000	53%	2,694,000

Part 4 Priority Project Outlines

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Project N 2 – Extend Terrestrial Fiber Optic in Pohnpei (TC/1)	14
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Project N 4 – Improve Mobile Telecommunications Networks (TC/3)	15
Project N 5 – Provide Solar Power for Telecommunications Facilities (TC/4)	16
Project N 6 – Provide Emergency/Disaster Alert System (TC/5)	16
Project N 7 – Provide Government Video Conferencing Facilities (TC/6)	17
Project N 8 – COM-FIT (ED/1)	18
Project N 9 – All Solar Projects (ED/2)	18
Project N 10 – National Campus Student Center and New Health Clinic (ED/3)	19
Project N 11 – National Campus Marine and Applied Science Building (ED/4)	19
Project N 12 – National Campus Track and Field & Baseball Field (ED/5)	20
Project N 13 – National Campus Upgrade to Gymnasium (ED/6)	20
Project N 14 – Chuuk Nantaku Campus Design (Buildings 1&2) (ED/7)	21
Project N 15 – Chuuk - Nantaku Campus Buildings 1&2 (ED/8)	21
Project N 16 – Kosrae Campus Multi-Purpose Building Stage-1 (ED/9)	22
Project N 17 – Kosrae Campus Multi-Purpose Building Stage-2 (ED/10)	22
Project N 18 – Kosrae Campus Learning Resource Center (ED/11)	23
Project N 19 – Pohnpei Campus VOCED Center (ED/12)	23
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Project N 21 – Pohnpei Campus Administration and Faculty Offices (ED/14)	24
Project N 22 – Yap Campus VOCED Center-1 (ED/15)	25
Project N 23 – Yap FSM-FMI Campus Infrastructure Upgrade (ED/16)	25
Project N 24 – Yap Campus New Learning Resource Center (ED/17)	26
Project N 25 – Yap FSM-FMI Campus Classroom (ED/18)	26
Project N 26 – Yap Campus New Classroom Block (ED/19)	27
Project N 27 – Yap FSM-FMI Campus Road and Utility Improvements (ED/20)	27
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Project N 30 – New Multi-Purpose Building at Palikir (GB/3)	30
Project N 31 – New Two-Story Executive Building at Palikir (GB/4)	31
Project N 32 – Backup Power Generation at Palikir (GB/5)	31
Project N 33 – Conference Center (Micronesian Village Phase 1) (GB/6)	32
Project N 34 – Programme Buildings (Micronesian Village Phase 2) (GB/7)	32

4.1 Air Transportation

Project N 1 – Safety and Security Management Systems for International Airports (AT/1)

Project Title:	Safety & Security Management Systems for International Airports	Sector:	Air Transportation						
Project Description/Scope:	FAA has identified the need for Safety Management Systems for each of the Airports and has listed a Grant for these to be prepared.								
Agencies Responsible:	DTCI – Civil Aviation Division								
Project Objectives/Outcomes:	FAA-compliant Safety Management Systems documentation provided for each Airport								
Project Justification:	Identified as a FAA requirement								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	4	3	2	2	2	4	5	3	6.4
Project Status:	Concept								
Inclusions:	Development of the Plans								
Exclusions:	Additional activities/facilities required to fully implement the Plans								
Risks & Dependencies:	Matching funds not available, airport operators are not able to implement the Plans								
Estimated Planning & Design Costs \$:	450,000 FAA AIP Grant 50,000 FSM Matching Funds	Estimated Construction Costs \$:	0						

4.2 Telecommunications Sector

Project N 2 – Extend Terrestrial Fiber Optic in Pohnpei (TC/1)

Project Title:	Terrestrial Fiber Optic Extensions in Pohnpei	Sector:	Telecommunications						
Project Description/Scope:	Design and install extended terrestrial fiber optic cabling in Pohnpei								
Agencies Responsible:	FSMTC								
Project Objectives/Outcomes:	Provide reliable high speed telecommunications services for Pohnpei telecommunications users								
Project Justification:	Current availability of high speed telecommunications through terrestrial fiber optic cabling is limited to the vicinity of the primary road and some areas within Kolonia								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	4	3	4	5	5	8.9
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs		Estimated Construction Costs \$:	4,000,000					

Project N 3 – Provide Terrestrial Fiber Optic in Yap (TC/2)

Project Title:	Provide Terrestrial Fiber Optic in Yap	Sector:	Telecommunications						
Project Description/Scope:	Design and install terrestrial fiber optic cabling in Yap								
Agencies Responsible:	FSMTC								
Project Objectives/Outcomes:	Provide reliable high speed telecommunications services for Yap telecommunications users								
Project Justification:	Current terrestrial telecommunications cabling is not capable of delivering full telecommunications service capability once the external link has been upgraded to fiber optic.								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	4	3	4	5	5	8.9
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs		Estimated Construction Costs \$:	2,500,000					

Project N 4 – Improve Mobile Telecommunications Networks (TC/3)

Project Title:	Mobile Telecommunications Networks Improvements	Sector:	Telecommunications						
Project Description/Scope:	Improve mobile telecommunications services by: <ul style="list-style-type: none"> • upgrading the whole of the cellular network to provide 3G and 4G services (subject to user-device capability) • increasing the number of cellular network sites by 25 (currently 24 sites) 								
Agencies Responsible:	FSMTC								
Project Objectives/Outcomes:	Provide higher speed mobile telecommunications services to a greater proportion of the FSM population								
Project Justification:	Limited availability of high speed mobile telecommunications and many areas do not have any mobile telecommunication service								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	4	2	4	5	5	8.7
Project Status:	Concept								
Inclusions:	Upgrading of cellular sites to 3G/4G and addition of 25 cellular sites, system upgrades to core mobile telecommunications infrastructure (already 3G/4G capable)								
Exclusions:	Core mobile telecommunications infrastructure								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	2,800,000			

Project N 5 – Provide Solar Power for Telecommunications Facilities (TC/4)

Project Title:	Solar Power for Telecommunications Facilities	Sector:	Telecommunications						
Project Description/Scope:	Provide around 500kW of solar power generation and storage as an alternative source of electric power at FSMTC offices, facilities and cellular sites								
Agencies Responsible:	FSMTC								
Project Objectives/Outcomes:	Reduce operational costs and improve the resilience of telecommunication services, particularly during times of disruption to public electric power supply								
Project Justification:	Electric power is a significant cost to FSMTC and its reliability can be highly variable, particularly for remote facilities and sites and in times of emergencies/disasters								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	3	3	3	3	4	4	4	6.7
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs	Estimated Construction Costs \$:	2,500,000						

Project N 6 – Provide Emergency/Disaster Alert System (TC/5)

Project Title:	Emergency/Disaster Alert System	Sector:	Telecommunications						
Project Description/Scope:	Provide communities throughout FSM with a reliable, 24/7 system to alert them to potential emergency/disaster events in around 200 communities								
Agencies Responsible:	Office of Environment and Emergency Management								
Project Objectives/Outcomes:	Reduce the risk to communities by providing timely and reliable alerts to potential emergency/disaster events								
Project Justification:	Although communities across FSM have reliable HF/VHF radio communications, these are not monitored 24/7 so communities are at risk from short-notice potential emergency/disasters (e.g. tsunami) or being able to respond to local emergencies (e.g. vessels in distress)								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
2	3	2	3	3	2	5	5	3	6.2
Project Status:	Concept								
Inclusions:	Provision of the central and distributed components of the system, including aural/visual alert elements								
Exclusions:	Ongoing satellite communications charges (currently \$30 per month per unit)								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs	Estimated Construction Costs \$:	800,000						

Project N 7 – Provide Government Video Conferencing Facilities (TC/6)

Project Title:	Video Conferencing Facilities for All Three Branches	Sector:	Telecommunications						
Project Description/Scope:	Provide the Branches of the National and State Governments with dedicated video conferencing facilities								
Agencies Responsible:	DTCI Communication Division								
Project Objectives/Outcomes:	Provide facilities for “face-to-face” Government communications without the need for interstate travel								
Project Justification:	Officials and staff in all Branches of the National and State Government are often required to travel to meet on matters of shared interest which is expensive and takes them away from their day-to-day duties for extended periods due to travel schedules								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	4	4	3	4	3	3	5	4	7.8
Project Status:	Scoping								
Inclusions:	Video conferencing equipment installed in each Branch of the National and State Governments								
Exclusions:	Additional accommodation for video conferencing and ongoing telecommunications costs								
Risks & Dependencies:	Capacity to operate and maintain the facilities								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	750,000			

4.3 Education

Project N 8 – COM-FIT (ED/1)

Project Title:	COM-FIT	Sector:	Education						
Project Description/Scope:	Project and construction management of the COM Infrastructure development program								
Agencies Responsible:	College of Micronesia								
Project Objectives/Outcomes:	Delivery of the infrastructure								
Project Justification:	Required to manage infrastructure delivery								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
									N/A
Project Status:	Concept								
Inclusions:									
Exclusions:	Design costs are included in individual project estimates								
Risks & Dependencies:	Staffing and support requirement is related to the total planned infrastructure delivery								
Estimated Planning & Design Costs \$:	1,283,000	Estimated Construction Costs \$:	0						

Project N 9 – All Solar Projects (ED/2)

Project Title:	All Solar Projects	Sector:	Education						
Project Description/Scope:	Not further defined								
Agencies Responsible:	College of Micronesia								
Project Objectives/Outcomes:	reduction of use of non-renewable energy; cost saving								
Project Justification:	Security of power supply								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	4	3	5	4	5	4	4	7.8
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	200,000	Estimated Construction Costs \$:	1,800,000						

Project N 10 – National Campus Student Center and New Health Clinic (ED/3)

Project Title:	National Campus Student Center and New Health Clinic	Sector:	Education						
Project Description/Scope:	Student Center and New Health Clinic and on-site infrastructure upgrades								
Agencies Responsible:	College of Micronesia								
Project Objectives/Outcomes:	Infrastructure improvements to address safety, access and to provide a healthful learning and working environment.								
Project Justification:	Projects to increase disabled access across the site, relocate security to the center of the site for safety								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	4	5	5	4	4	4	3	7.8
Project Status:	Scoped								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	543,000		Estimated Construction Costs \$:	4,887,000					

Project N 11 – National Campus Marine and Applied Science Building (ED/4)

Project Title:	National Campus Marine and Applied Science Building	Sector:	Education						
Project Description/Scope:	Two level building totaling 5700ft ²								
Agencies Responsible:	College of Micronesia								
Project Objectives/Outcomes:	in accordance with the development Master Plan								
Project Justification:	As set out in the development Master Plan								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	4	3	5	4	4	4	3	7.3
Project Status:	Scoped								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	210,000		Estimated Construction Costs \$:	1,890,000					

Project N 12 – National Campus Track and Field & Baseball Field (ED/5)

Project Title:	National Campus Track and Field & Baseball Field					Sector:	Education			
Project Description/Scope:	Track and field/baseball facility including associated vehicle access and parking as well as pedestrian access									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Increase the recreational facilities with completion of athletics track and baseball pitch in the long term									
Project Justification:	As set out in the development Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	5	5	4	4	4	3	7.8	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	387,100				Estimated Construction Costs \$:	3,483,900				

Project N 13 – National Campus Upgrade to Gymnasium (ED/6)

Project Title:	National Campus Upgrade to Gymnasium					Sector:	Education			
Project Description/Scope:	Structural and fit out renovation and renewal works									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Return building to maintainable condition									
Project Justification:	Safety issue - based on the current building condition and deterioration									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	5	5	4	4	4	3	7.8	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	40,000				Estimated Construction Costs \$:	360,000				

Project N 14 – Chuuk Nantaku Campus Design (Buildings 1&2) (ED/7)

Project Title:	Chuuk Nantaku Campus Design (Buildings 1&2)					Sector:	Education			
Project Description/Scope:	Nantaku design (Buildings 1&2) and current site improvements									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Current site improvements for safety, access and to provide a healthful learning and working environment.									
Project Justification:	Two existing buildings have a poor structural condition grade Current lease on the temporary Weno site expires in 2022 necessitating a move to the permanent site Nantaku.									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	2,169,000				Estimated Construction Costs \$:	0 (see ED/8)				

Project N 15 – Chuuk - Nantaku Campus Buildings 1&2 (ED/8)

Project Title:	Chuuk - Nantaku Campus buildings 1&2					Sector:	Education			
Project Description/Scope:	Nantaku Buildings 1&2 construction, site infrastructure including recreation area, road connection and maintenance support building									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Improvements for safety, access and to provide a healthful learning and working environment -									
Project Justification:	Current lease on the temporary Weno site expires in 2022 necessitating a move to the permanent site Nantaku.									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	0 (see ED/7)				Estimated Construction Costs \$:	14,500,000				

Project N 16 – Kosrae Campus Multi-Purpose Building Stage-1 (ED/9)

Project Title:	Kosrae Campus Multi-Purpose Building Stage-1						Sector:	Education		
Project Description/Scope:	Multi-Purpose Building Stage-1 (Student and administration center) including demolition and on-site infrastructure upgrades									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Infrastructure improvements to address safety, access and to provide a healthful learning and working environment									
Project Justification:	As set out in the development Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	534,000				Estimated Construction Costs \$:	4,806,000				

Project N 17 – Kosrae Campus Multi-Purpose Building Stage-2 (ED/10)

Project Title:	Kosrae Campus Multi-Purpose Building Stage-2						Sector:	Education		
Project Description/Scope:	Continuation of works from Stage 1									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Infrastructure improvements to address safety, access and to provide a healthful learning and working environment									
Project Justification:	As set out in the development Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	290,000				Estimated Construction Costs \$:	2,6,10,000				

Project N 18 – Kosrae Campus Learning Resource Center (ED/11)

Project Title:	Kosrae Campus Learning Resource Center						Sector:	Education		
Project Description/Scope:	Replacement building									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Move Learning Resource Centre away from Carpentry shops									
Project Justification:	Relocate uses currently located adjacent to each other that are not compatible									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	4	5	4	4	4	3	7.6	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	310,000				Estimated Construction Costs \$:	2,790,000				

Project N 19 – Pohnpei Campus VOCED Center (ED/12)

Project Title:	Pohnpei Campus VOCED Center						Sector:	Education		
Project Description/Scope:	VOCED Center - Including new technical education classroom, new multipurpose technical building (including workshops), associated demolition and infrastructure upgrades									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Infrastructure to provide for fire-fighting and road access through the site along with disabled access not currently provided for due to the terrain									
Project Justification:	4 buildings have a poor structural condition grade - replacement buildings considered in masterplan to address this issue.									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	585,000				Estimated Construction Costs \$:	5,265,000				

Project N 20 – Pohnpei Campus VOCED Center-2 (ED/13)

Project Title:	Pohnpei Campus VOCED Center-2						Sector:	Education		
Project Description/Scope:	Continuation of VOCED Center-1 project									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	As for VOCED Center-1									
Project Justification:	As for VOCED Center-1									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	0				Estimated Construction Costs \$:	1,000,000				

Project N 21 – Pohnpei Campus Administration and Faculty Offices (ED/14)

Project Title:	Pohnpei Campus Administration and Faculty offices						Sector:	Education		
Project Description/Scope:	In accordance with development Master Plan									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	In accordance with development Master Plan									
Project Justification:	As set out in the development Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	560,000				Estimated Construction Costs \$:	5,040,000				

Project N 22 – Yap Campus VOCED Center-1 (ED/15)

Project Title:	Yap Campus VOCED Center-1					Sector:	Education		
Project Description/Scope:	VOCED Center-1 including maintenance building, demolition and on-site infrastructure upgrades								
Agencies Responsible:	College of Micronesia								
Project Objectives/Outcomes:	In accordance with the development Master Plan								
Project Justification:	Current VOCED building is in poor structural and building condition								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	4	3	5	4	4	4	3	7.3
Project Status:	Scoped								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	349,200				Estimated Construction Costs \$:	3,142,800			

Project N 23 – Yap FSM-FMI Campus Infrastructure Upgrade (ED/16)

Project Title:	Yap FSM-FMI Campus Infrastructure Upgrade					Sector:	Education		
Project Description/Scope:	Upgrade leaching field, drainage on site, firefighting capability, electrical supply as the existing site infrastructure is over 40 years old								
Agencies Responsible:	College of Micronesia								
Project Objectives/Outcomes:	In accordance with the infrastructure Master Plan								
Project Justification:	Current site has safety and accessibility issues								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	4	3	5	4	4	4	3	7.3
Project Status:	Scoped								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	113,300				Estimated Construction Costs \$:	1,019,700			

Project N 24 – Yap Campus New Learning Resource Center (ED/17)

Project Title:	Yap Campus New Learning Resource Center						Sector:	Education		
Project Description/Scope:	New Learning Resource Center including computer lab, Administration /Faculty Office									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Improvements for safety, access and to provide a healthful learning and working environment. One of the three buildings with poor structural condition grade is the current administration									
Project Justification:	As set out in the development Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	4	5	4	4	4	3	7.6	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	440,000				Estimated Construction Costs \$:	3,960,000				

Project N 25 – Yap FSM-FMI Campus Classroom (ED/18)

Project Title:	Yap FSM-FMI Campus Classroom						Sector:	Education		
Project Description/Scope:	Classroom/ study space and shop extension									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Improvements to address safety, access and to provide a healthful learning and living environment									
Project Justification:	separation of study from bedrooms									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	72,000				Estimated Construction Costs \$:	648,000				

Project N 26 – Yap Campus New Classroom Block (ED/19)

Project Title:	Yap Campus New Classroom Block						Sector:	Education		
Project Description/Scope:	New classroom block and new gymnasium									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Improvements to address safety, access and to provide a healthful learning environment.									
Project Justification:	As set out in the development Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	270,000				Estimated Construction Costs \$:	2,430,000				

Project N 27 – Yap FSM-FMI Campus Road and Utility Improvements (ED/20)

Project Title:	Yap FSM-FMI Campus Road and Utility Improvements						Sector:	Education		
Project Description/Scope:	Rerouting of central road and infrastructure improvements (water/ sanitation)									
Agencies Responsible:	College of Micronesia									
Project Objectives/Outcomes:	Improvements for safety, access and to provide a healthful learning and working environment.									
Project Justification:	As set out in the development Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	3	5	4	4	4	3	7.3	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	120,000				Estimated Construction Costs \$:	1,080,000				

4.4 Government Administrative Buildings

Project N 28 –National Government Buildings Renovations (GB/1)

Project Title:	National Government Buildings Renovations						Sector:	Government Administrative Buildings		
Project Description/Scope:	Renovation of buildings at the Palikir complex, including:									
	Executive Building E	294,060								
	Executive Building D	253,830								
	Executive Building C	294,060								
	Executive Building B	294,060								
	Executive Building A	253,830								
	Central Facilities Building	294,060								
	Judicial Building	294,060								
	Congress Office Building	294,060								
		2,272,020								
Agencies Responsible:	DTCI Infrastructure Division									
Project Objectives/Outcomes:	Provide improved working conditions and facilities and mitigate further building deterioration									
Project Justification:	Conditions of the buildings are impacting on working conditions and facilities and deterioration will be ongoing unless arrested									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Total Rating (out of 10)
	3	2	2	3	2	3	3	4	4	5.8
Project Status:	Scoped									
Inclusions:	In accordance with the DTCI Infrastructure Division assessment									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	227,000					Estimated Construction Costs \$:	2,045,000			

Project N 29 –Roads & Facilities Improvements at Palikir (GB/2)

Project Title:	Roads & Facilities Improvements at Palikir	Sector:	Government Administrative Buildings						
Project Description/Scope:	Repair generally by asphalt overlay the following roads: <ul style="list-style-type: none"> • Capitol Main Road • Secondary Roads to Executive Buildings, Congress Chamber, Congress Building , and Judicial Building • Executive Housing Road and Reservoir Access Road • In association with the repairs, paint curbs, parking stalls, reserved parking names, and provide directional traffic signs 								
Agencies Responsible:	DTCI Infrastructure Division								
Project Objectives/Outcomes:	Provide improved road, traffic and parking condition and mitigate further road deterioration								
Project Justification:	Condition of the roads is impacting on traffic and parking and deterioration will be ongoing unless arrested								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/ conditions	Improve financial sustainability of infrastructure	Total Rating (out of 10)
3	2	2	3	2	3	3	4	4	5.8
Project Status:	Scoped								
Inclusions:	In accordance with the DTCI Infrastructure Division assessment								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	1,460,000			

Project N 30 – New Multi-Purpose Building at Palikir (GB/3)

Project Title:	New Multi-Purpose Building at Palikir						Sector:	Government Administrative Buildings		
Project Description/Scope:	Provide a new building in the Palikir Complex with the following facilities: Post Office 1,000 ft ² Cafeteria 3,000 ft ² Library 4,000 ft ² National Museum 4,800 ft ²									
Agencies Responsible:	DTCI Infrastructure Division									
Project Objectives/Outcomes:	Provide improved/additional facilities at the Palikir Complex									
Project Justification:	The existing Post Office is not suitable/adequate for the needs at the Palikir Complex There is no cafeteria facility and staff regularly travel to Kolonia for their lunch, impacting on productivity – this facility would provide opportunities for vendors to set up catering facilities Additional space is required to supplement the Congress Library and meet the needs of all of the National Executive/Administration A National Museum is required to provide a place in which to record and display the history and achievements of FSM and its people									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Total Rating (out of 10)
	4	3	4	2	4	2	4	5	3	6.9
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	240,000					Estimated Construction Costs \$:	2,160,000			

Project N 31 – New Two-Story Executive Building at Palikir (GB/4)

Project Title:	New Two-Story Executive Building at Palikir						Sector:	Government Administrative Buildings		
Project Description/Scope:	New two-story Executive building to house Government departments currently located away from the Palikir complex									
Agencies Responsible:	DTCI									
Project Objectives/Outcomes:	Locate all executive functions within the Palikir complex to improve government efficiencies									
Project Justification:	Departments currently located outside of Palikir complex in rented accommodation									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Total Rating (out of 10)	
3	2	2	3	2	3	3	5	5	6.2	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	493,000				Estimated Construction Costs \$:	4,438,000				

Project N 32 – Backup Power Generation at Palikir (GB/5)

Project Title:	Backup Power Generation at Palikir						Sector:	Government Administrative Buildings		
Project Description/Scope:	Provide alternative sources of around 500kW of electric power generation/storage at the Palikir Complex through a combination of diesel and solar									
Agencies Responsible:	DTCI Infrastructure Division									
Project Objectives/Outcomes:	Ensure that the impact of public electric power disruptions on the National Government’s administration and operation is minimized									
Project Justification:	Public electric power disruptions impact on the National Government’s administration and operation									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Total Rating (out of 10)	
3	3	2	2	2	4	5	5	4	6.7	
Project Status:	Concept									
Inclusions:	Generating equipment/panels, facilities, cabling, switching and energy storage for around 500kW of backup electric power supply									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	1,963,000				

Project N 33 – Conference Center (Micronesia Village Phase 1) (GB/6)

Project Title:	Conference Center (Micronesia Village Phase 1)						Sector:	Government Administrative Buildings		
Project Description/Scope:	Develop the Micronesia Village Conference Center									
Agencies Responsible:	DTCI in conjunction with Department of Foreign Affairs and SPC									
Project Objectives/Outcomes:	Provide a Conference Center that supports the SPC Regional Office function of representing and coordinating programs for North Pacific members									
Project Justification:	SPC Regional Office is located in Pohnpei under an agreement with the National Government and current facilities are limited									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Total Rating (out of 10)	
5	4	4	3	4	3	3	5	4	7.8	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	940,000				Estimated Construction Costs \$:	8,460,000				

Project N 34 – Programme Buildings (Micronesia Village Phase 2) (GB/7)

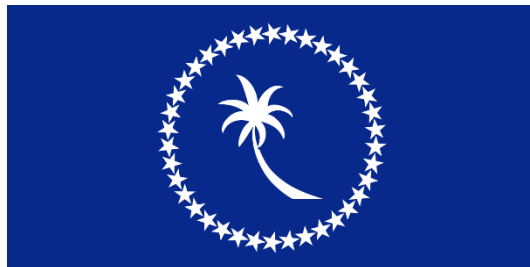
Project Title:	Programme Buildings (Micronesia Village Phase 2)						Sector:	Government Administrative Buildings		
Project Description/Scope:	Develop the Micronesia Village Programme Buildings (10 No.)									
Agencies Responsible:	DTCI in conjunction with Department of Foreign Affairs and SPC									
Project Objectives/Outcomes:	Provide Programme Buildings that support the SPC Regional Office function of representing and coordinating programs for North Pacific members and bring together development partners offices									
Project Justification:	SPC Regional Office is located in Pohnpei under an agreement with the National Government and current facilities are limited. Development partner offices are widely disbursed									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Total Rating (out of 10)	
5	4	4	3	4	3	3	5	4	7.8	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	500,000				Estimated Construction Costs \$:	8,900,000				



Federated States of Micronesia INFRASTRUCTURE DEVELOPMENT PLAN FY2016-FY2025

Volume 3:

Chuuk State Infrastructure Development Plan FY2016-FY2025



This Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 comprises the following parts:

Introduction

Volume 1 Plan Outline

Annexes

Volume 2 National Infrastructure Development Plan

Volume 3 Chuuk State Infrastructure Development Plan

Volume 4 Kosrae State Infrastructure Development Plan

Volume 5 Pohnpei State Infrastructure Development Plan

Volume 6 Yap State Infrastructure Development Plan

The following Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 documents are available:

Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 (all parts)

FSM Infrastructure Development Plan FY2016-FY2025 Outline (Introduction, Volume 1 & Annexes)

National Infrastructure Development Plan FY2016-FY2025 (Volume 2)

Chuuk State Infrastructure Development Plan FY2016-FY2025 (Volume 3)

Kosrae State Infrastructure Development Plan FY2016-FY2025 (Volume 4)

Pohnpei State Infrastructure Development Plan FY2016-FY2025 (Volume 5)

Yap State Infrastructure Development Plan FY2016-FY2025 (Volume 6)

FSM Infrastructure Development Plan FY2016-FY2025 Summary (abbreviated outline and listings of projects)

Volume 3 Chuuk State Infrastructure Development Plan

Foreword by the Governor

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Part 1 Introduction

This Volume 3 of the IDP is known as the **Chuuk State Infrastructure Development Plan FY2016 to FY2025** (the Chuuk IDP).

1.1 Overview

Chuuk is located (830nm) to the west of Yap state, with Pohnpei (1208nm) and Kosrae (1500nm) to the east. It is the most populated state of FSM. Chuuk State consists of several island groups with a combined population of 48,615 (FSM Census, 2010). The 2010 Census reported fewer residents in the state compared to 2000 (-1.0 percent decline) as a result of substantial net-migration to neighboring US Territories, Hawaii and US Mainland. This was associated with the recent mixed economic fortunes of the state. The state's per capita income was \$1,455 in 2013, compared with the FSM average of \$2,300. This was the lowest in the country. According to the 2010 Census unemployment in the state was 24.6 percent, about fifty-percent higher than the FSM 16.2 percent average.

Chuuk state covers an area of 121.5 sq. km (46.9 sq. miles). The island groups within the state are: Chuuk Lagoon (islands within the lagoon: North and South Namoneas, Faichuk), Mortlocks, Hall Islands and Northwest. The islands located within the lagoon are surrounded by 225 km of barrier reef. They are mountainous and constitute the main economic and population centers (75 percent of the total state population or 36,493). The outer islands of Chuuk state (Mortlocks, Hall Islands and Northwest (Namounuito atoll and Pattiw)) are sparsely populated atolls, with a combined population of 14,005. Administratively Chuuk is divided into 40 municipalities, 16 of which are located within the Chuuk lagoon.

1.2 Climate and the Challenges of Change

The Joint State Action Plan for Chuuk, dealing with climate change and the development of infrastructure to adapt to climate change, will be developed in the upcoming period in conjunction with the supporting agency SPC. It is likely to follow a similar pattern to those for Kosrae, and particularly of Yap, as the challenges and issues are similar. Current projects included in the IDP will contribute to climate change mitigation and adaptation, in particular by:

- Improved access and reduced fuel use from the upgraded road system
- Improvement of the Uman Pedestrian Road
- Increased use of renewable energy

1.3 Plan Development

The Chuuk IDP presents the State's priority infrastructure investments for the next 10 years identified by the Chuuk IPIC and government and community stakeholders. The projects have been prioritized according to three periods; Period 1, FY2016 to FY2019 (during which the Amended Compact arrears are intended to be fully appropriated), Period 2, FY2020 to FY2022, and Period 3, FY2023 to FY2025.

The IPIC-led group assessed the contribution of each priority project to the IDP strategic objectives (Volume 1, section 2.2.2) to provide a Strategic Rating out of 10. Although strategic ratings are not comparable between projects and sectors due to variations in the scope of projects and inherent sector factors (and cannot be used to prioritize projects), the rating process has nonetheless confirmed that the priority projects each make a strong contribution to relevant strategic objectives.

The development process provided valuable input into the management and implementation arrangements (section 2.2) and with the sector managers provided information for the priority projects outlines incorporated into the Chuuk IDP (Part 4).

Part 2 Plan Outline

2.1 Investment Strategy

2.1.1 Available Funding

Details of the funding available from FSM’s development partners and the National Government can be found in Volume 1, Part 3 of the IDP.

Chuuk receives Amended Compact funds according to the formula set by the FSM Congress (currently 42.22 percent). The underpinning nature of infrastructure warrants a more even distribution of infrastructure funding so funds associated with bilateral donors, multilateral banks and climate change are not allocated on a formula-basis. An amount equal to 25 percent of these funds is included in the Chuuk IDP, however Chuuk may receive a greater or lesser amount on a program or project basis.

The funding available to Chuuk State is 40 percent of total available IDP infrastructure funding. Table C 1 shows the allocation over the 10 years of the IDP; \$257.7 million for development and \$40.7 million for maintenance.

Table C 1 – Total Available Chuuk IDP Funding

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Chuuk										
Development	58,457,941	30,102,020	28,781,040	28,769,999	19,691,358	20,250,196	20,231,473	20,210,189	15,546,276	15,632,257
Maintenance	4,659,363	4,658,739	5,138,047	5,136,885	3,670,950	3,669,249	3,667,278	3,665,038	3,174,100	3,183,150
TOTAL	63,117,303	34,760,760	33,919,087	33,906,883	23,362,308	23,919,445	23,898,751	23,875,227	18,720,376	18,815,407

2.1.2 Priority Projects

The Chuuk IDP includes priority projects estimated at \$283.7 million across 8 of the 10 infrastructure sectors. The breakdown of project estimates by sector is shown in Figure C 1 and the listing of priority projects is included in Table C 2.

Figure C 1 – Chuuk IDP Breakdown by Sector

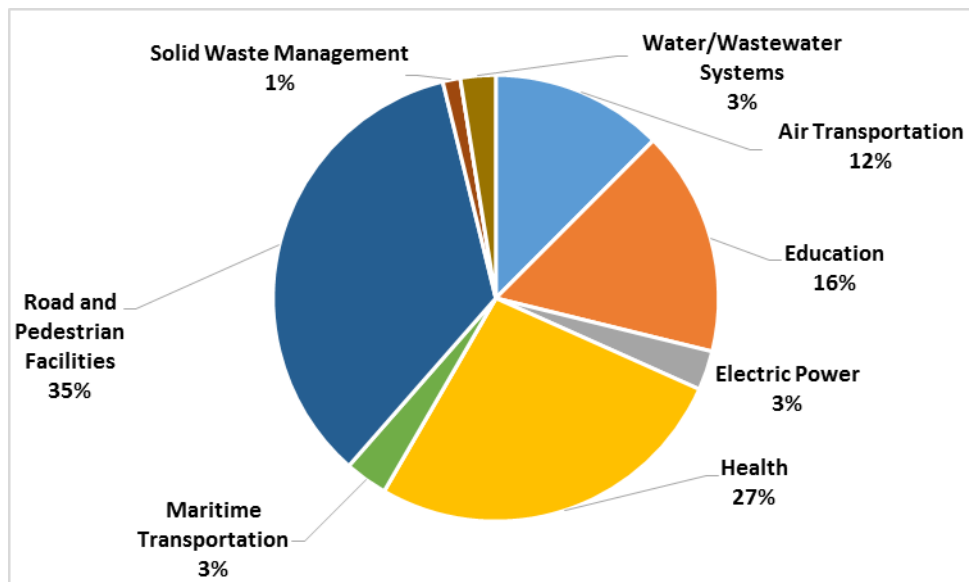


Table C 2 – Chuuk IDP Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
PM/1	Chuuk Project Management Office	10,000,000	All	n/a
EP/1	Weno Electric Power Distribution Improvements	800,000	1	9.6
EP/2	Tonoas Electric Power Distribution Improvements	1,000,000	1	9.6
EP/3	Renewable Energy Expansion - Phase 1	4,000,000	1	9.8
EP/4	Renewable Energy Expansion - Phase 2	2,000,000	½	9.8
WW/1	Weno Water Supply Improvements	7,000,000	1	9.6
SW/1	Weno Solid Waste Management Facility	3,500,000	1	9.3
RD/1	Weno Road & Services Improvement Project - Phase 1	2,000,000	1	9.6
RD/2	Weno Road & Services Improvement Project - Phase 2	42,504,000	½	9.6
RD/3	Faichuk Road Improvements	24,750,000	2	9.6
RD/4	Tonoas Road Improvements	8,250,000	2	9.3
RD/5	Fefen Road Improvements	11,550,000	2	9.3
RD/6	Uman Pedestrian Road Improvements	4,400,000	2	8.9
RD/7	Establish Asphalt Plant and Core Equipment	1,500,000	1	7.8
MT/1	Chuuk Lagoon Dock Facilities	6,625,000	2	9.3
MT/2	Weno Commercial Port Improvements	1,375,000	1	9.8
MT/3	Chuuk State Multi-Role Vessel	500,000	2	9.3
AT/1	Chuuk Runway, Taxiway and Apron Rehabilitation	30,000,000	1	7.3
AT/2	Ta Airstrip Improvements	800,000	1	6.4
AT/3	Onoun/Ulul Airstrip Improvements	2,345,000	1	6.4
AT/4	Houk Airstrip Improvements	1,055,000	1	6.4
ED/1	Chuuk Lagoon Elementary & High Schools - Phase 1	5,852,000	1	9.8
ED/2	Northwest Elementary & High Schools - Phase 1	6,454,000	1	9.8
ED/3	Mortlocks Elementary & High Schools - Phase 1	240,000	1	9.8
ED/4	Chuuk Schools Land Definition and Acquisition	3,000,000	1	9.8
ED/5	Chuuk Lagoon Elementary & High Schools - Phase 2	19,976,000	2	9.8
ED/6	Northwest Elementary & High Schools - Phase 2	2,364,000	2	9.8
ED/7	Mortlocks Elementary & High Schools - Phase 2	6,848,000	2	9.8
HE/1	Chuuk State Hospital - Renovate Existing Facilities	5,800,000	1	9.3
HE/2	Chuuk State Hospital - New Facility	40,000,000	1/2	9.3
HE/3	Chuuk Lagoon Dispensaries - Phase 1	1,600,000	1	8.4
HE/4	Chuuk Lagoon Dispensaries - Phase 2	4,000,000	1	8.4
HE/5	Chuuk Lagoon Dispensaries - Phase 3	9,600,000	2	8.4
HE/6	Outer Island Dispensaries - Phase 1	4,800,000	1	8.4

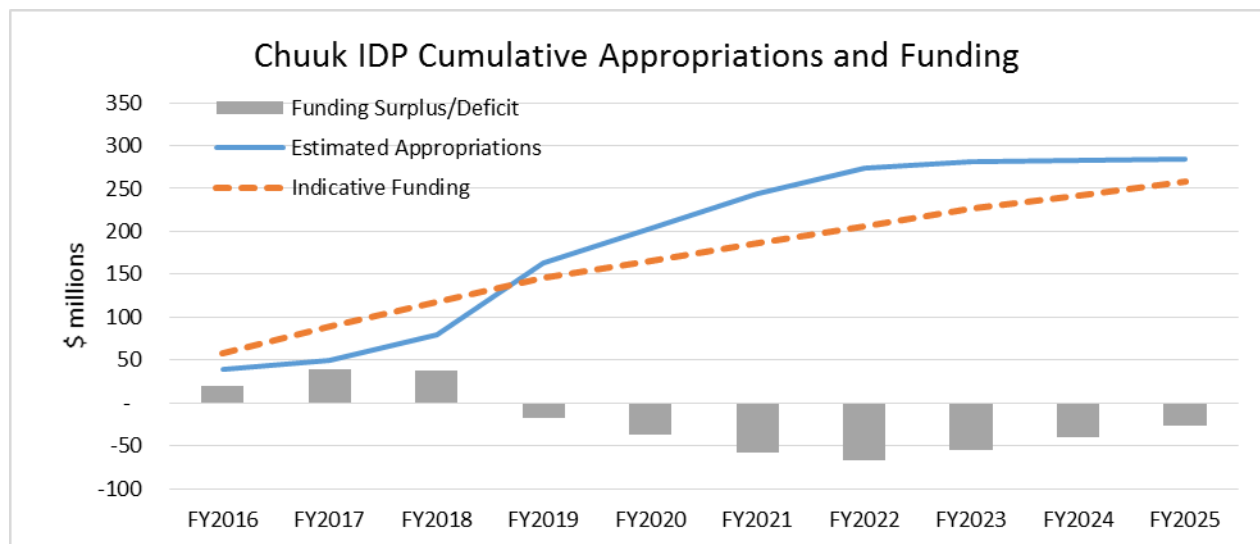
ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
HE/7	Outer Island Dispensaries - Phase 2	6,720,000	2	8.4
HE/8	Chuuk Health Facilities Land Definition and Acquisition	500,000	1	8.4
Total Development Funding Required		283,708,000		
MTCE	Infrastructure Maintenance	40,620,000		

2.1.3 Project Funding Requirements

Based on the project priorities identified during development of the Chuuk IDP, a funding appropriation profile covering the 10 year period has been estimated. In summary, as shown in Figure C 2, the Chuuk IDP priority projects exceed available funding by about 10 percent.

As a result of the March 2012 JEMCO decision the gap in Amended Compact funding leads to a period of low demand for funds with planning and design the dominant activities. Appropriations for construction will be significant by FY2019. From this point on appropriations exceed funding identified in the IDP. This implies additional funding needs to be identified and/or priorities reassessed. The planned review of the Chuuk IDP in FY2019 will provide the opportunity to undertake this reassessment.

Figure C 2 – Chuuk IDP Available Funding and Estimated Appropriations



2.1.4 Infrastructure Maintenance

Chuuk State has a total of \$40.62 million of maintenance funding available from FY2016 to FY2025. This includes \$7.49 million required to match the available Amended Compact IMF funding.

2.2 Management and Implementation

2.2.1 State Governance

An effective State IPIC will provide the basis for strong governance of infrastructure delivery at the State program and project level once the coordinated control processes have been established.

Most importantly the intended upgraded role of the IPIC and establishment of the implementation framework outlined below will devolve the planning and implementation responsibilities to the States without compromising control, integrity and governance.

2.2.2 Implementation model

National program management

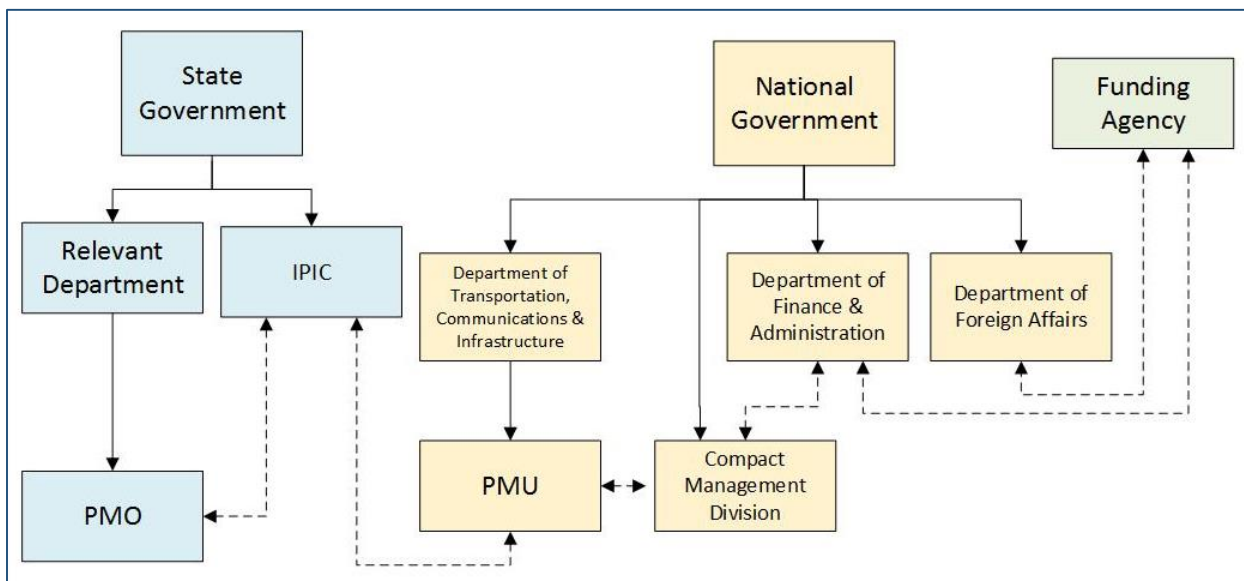
The implementation model retains the PMU within DTCI but restructures the unit to focus on **Program Management**. The PMU will provide ongoing support to the State to ensure standards are developed and shared, subsequent design and construction contracts are consistent with appropriate risk management and will provide peer review expertise as required.

State delivery accountabilities

The State will be accountable for **Project Management**, from initial planning, through design to construction completion. The State will form a Project Management Office (PMO). The PMO will undertake all the project management activities from initial design through to construction and completion.

The general structure of the implementation model is shown on Figure C 3.

Figure C 3 – Organization Chart of Infrastructure Delivery



The PMO will initially contract with the private sector (external party) to ensure project delivery capability is in place by Q3 2016. The contracted external party will be used across all four States within FSM to provide consistency of project management approaches, processes and methodologies.

State Project Management Offices

The State PMO will have the following resources:

- Project Manager(s)
- Contracting Officer(s)
- Resident Engineers and Inspectors.
- Technical Specialists as required

General Considerations

The cost of the PMO is estimated to be between 5 and 7 percent of the State infrastructure development program which is within international benchmarks and internationally recognized as a legitimate program cost.

The IDP includes provision for the required funds for the PMO as part of the Amended Compact component of the State's infrastructure development program (noting that Amended Compact PMO funding is dedicated to the delivery of Amended Compact projects).

The external party providing the PMO services will be excluded from participating in any further contract for the design, construction or supervision on an IDP project for which it has project management responsibilities to ensure probity is maintained.

The external party will be contractually bound to build local project management capacity in the State and will have its capacity building plans and performance regularly reviewed by IPIC.

The roles and responsibilities for each party involved in planning, implementation and management of the IDP's Amended Compact component are documented in Annex A of the IDP.

2.2.3 Process enhancements

All infrastructure projects require defined project management processes from scope definition through funds release, design and construction to successful completion. Best practice processes incorporate key steps, hold points, client reviews and concise and complete documentation to support such processes.

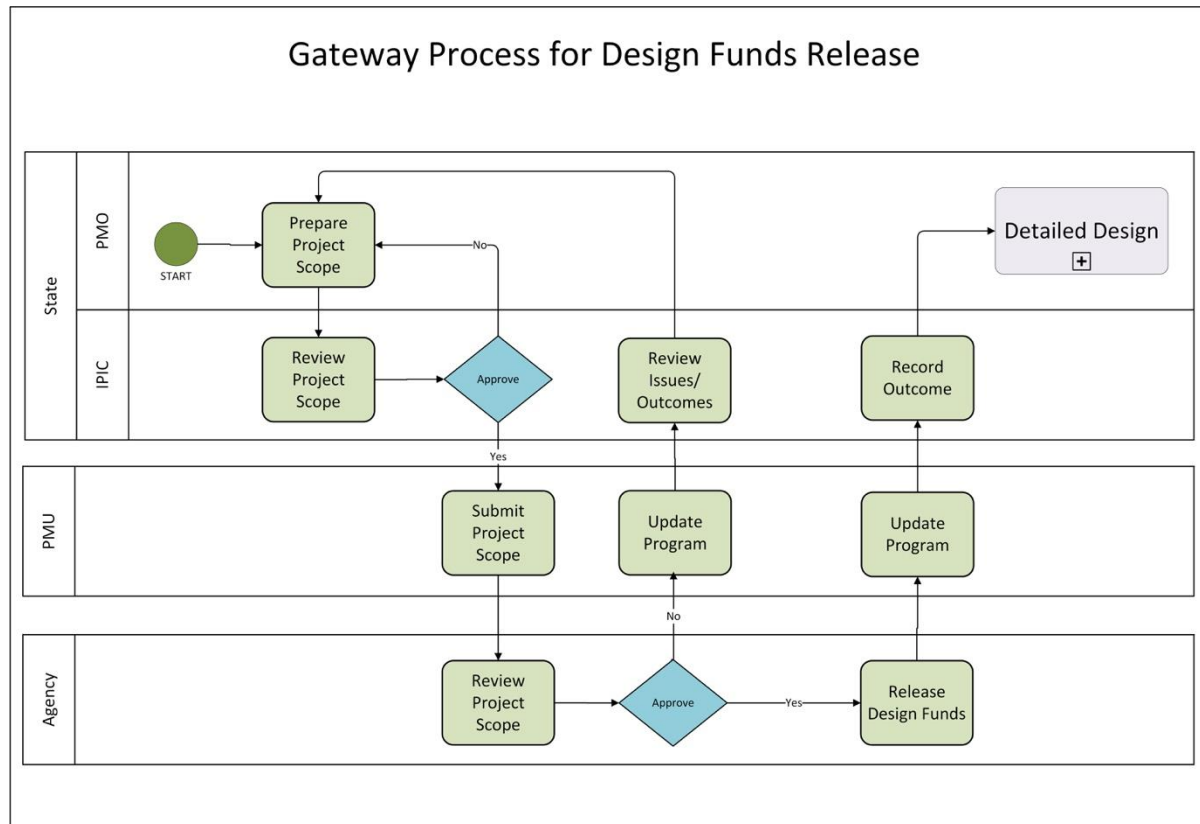
It is also good practice to release funds at two stages; initially to release funds to enable the full project design to be undertaken and then, prior to the construction procurement process commencing, the funding required for construction. This approach facilitates the orderly progress of the project while ensuring that after design there is a review of the project scope, time and cost and any changes are formally signed off before committing funds for construction.

Pre-Design and initial funds release

The PMO will fully document the project scope and formally agree this information with the IPIC.

The project will be submitted for the release of initial (generally design) funds once endorsed by the IPIC. For Amended Compact funded projects this submission is to the PMU and then onward to OIA. Figure C 4 shows the process for this stage as an example of the processes that will be operated by the PMO and other bodies.

Figure C 4 – Example Process Diagram



Once the initial funds have been appropriated, the PMO will conduct (if required) a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the design consultant.

Design and construction funds release

The PMO will formally review each project with the IPIC twice during design. The PMO will also hold regular client meetings with sector representatives.

The IPIC reviews will be held when the design is 30 percent complete and when it is 100 percent complete (but still subject to review). The 30 percent design review will ensure that designs remain on an agreed path before significant design costs are incurred.

Following a design being accepted as complete a second submission will be made to the funding agency for the appropriation of construction funds. For Amended Compact funded projects this submission is to the PMU and then onward to the OIA.

Construction procurement

Once construction funds have been appropriated, the PMO will conduct a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the construction contractor (and any required supervision consultant).

Variations

The PMO will process variations generally as follows:

- variations in scope require IPIC approval to ensure project outcomes remain fully agreed
- variations in scope or cost that require additional funding will be endorsed by IPIC before submission to Government and/or OIA (as required) for approval

- change orders to a contract will be processed in accordance with the PMU’s planned contract management manual

Completion

The PMO will prepare a Project Completion Report for endorsement by the IPIC. This report will include analysis of the project on a time, cost and quality basis. PMU will prepare summary KPIs to compare performance for the four State PMOs and identify areas for improvement.

2.3 Institutional Projects

The IDP (Volume 1, section 6.4) contains a number of institutional projects that will have an impact on Chuuk State infrastructure.

The most important is the project to reestablish Chuuk’s land title register through a combination of:

- recovering land title information held in Hawai’i and Guam
- surveying and establishing land title boundaries in consultation with stakeholders
- producing new land title records that are legally sufficient
- resolving any legislative aspects

Other institutional projects involve the development of:

- asset management policy, strategy and capacity in all States
- a FSM Building Code
- maritime and aviation safety and security capacity

2.4 Public Land Ownership

Successful implementation of the Chuuk IDP education and health sector programs depends on establishing public ownership over school and dispensary land. Clear title over land is a prerequisite for the release of construction grants.

Both sectors include projects to address land ownership in a programmatic and systematic manner, rather than on a school by school, dispensary by dispensary basis. The projects provide funding for land acquisition and the costs associated with survey, negotiation and title processing.

The education and health sector programs have two phases; the first involving schools and dispensaries on public land and the second involving those on private land. This allows a reasonable timeframe to secure public ownership prior to commencing phase 2. Particularly where schools and dispensaries are closely located, coordination across both programs is essential.

Part 3 Infrastructure Development

3.1 Past Infrastructure Development

The estimated Chuuk State infrastructure development funding in the period FY2004 to FY2015 is shown in Table C 3 against the funding planned in the IDP 2004 over its whole 20 year period.

Table C 3 – Planned and Estimated Infrastructure Development Funding

Sector	IDP 2004 Total Funds FY2004-FY2025 (\$)	Estimated Development Funding FY2004-FY2015 (\$)¹		
		Amended Compact Grants	Estimated Other Funding	Estimated Total Funding
Electric Power	58,765,000	9,206,000	8,550,000	17,756,000
Water/Wastewater Systems	65,491,000	14,463,000	4,000,000	18,463,000
Solid Waste Management	10,000,000			
Roads and Pedestrian Facilities	49,798,000	39,744,000		39,744,000
Maritime Transportation	32,307,000			
Air Transportation	19,451,000	497,000	27,971,000	28,468,000
Telecommunications				
Education	46,853,000	750,000		750,000
Health	7,480,000	333,000		333,000
Government Administrative Buildings	9,000,000		10,000,000	10,000,000
Total \$:	299,145,000	64,993,000	50,521,000	115,514,000

Notes: 1. Estimated funding does not include maintenance and some project management and design costs

3.2 Sector Outlines and Priority Projects

3.2.1 Electric Power

Electric power is provided by Chuuk Public Utilities Corporation (CPUC) with its mandate to generate sufficient revenue to cover O&M costs.

CPUC's commercial operations are currently restricted to Weno with plans to expand to Tonoas. When the private generating facility is operational in Tonoas and the electric power network has been improved (Project No. EP/2), CPUC will purchase the power and be responsible for distribution customers and O&M of the network. Outside of these areas CPUC undertakes O&M for electric power facilities through service agreements principally with Chuuk's Education and Health Departments.

A high percentage of Weno customers have a metered supply and O&M costs are largely covered from tariff revenue. Improvements to and/or rehabilitation of generation and distribution assets and major network extensions, as well as the installation and integration of renewable energy sources into the grid and interim management resources, are dependent on external financing.

Chuuk has a program to increase the proportion of electric power sourced from renewable sources as well as undertaking energy efficiency programs at a number of levels, all of which will contribute to a declining reliance on imported fuel oils for electric power generation.

The electric power projects in the Chuuk IDP are listed in Table C 4 and support the sector goal to develop electric power infrastructure to ensure that all areas of the country are provided with electric power in an efficient and effective manner in accordance with demand such that:

1. households are provided with power for basic livelihood purposes
2. local manpower can realize production opportunities and potential
3. power is available for basic services such as schools, hospitals, water and wastewater systems
4. national targets for renewable energy are achieved

The priority projects are also aligned with the major 2020 targets in the National Energy Policy for renewable energy sources to be at least 30 percent of total energy production and for a 50 percent increase in electric power efficiency.

Further information on each project can be found in the Project Outlines in Part 4.

Table C 4 – Electric Power Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
EP/1	Weno Electric Power Distribution Improvements	800,000	1	9.6
EP/2	Tonoas Electric Power Distribution Improvements	1,000,000	1	9.6
EP/3	Renewable Energy Expansion - Phase 1	4,000,000	1	9.8
EP/4	Renewable Energy Expansion - Phase 2	2,000,000	1/2	9.8
Total Funding Required		7,800,000		

3.2.2 Water/Wastewater Systems

Water and wastewater systems are also the responsibility of CPUC with its mandate is to deliver water and wastewater utility services on a self-funding basis.

Similar to electric power, commercial operations are centered on Weno where there is broad metering of water supply and effective O&M of water and wastewater systems.

The water/wastewater project in the Chuuk IDP listed in Table C 5 supports elements of the sector goal to provide water and wastewater infrastructure that:

1. meets the demand for water supply and wastewater infrastructure in an effective and efficient manner
2. improves existing water abstraction, treatment and distribution systems
3. evaluates and institutes technologically appropriate liquid waste management systems
4. improves and initiates wastewater facilities to increase coverage and contribute towards improvements in public health and environmental conditions
5. contributes towards the prevention of water borne diseases through the provision of potable water supplies

Further information on each project can be found in the Project Outline in Part 4.

Table C 5 – Water/Wastewater System Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
WW/1	Weno Water Supply Improvements	7,000,000	1	9.6
Total Funding Required		7,000,000		

3.2.3 Solid Waste Management

Solid waste management at the central landfill site is managed by the Department of Transportation and Public Works in conjunction with the Environmental Protection Agency.

The current site is close to capacity and a replacement site is urgently needed. The new site has been scoped and had an environmental impact assessment prepared. The landfill will use the Fukuoka Method common across the Pacific as an appropriate and cost-effective method for disposal and processing of solid waste. The site will include facilities for the separation and storage of recyclable and hazardous wastes.

The solid waste management project in the Chuuk IDP listed in Table C 6 supports the sector goal to provide solid waste management infrastructure that:

1. meets the demand for solid waste infrastructure in an effective and efficient manner
2. evaluates and institutes technologically appropriate solid waste management systems
3. reduces volume of solid waste for disposal by maximizing recycling and separation opportunities thereby minimizing the land area required
4. prevents solid waste having adverse effects on the terrestrial and marine environments

Further information on the project can be found in the Project Outline in Part 4.

Table C 6 – Solid Waste Management Priority Project

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
SW/1	Weno Solid Waste Management Facility	3,500,000	1	9.3
Total Funding Required		3,500,000		

3.2.4 Roads and Pedestrian Facilities

Road infrastructure in Chuuk is the responsibility of the Department of Transportation and Public Works.

The most extensive road network is on Weno but, other than the current length under construction, it is in poor to very poor condition and needs full rehabilitation or reconstruction. There are basic roads on the Southern Namoneas and Faichuk islands and these will be reconstructed to sealed road standard to improve accessibility and connectivity. A pedestrian road will be developed on Uman.

The road and pedestrian facilities projects in the Chuuk IDP listed in Table C 7 support the sector goal to provide road and pedestrian facilities infrastructure that:

1. enables transportation facilities to be adequate in terms of condition, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. meets the demand for road and pedestrian infrastructure in an effective and efficient manner, including concrete/asphalt paving of all primary road systems

3. incorporates pedestrian walkways in the design and construction of roads
4. extends cross-island and inner roads to facilitate agricultural and other development
5. is resilient to the impacts of climate change

A key component of the priority program is the establishment of an asphalt plant with asphalt laying equipment to support the extensive road development program and later maintenance activities to improve the sustainability of road infrastructure.

Further information on each project can be found in the Project Outline in Part 4.

Table C 7 – Road and Pedestrian Facilities Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
RD/1	Weno Road & Services Improvement Project - Phase 1	2,000,000	1	9.6
RD/2	Weno Road & Services Improvement Project - Phase 2	42,504,000	1/2	9.6
RD/3	Faichuk Road Improvements	24,750,000	2	9.6
RD/4	Tonoas Road Improvements	8,250,000	2	9.3
RD/5	Fefen Road Improvements	11,550,000	2	9.3
RD/6	Uman Pedestrian Road Improvements	4,400,000	2	8.9
RD/7	Establish Asphalt Plant and Core Equipment	1,500,000	1	7.8
Total Funding Required		94,954,000		

3.2.5 Maritime Transportation

Chuuk’s maritime transportation infrastructure is managed by the Department of Transportation and Public Works. The State port on Weno is utilized by both international shipping and local boats typically transferring passengers and goods to and from the islands in the Chuuk lagoon.

The projects in the Chuuk IDP focus on improving the movements within Chuuk lagoon by establishing new and upgraded dock facilities in the Southern Namoneas and Faichuk groups as well as the facilities available for international shipping and cargo. A multi-role vessel will also be provided to support government services and programs, including the shipment of equipment and materials for Chuuk IDP projects within Chuuk lagoon and on the outer islands, and provide a key disaster response and recovery resource.

The maritime transportation projects in the Chuuk IDP are listed in Table C 8 and support the sector goal to provide maritime transportation infrastructure that:

1. enables market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. provides improved dock facilities to meet both fisheries and commercial shipping needs
3. facilitates modern, safe and efficient inter-state and inter-island passenger and cargo vessels
4. coordinates and facilitates the improvement of aids to navigation

Further information on each project can be found in the Project Outlines in Part 4.

Table C 8 – Maritime Transportation Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
MT/1	Chuuk Lagoon Dock Facilities	6,625,000	2	9.3
MT/2	Weno Commercial Port Improvements	1,375,000	1	9.8
MT/3	Chuuk State Multi-Role Vessel	500,000	2	9.3
Total Funding Required		8,500,000		

3.2.6 Air Transportation

Chuuk International Airport is managed by the Department of Transportation and Public Works. The rehabilitation works at the airport are part of the FAA's Airport Improvement Program and included Airport Master Plan²⁷. Previous FAA grants have funded other airport improvements, particularly the aircraft rescue and firefighting facility and equipment.

Improvements to the outer island airstrips are part of the overall program jointly prepared by DTCl the Department of Transportation and Public Works and include extensions to make the airstrips capable of operating prospective inter-island aircraft. The amount included for the Ta airstrip is for the balance of improvement works with funding of \$600,000 having been appropriated in FY2015 by the National Government. The other airstrip improvement projects in the Chuuk IDP represent the full cost of the required works.

The air transportation projects in the Chuuk IDP are listed in Table C 9 and support the sector goal to provide air transportation infrastructure that:

1. provides adequate air transportation facilities and services in terms of condition, frequency, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country
2. enables air carrier airports to improve safety and eliminate payload restrictions
3. improves all domestic airports to the required standards of safety

Further information on each project can be found in the Project Outlines in Part 4.

Table C 9 – Air Transportation Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
AT/1	Chuuk Runway, Taxiway and Apron Rehabilitation	30,000,000	1	7.3
AT/2	Ta Airstrip Improvements	800,000	1	6.4
AT/3	Onoun/ULul Airstrip Improvements	2,345,000	1	6.4
AT/4	Houk Airstrip Improvements	1,055,000	1	6.4
Total Funding Required		34,200,000		

3.2.7 Education

The Department of Education is responsible for Chuuk's public education infrastructure, excluding the College of Micronesia. The priority projects in the Chuuk IDP have been selected based on the Chuuk

²⁷ (Leo A Daly, 2012c) - Chuuk International Airport Final Master Plan

State School Facility Repair and Construction Master Plan²⁸, and include implementation of consolidation recommendations in the Master Plan. The schools in each of the Chuuk IDP education projects is on the basis of whether the schools are located:

1. on public land (phase 1 schools) or private land (phase 2 schools, and
2. in the Chuuk lagoon, Northwest or Mortlocks region

A separate project for the definition and acquisition of private land for schools (ED/4) will facilitate a systematic and coordinated approach to land-related activities.

The education projects in the Chuuk IDP are listed in Table C 10 and support the sector goal to provide education infrastructure that:

1. ensures that the learning experience is enhanced and diversified
2. improves student and faculty interest and morale, and thereby improves the effectiveness of education and significantly increases the student retention rates through graduation from elementary or secondary schools
3. removes constraints on the availability of high school education for all graduates of elementary school, and to provide an array of post-secondary education opportunities for all high school graduates who seek further education
4. continues to assist and strengthen private educational institutions to the nation
5. is supported by facilities improvement programs that address the need for maintenance, renovation and construction of new facilities to support quality student instruction
6. is supported by equipment maintenance guidelines
7. is resilient to potential natural disasters and the impacts of climate change

Further information on each project can be found in the Project Outlines in Part 4.

Table C 10 – Education Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
ED/1	Chuuk Lagoon Elementary & High Schools - Phase 1	5,852,000	1	9.8
ED/2	Northwest Elementary & High Schools - Phase 1	6,454,000	1	9.8
ED/3	Mortlocks Elementary & High Schools - Phase 1	240,000	1	9.8
ED/4	Chuuk Schools Land Definition and Acquisition	3,000,000	1	9.8
ED/5	Chuuk Lagoon Elementary & High Schools - Phase 2	19,976,000	2	9.8
ED/6	Northwest Elementary & High Schools - Phase 2	2,364,000	2	9.8
ED/7	Mortlocks Elementary & High Schools - Phase 2	6,848,000	2	9.8
Total Funding Required		44,734,000		

3.2.8 Health

The Department of Health’s principal resource, the Chuuk State Hospital will be redeveloped in line with the Needs Assessment Study²⁹ and most of the State dispensaries will be either renovated or redeveloped.

The dispensary projects, other than those in project HE/3 follow a similar approach to the Chuuk schools with phasing based on the regional location of the dispensaries and whether they are located on public

²⁸ (Aloterre Consulting, 2012c) - Chuuk State School Facility Repair and Construction Master Plan

²⁹ (Stanley Consultants, 2013) - Needs Assessment Study, Chuuk State Hospital

or private land. A land definition and acquisition project is also included for the dispensary program and in practice it will be managed jointly with the counterpart schools project.

The health projects in the Chuuk IDP are listed in Table C 11 and support the sector goal to provide health infrastructure that:

1. provides modern and efficient hospital facilities to meet the health needs of the nation
2. facilitates an upgraded the curative health system to minimize the needs for referrals to foreign medical facilities
3. provides health care facilities within reasonable access of all citizens
4. has facilities improvement programs that address the need for maintenance, renovation and construction of new facilities
5. has adequate funds for maintenance to prevent rapid deterioration of facilities
6. is resilient to potential natural disasters and the impacts of climate change

Further information on each project can be found in the Project Outlines in Part 4.

Table C 11 – Health Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
HE/1	Chuuk State Hospital - Renovate Existing Facilities	5,800,000	1	9.3
HE/2	Chuuk State Hospital - New Facility	40,000,000	1/2	9.3
HE/3	Chuuk Lagoon Dispensaries - Phase 1	1,600,000	1	8.4
HE/4	Chuuk Lagoon Dispensaries - Phase 2	4,000,000	1	8.4
HE/5	Chuuk Lagoon Dispensaries - Phase 3	9,600,000	2	8.4
HE/6	Outer Island Dispensaries - Phase 1	4,800,000	1	8.4
HE/7	Outer Island Dispensaries - Phase 2	6,720,000	2	8.4
HE/8	Chuuk Health Facilities Land Definition and Acquisition	500,000	1	8.4
Total Funding Required		73,020,000		

3.3 Whole of Life Costs

The costs associated with new infrastructure do not end with purchase or construction. It is one step in the life cycle of an asset that begins with the initial identification of needs through to the disposal of the asset at the end of its useful life. When all these costs are combined, the total may be more than double the cost of the initial purchase/construction price.

The provision of adequate funding for preventative maintenance as part of a whole of life approach to asset management is a key institutional issue for FSM, like other Pacific Island countries.

Estimates of the Chuuk IDP priority project maintenance costs by sector over a 20 year period are included in Table C 12. Although some assets have a life other than 20 years, this period has been chosen to provide an indication of the maintenance funding required on an annual basis.

The annual percentage maintenance cost and the asset life factors can be found in Table 14 in Volume 1, Part 6, section 6.2 of the IDP.

Table C 12 – Chuuk IDP 20 Year Maintenance Costs

Sector	20 Year Costs (\$)		B / A	Annual Maintenance Cost (\$)
	Construction (A)	Maintenance (B)		
Electric Power	7,429,000	4,286,000	58%	214,000
Water/Wastewater Systems	6,667,000	2,667,000	40%	133,000
Solid Waste Management	3,333,000	1,333,000	40%	67,000
Road and Pedestrian Facilities	86,458,000	65,471,000	76%	3,274,000
Maritime Transportation	8,119,000	6,571,000	81%	329,000
Air Transportation	32,571,000	78,171,000	240%	3,909,000
Education	38,643,000	19,321,000	50%	966,000
Health	65,927,000	52,742,000	80%	2,637,000
Total	249,147,000	230,562,000	93%	11,528,000

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4.1 Electric Power Projects

Project C 1 – Weno Electric Power Distribution Improvements (EP/1)

Project Title:	Weno Electric Power Distribution Improvements					Sector:	Electric Power			
Project Description/Scope:	Improve the reliability and security of electric power distribution by extending the network by around 20,000' to provide additional network connectivity and fault tolerance									
Agencies Responsible:	Chuuk Public Utilities Corporation									
Project Objectives/Outcomes:	Provide more reliable and secure electric power supply to consumers									
Project Justification:	Parts of the distribution network are susceptible to limited points of failure									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	4	4	5	5	9.6	
Project Status:	Concept									
Inclusions:	Additional distribution poles and lines									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	Included in construction costs				Estimated Construction Costs \$:	800,000				

Project C 2 – Tonoas Electric Power Distribution Improvements (EP/2)

Project Title:	Tonoas Electric Power Distribution Improvements					Sector:	Electric Power			
Project Description/Scope:	Improve the network on Tonoas to distribute electric power generated by Petrocorp’s copra facility to consumers on the island									
Agencies Responsible:	Chuuk Public Utilities Corporation									
Project Objectives/Outcomes:	Provide the benefits of electric power generated by Petrocorp to the Tonoas community									
Project Justification:	Petrocorp facility will generate sufficient electric power to supply Tonoas community if the distribution network can be improved									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	4	4	5	5	9.6	
Project Status:	Concept									
Inclusions:	Rehabilitation of the electric power distribution network, metering of consumers									
Exclusions:	Generation of electric power, distribution to other Southern Namoneas islands									
Risks & Dependencies:	Petrocorp facility is not developed or prove to be sustainable; to be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	1,000,000				

Project C 3 – Renewable Energy Expansion - Phase 1 (EP/3)

Project Title:	Renewable Energy Expansion - Phase 1						Sector:	Electric Power		
Project Description/Scope:	Increase the contribution of renewable energy to Chuuk's electric power needs by developing 1 MW of solar power									
Agencies Responsible:	Chuuk Public Utilities Corporation									
Project Objectives/Outcomes:	Reduce Chuuk's reliance on imported fuel for electric power generation									
Project Justification:	Cost reduction and climate change mitigation									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	5	4	5	5	9.8	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition; suitable sites for locating renewable energy installations;									
Estimated Planning & Design Costs \$:	200,000				Estimated Construction Costs \$:	3,800,000				

Project C 4 – Renewable Energy Expansion - Phase 2 (EP/4)

Project Title:	Renewable Energy Expansion - Phase 2						Sector:	Electric Power		
Project Description/Scope:	Increase the contribution of renewable energy to Chuuk's electric power needs									
Agencies Responsible:	Chuuk Public Utilities Corporation									
Project Objectives/Outcomes:	Reduce Chuuk's reliance on imported fuel for electric power generation									
Project Justification:	Cost reduction and climate change mitigation									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	5	4	5	5	9.8	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition; suitable sites for locating renewable energy installations									
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	1,900,000				

4.2 Water/Wastewater System Projects

Project C 5 – Weno Water Supply Improvements (WW/1)

Project Title:	Weno Water Supply Improvements					Sector:	Water/Wastewater Systems			
Project Description/Scope:	Improve the reliability, quality and security of Weno’s water supply by: <ul style="list-style-type: none"> • Renovating the 2 million gallon storage tanks • Replacing distribution pipes with high loss rates • Extending the distribution system to north and south ends • Metering all outstanding properties connected to the distribution system • Rehabilitating the water catchment storage to reduce reliance on groundwater 									
Agencies Responsible:	Chuuk Public Utilities Corporation									
Project Objectives/Outcomes:	Provide Weno with reliable, safe, secure and financially viable water supply									
Project Justification:	Poor condition of some water storages and section of the distribution system and reliance on ground water impact on the reliability, quality and security of Weno’s water supply Some consumers remain un-metered, impacting on CPUC’s financial and operational performance									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	4	5	4	5	5	9.6	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage; availability of land for government use									
Estimated Planning & Design Costs \$:	350,000				Estimated Construction Costs \$:	6,650,000				

4.3 Solid Waste Management Projects

Project C 6 – Weno Solid Waste Management Facility (SW/1)

Project Title:	Weno Solid Waste Management Facility					Sector:	Solid Waste Management			
Project Description/Scope:	Develop a new solid waste management center to replace the current site that is close to capacity									
Agencies Responsible:	Department of Public Works & Transportation / EPA									
Project Objectives/Outcomes:	Establish a long term solid waste management center to replace the current center, compliant with relevant standards and regulations and minimizing the solid waste going to landfill									
Project Justification:	The current solid waste management center is close to capacity and a long term replacement facility is required in the short term									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	4	5	3	5	5	9.3	
Project Status:	Concept – preferred site on private land has been identified									
Inclusions:	Solid waste management center that is compliant with all environmental regulations & standards and minimizes the amount of solid waste going to landfill									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition, replacement site is not able to be set aside for the solid waste management center									
Estimated Planning & Design Costs \$:	500,000				Estimated Construction Costs \$:	3,000,000				

4.4 Road and Pedestrian Facilities Projects

Project C 7 – Weno Road & Services Improvement Project - Phase 1 (RD/1)

Project Title:	Weno Road & Services Improvement Project - Phase 1	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Complete the final change orders for construction of Weno Roads Phase 1								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Complete Weno roads Phase 1 inclusive of all required works								
Project Justification:	Final completion depends on the completion of some final change orders								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	4	9.6
Project Status:	In progress								
Inclusions:	As per change orders								
Exclusions:	To be managed during implementation								
Risks & Dependencies:	To be managed during implementation								
Estimated Planning & Design Costs \$:	Design funded pre FY2016				Estimated Construction Costs \$:	2,000,000 (all but final Change Orders funded pre FY2016)			

Project C 8 – Weno Road & Services Improvement Project - Phase 2 (RD/2)

Project Title:	Weno Road & Services Improvement Project - Phase 2		Sector:	Road and Pedestrian Facilities					
Project Description/Scope:	Complete the improvement of the Weno circumferential road from adjacent to the airport runway at Iras in the north to the end of Weno Roads Phase 1 at the Mormon Church in the south, including the currently inaccessible section of approximately 1.7 miles. Phase 2 works will: <ul style="list-style-type: none"> • Comprise a total of 38.64 miles of generally 22 foot asphalt surfaced carriageway with open side drains as required • Include related water supply and sewer improvements (similar to Phase 1) 								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Provide a two-lane sealed road around the full circumference of Weno with related improvements in water supply and sewer systems								
Project Justification:	Existing circumferential road is not continuous (1.7 mile gap) and existing condition is generally poor and very poor over significant lengths								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	4	9.6
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	Sidewalks and connector roads, clearing of the formation on the currently inaccessible section, land acquisition								
Risks & Dependencies:	To be assessed as part of scope definition ; land required for the road is not in public ownership								
Estimated Planning & Design Costs \$:	3,860,000				Estimated Construction Costs \$:	10,820,000 (water & sewer systems) 27, 824,000 (road construction)			

Project C 9 – Faichuk Road Improvements (RD/3)

Project Title:	Faichuk Road Improvements						Sector:	Road and Pedestrian Facilities		
Project Description/Scope:	Improve road conditions on Faichuk islands by upgrading 30 miles of roads to sealed road standard (generally 22 foot asphalt surfaced carriageway with open side drains as required)									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide a two-lane sealed road for the major Faichuk island roads									
Project Justification:	Existing Faichuk roads are unsealed and in poor condition									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	4	5	5	4	9.6	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	Utility services, land acquisition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	2,250,000				Estimated Construction Costs \$:	22,500,000				

Project C 10 – Tonoas Road Improvements (RD/4)

Project Title:	Tonoas Road Improvements						Sector:	Road and Pedestrian Facilities		
Project Description/Scope:	Improve road conditions on Tonoas by upgrading 10 miles of roads to sealed road standard (generally 22 foot asphalt surfaced carriageway with open side drains as required)									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide a two-lane sealed road for the major Tonoas roads									
Project Justification:	Existing Tonoas roads are largely unsealed and in poor condition									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	3	5	5	4	9.3	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	Utility services, land acquisition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	750,000				Estimated Construction Costs \$:	7,500,000				

Project C 11 – Fefen Road Improvements (RD/5)

Project Title:	Fefen Road Improvements					Sector:	Road and Pedestrian Facilities		
Project Description/Scope:	Improve road conditions on Fefen by upgrading 14 miles of roads to sealed road standard (generally 22 foot asphalt surfaced carriageway with open side drains as required)								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Provide a two-lane sealed road for the major Fefen roads								
Project Justification:	Existing Fefen roads are largely unsealed and in poor condition								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	3	5	5	4	9.3
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	Utility services, land acquisition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	1,050,000				Estimated Construction Costs \$:	10,500,000			

Project C 12 – Uman Pedestrian Road Improvements (RD/6)

Project Title:	Uman Pedestrian Road Improvements					Sector:	Road and Pedestrian Facilities		
Project Description/Scope:	Improve road conditions on Uman for pedestrians and two-wheeled transport by upgrading 10 miles of road to sealed single-lane road standard (generally 10 foot asphalt surfaced carriageway with open side drains as required), also providing access for visiting 4 wheeled vehicles								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Provide a single-lane sealed road for the major Uman roads								
Project Justification:	Existing Uman roads are unsealed and in poor condition								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	4	5	5	5	4	5	5	4	8.9
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	Utility services, land acquisition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	400,000				Estimated Construction Costs \$:	4,000,000			

Project C 13 – Establish Asphalt Plant and Core Equipment (RD/7)

Project Title:	Establish Asphalt Plant and Core Equipment	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Establish an asphalt plant appropriate to Chuuk’s road development and maintenance needs								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Establish a core capability to produce and lay asphalt for road development projects, avoiding the need for contractors to import asphalt plant and equipment or each project, and undertaking road maintenance as and when required								
Project Justification:	Chuuk’s road development projects will otherwise require contractors to import asphalt plant and equipment on a project-by-project basis, and there will be a need to produce asphalt for ongoing maintenance								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	3	3	2	2	5	5	7.8
Project Status:	Concept								
Inclusions:	Establishment of asphalt plant and asphalt laying equipment, including a stock of spares and consumables, training of local staff and design of standard asphalt mixes appropriate to Chuuk’s needs and locally available materials								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition; sustainability of local capacity to operate asphalt plant and equipment								
Estimated Planning & Design Costs \$:	Included in construction costs				Estimated Construction Costs \$:	1,500,000			

4.5 Maritime Transportation Projects

Project C 14 – Chuuk Lagoon Dock Facilities (MT/1)

Project Title:	Chuuk Lagoon Dock Facilities						Sector:	Maritime Transportation		
Project Description/Scope:	Improve the transportation of people and goods within the Chuuk Lagoon by: <ul style="list-style-type: none"> • Tolensom Docks, Winifrei & Wonip • Oneisom Dock, Sapitiw • Romonum Dock, Chorong • Eot Dock, Fanip • Ichimantong Dock – Tonoas <ul style="list-style-type: none"> • Dock Repair - Apron Repair • Lighting (Solar powered) • Fefen Dock Improvement at Sapeta • Uman Dock at Sopou or Aranga • Parem Dock • Sis Dock 									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide greater opportunities for movement of goods and people for commercial, social and tourism related activities to improve local trade, access to education and health.									
Project Justification:	Existing transport facilities are limited									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	4	5	5	3	9.3	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	660,000				Estimated Construction Costs \$:	5,965,000				

Project C 15 – Weno Commercial Port Improvements (MT/2)

Project Title:	Weno Commercial Port Improvements	Sector:	Maritime Transportation						
Project Description/Scope:	Improve the operation of Chuuk’s commercial port on Weno by improving: <ul style="list-style-type: none"> • the cargo warehouse • the cargo movement and operation area • the quayside • navigational aids • apron lighting, including conversion to solar power 								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Improve the operational safety, security and efficiency of the commercial port								
Project Justification:	Conditions and facilities at the commercial port impact on its safety, security and efficiency								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	5	9.8
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	140,000				Estimated Construction Costs \$:	1,235,000			

Project C 16 – Chuuk State Multi-Role Vessel (MT/3)

Project Title:	Chuuk State Multi-Role Vessel	Sector:	Maritime Transportation						
Project Description/Scope:	Provide a suitable vessel that is able to undertake a number of roles including: <ul style="list-style-type: none"> • Transporting commercial passengers and goods to, from and between the lagoon and outer islands • Transporting equipment and machinery to the lagoon and outer islands in support of government and community development and maintenance projects and disaster recovery • Providing “first response” in the event of a natural disaster or other event impacting on community health or safety • Providing reliable and accessible transport for government agencies to deliver improved services to the lagoon and outer islands 								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Reduce the issues associated with communities living on small and widely spread islands and lacking in safe, reliable external transportation								
Project Justification:	Needs of communities and government are not being met by currently available maritime transportation options								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	3	9.3
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition; State cannot meet the operational costs of the vessel								
Estimated Planning & Design Costs \$:	included in construction costs	Estimated Construction Costs \$:	500,000						

4.6 Air Transportation Projects

Project C 17 – Chuuk Runway, Taxiway and Apron Rehabilitation (AT/1)

Project Title:	Chuuk Runway, Taxiway and Apron Rehabilitation					Sector:	Air Transportation		
Project Description/Scope:	Rehabilitate the runway, taxiway and apron surfacing and improve other airport infrastructure and facilities as identified by FAA								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Provide improved runway, taxiway and apron surfaces and other airport facilities and infrastructure								
Project Justification:	Need for improved surfacing and other airport facilities and infrastructure identified by FAA								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	5	3	5	5	1	3	4	4	7.3
Project Status:	In procurement								
Inclusions:	To be managed during implementation								
Exclusions:	To be managed during implementation								
Risks & Dependencies:	Interruption to airline services								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	27,000,000 (FAA AIP Grant) 3,000,000 (FSM matching funds)			

Project C 18 – Ta Airstrip Improvements (AT/2)

Project Title:	Ta Airstrip Improvements					Sector:	Air Transportation		
Project Description/Scope:	Extend the airstrip to 3,000' (currently 1,360') and provide perimeter fencing to improve safety and security								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Provide an airstrip capable of operating prospective inter-island aircraft and improve the airstrip safety and security								
Project Justification:	Airstrip has inadequate length to service prospective inter-island aircraft and lack of perimeter fencing is a safety and security concern								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	4	3	5	5	2	2	3	2	6.4
Project Status:	Scoped								
Inclusions:	Extension of airstrip to 3,000' and perimeter fencing								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	Included in construction cost				Estimated Construction Costs \$:	800,000			

Project C 19 – Onoun/Ulul Airstrip Improvements (AT/3)

Project Title:	Onoun/Ulul Airstrip Improvements						Sector:	Air Transportation		
Project Description/Scope:	Extend the airstrip to 3,000' (currently 1,200') and resurface the current airstrip									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide an airstrip capable of operating prospective inter-island aircraft and improve the condition of the current airstrip surface									
Project Justification:	Airstrip has inadequate length to service prospective inter-island aircraft surface condition is an operational and safety concern									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	4	3	5	5	2	2	3	2	6.4	
Project Status:	Scoped									
Inclusions:	Extension of airstrip to 3,000' and resurfacing of existing airstrip									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	235,000				Estimated Construction Costs \$:	2,115,000				

Project C 20 – Houk Airstrip Improvements (AT/4)

Project Title:	Houk Airstrip Improvements						Sector:	Air Transportation		
Project Description/Scope:	Extend the airstrip to 3,000' (currently 1,200') and resurface the current airstrip									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide an airstrip capable of operating prospective inter-island aircraft and improve the condition of the current airstrip surface									
Project Justification:	Airstrip has inadequate length to service prospective inter-island aircraft surface condition is an operational and safety concern									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	4	3	5	5	2	2	3	2	6.4	
Project Status:	Scoped									
Inclusions:	Extension of airstrip to 3,000' and resurfacing of existing airstrip									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	955,000				

4.7 Education Projects

Project C 21 – Chuuk Lagoon Elementary & High Schools - Phase 1 (ED/1)

Project Title:	Chuuk Lagoon Elementary & High Schools - Phase 1	Sector:	Education						
Project Description/Scope:	Implement the Chuuk High School Master Plan for Phase 1 Chuuk Lagoon Elementary & High Schools, including:								
	MP Ref	School	Total Cost	Renov'n	Constr'n	Add'l Constr'n			
	Chuuk Lagoon Schools - Phase 1 (Public Land) - (5 Elementary Schools and 2 High Schools)								
	1	Romanum Elementary School	876,000	✓					
	2	Eot Elementary School	559,000		✓				
	7	Foup Elementary School	1,208,000	✓					
	9	Mechitiw Elementary School	304,000		✓				
	20	Pwene Elementary School	812,000	✓	✓	✓			
	5	Southern Namoneas High School – Fefen	1,518,000		✓				
	6	Chuuk High School	575,000		✓				
		5,852,000							
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes								
Project Justification:	As detailed in Chuuk Schools Master Plan								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	5	9.8
Project Status:	Scoped: Master Plan & Detailed Engineering Assessments								
Inclusions:	Fencing and other school facilities								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	328,000				Estimated Construction Costs \$:	5,524,000			

Project C 22 – Northwest Elementary & High Schools - Phase 1 (ED/2)

Project Title:	Northwest Elementary & High Schools - Phase 1		Sector:	Education					
Project Description/Scope:	Implement the Chuuk High School Master Plan for Phase 1 Northwest Elementary & High Schools, including:								
	MP Ref	School	Total Cost	Renov'n	Constr'n	Add'l Constr'n			
	Northwest Schools - Phase 1 (Public Land) - (10 Elementary Schools and 1 High School)								
	3	Tamatam Elementary School	449,000	✓	✓				
	4	Murilo Elementary School	188,000	✓					
	5	Pollap Elementary School	302,000	✓					
	6	Ruo Elementary School	189,000	✓					
	14	Houk Elementary School	225,000	✓					
	15	Onou Elementary School	343,000		✓				
	16	Polowat Elementary School	486,000		✓				
	17	Nomwin Elementary School	230,000	✓					
	18	Makur Elementary School	98,000	✓					
	19	Unanu Elementary School	358,000	✓	✓				
1	Weipat High School	3,586,000	✓	✓	✓				
		6,454,000							
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes								
Project Justification:	As detailed in Chuuk Schools Master Plan								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	5	9.8
Project Status:	Scoped: Master Plan & Detailed Engineering Assessments								
Inclusions:	Fencing and other school facilities								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	365,000				Estimated Construction Costs \$:	6,089,000			

Project C 23 – Mortlocks Elementary & High Schools - Phase 1 (ED/3)

Project Title:	Mortlocks Elementary & High Schools - Phase 1					Sector:	Education			
Project Description/Scope:	Implement the Chuuk High School Master Plan for Phase 1 Mortlocks Elementary & High Schools, including:									
	MP Ref	School	Total Cost	Renov'n	Constr'n	Add'l Constr'n				
	Mortlocks Schools - Phase 1 (Public Land) - (1 Elementary School)									
	11	Ettal Elementary School	240,000	✓						
		240,000								
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes									
Project Justification:	As detailed in Chuuk Schools Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	4	5	5	5	9.8	
Project Status:	Scoped: Master Plan & Detailed Engineering Assessments									
Inclusions:	Fencing and other school facilities									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	240,000				

Project C 24 – Chuuk Schools Land Definition and Acquisition (ED/4)

Project Title:	Chuuk Schools Land Definition and Acquisition					Sector:	Education			
Project Description/Scope:	Fully define the land requirements for all schools and acquire all private land									
Agencies Responsible:	Division of Commerce and Industry									
Project Objectives/Outcomes:	Ensure that all school facilities are located on public land									
Project Justification:	50 Elementary Schools and 3 High Schools currently occupy private or disputed land									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	4	5	5	5	9.8	
Project Status:	Concept: Land requirements for most schools identified									
Inclusions:	Surveying of land for school use, negotiation and purchase of land and registration of titles									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage; private land owners will not agree to sell land or will not accept market valuations									
Estimated Planning & Design Costs \$:	3,000,000				Estimated Construction Costs \$:	0				

Project C 25 – Chuuk Lagoon Elementary & High Schools - Phase 2 (ED/5)

Project Title:	Chuuk Lagoon Elementary & High Schools - Phase 2	Sector:	Education
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Project Description/Scope:	Implement the Chuuk High School Master Plan for Phase 2 Chuuk Lagoon Elementary & High Schools, including:						
	MP Ref	School	Total Cost excl. Land	Renov'n	Constr'n	Add'l Constr'n	Land Acqu'n
	Chuuk Lagoon Schools - Phase 2 (Private Land) - (37 Elementary Schools and 2 High Schools)						
	13	Sapore Elementary School	1,323,000			✓	✓
	21	Neauo Annex (Wichap)	537,000		✓		✓
	22	Sapou Elementary School	340,000	✓			✓
	23	Etten Annex	345,000	✓	✓		✓
	24	Tonokas Annex	235,000	✓	✓		✓
	25	Neauo Elementary School	449,000		✓		✓
	26	Sapota Elementary School (Faichuk)	1,039,000		✓		✓
	27	Udot Annex	270,000		✓		✓
	28	Piis Paneu Elementary School	563,000	✓	✓		✓
	30	Sapota Elementary School (SN)	365,000	✓			✓
	31	Nukuno Elementary School	1,301,000		✓		✓
	32	Parem Elementary School	348,000	✓			✓
	35	Fason Elementary School	798,000		✓		✓
	40	Kuchu Elementary School	726,000	✓	✓		✓
	41	Siis Elementary School	293,000		✓		✓
	42	P&P Elementary School	242,000	✓			✓
	43	Faro Elementary School	340,000	✓			✓
	44	Neirenomw Elementary School	691,000		✓		✓
	45	Munien Elementary School	279,000	✓			✓
	46	Fanapanges Elementary School	443,000	✓	✓		✓
	49	Amwachang Elementary School	1,323,000		✓		✓
	50	Wichukuno Elementary School	542,000		✓		✓
	51	Chukuram Elementary School	438,000	✓	✓		✓
	52	Udot Elementary School	-				✓
	54	UFO Elementary School	-				✓
	55	Mwan Elementary School	-				✓
	56	Sapuk Elementary School	-				✓
57	Sino Elementary School	-				✓	
58	Teruo Bokuku Memorial Elem School	406,000		✓		✓	
59	Central Wonip Elementary School	-				✓	
60	Panitiw Elementary School	-				✓	
61	Nechap Elementary School	-				✓	
62	Fonoton Elementary School	-				✓	
63	Epin Elementary School	-				✓	
64	West Fefen Elementary School	-				✓	
65	Manaio Elementary School	-				✓	
66	Iras Elementary School	-				✓	
2	Weno High School	2,528,000	✓	✓	✓	✓	
3	Faichuk High School	3,820,000	✓		✓	✓	
		19,976,000					

Agencies Responsible:	Department of Education
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Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes
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Project Justification:	As detailed in Chuuk Schools Master Plan
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Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	5	9.8

FSM Infrastructure Development Plan FY2016-FY2025

Project Status:	Scoped: Master Plan & Detailed Engineering Assessments		
Inclusions:	Fencing and other school facilities		
Exclusions:	Land Acquisition (see Project C 24 (ED/4))		
Risks & Dependencies:	To be developed in the design stage; land acquisition		
Estimated Planning & Design Costs \$:	1,264,000	Estimated Construction Costs \$:	18,712,000

Project C 26 – Northwest Elementary & High Schools - Phase 2 (ED/6)

Project Title:	Northwest Elementary & High Schools - Phase 2		Sector:	Education						
Project Description/Scope:	Implement the Chuuk High School Master Plan for Phase 2 Northwest Elementary & High Schools, including:									
	MP Ref	School	Total Cost excl. Land	Renov'n	Constr'n	Add'l Constr'n	Land Acqu'n			
	Northwest Schools - Phase 2 (Private Land) - (3 Elementary Schools)									
	10	Onoun Elementary School	1,501,000	✓	✓	✓	✓			
	12	Fananu Elementary School	377,000	✓	✓		✓			
	33	Piherarh Elementary School	486,000		✓		✓			
			2,364,000							
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes									
Project Justification:	As detailed in Chuuk Schools Master Plan									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	5	5	5	5	5	4	5	5	5	9.8
Project Status:	Scoped: Master Plan & Detailed Engineering Assessments									
Inclusions:	Fencing and other school facilities									
Exclusions:	Land Acquisition (see Project C 24 (ED/4))									
Risks & Dependencies:	To be developed in the design stage; land acquisition									
Estimated Planning & Design Costs \$:	165,000		Estimated Construction Costs \$:	2,179,000						

Project C 27 – Mortlocks Elementary & High Schools - Phase 2 (ED/7)

Project Title:	Mortlocks Elementary & High Schools - Phase 2		Sector:	Education					
Project Description/Scope:	Implement the Chuuk High School Master Plan for Phase 2 Mortlocks Elementary & High Schools, including:								
	MP Ref	School	Total Cost excl. Land	Renov'n	Constr'n	Add'l Constr'n	Land Acqu'n		
	Mortlocks Schools - Phase 2 (Private Land) - (10 Elementary Schools and 1 High School)								
	8	Ta Elementary School	366,000	✓	✓			✓	
	29	Nema Elementary School	277,000	✓				✓	
	34	Namoluk Elementary School	318,000	✓				✓	
	36	Satowan Elementary School	336,000		✓			✓	
	37	Kuttu Elementary School	631,000		✓			✓	
	38	Losap Elementary School	530,000		✓			✓	
	39	Piisemwar Elementary School	258,000	✓				✓	
	47	Lekinioch Elementary School	212,000	✓				✓	
	48	Moch Elementary School	39,000	✓				✓	
	53	Oneop Elementary School	-					✓	
4	Mortlock High School	3,883,000	✓	✓	✓		✓		
		6,848,000							
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes								
Project Justification:	As detailed in Chuuk Schools Master Plan								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	5	9.8
Project Status:	Scoped: Master Plan & Detailed Engineering Assessments								
Inclusions:	Fencing and other school facilities								
Exclusions:	Land Acquisition (see Project C 24 (ED/4))								
Risks & Dependencies:	To be developed in the design stage; land acquisition								
Estimated Planning & Design Costs \$:	437,000			Estimated Construction Costs \$:	6,411,000				

4.8 Health Projects

Project C 28 – Chuuk State Hospital – Renovate Existing Facilities (HE/1)

Project Title:	Chuuk State Hospital – Renovate Existing Facilities	Sector:	Health						
Project Description/Scope:	Renovate the current Chuuk State Hospital facilities to house non-critical functions and services that will not be accommodated in the new hospital facility, including: <ul style="list-style-type: none"> • Public Health Administration, Dental Clinic and public health related outpatient clinics including HIV/AIDS prevention clinic • Hospital Administration • Medical Records • Information Systems • Materials Management and Storage • Laboratory • Pharmacy • Dietary Services and Dining Area • Maintenance Areas, including repair shop, garage) • Utilities, including water storage, generators, linen, HVAC • Morgue 								
Agencies Responsible:	Department of Health								
Project Objectives/Outcomes:	Provide improved accommodation for non-critical functions and services required to support and supplement the services and functions provided in the new hospital facility								
Project Justification:	Current hospital buildings are up to 50 years old and cannot effectively support the critical services provided in the new hospital facility								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	5	5	5	4	5	4	5	5	9.3
Project Status:	Scoped; In design								
Inclusions:	To be developed in the design stage								
Exclusions:	Critical hospital services and functions, land acquisition								
Risks & Dependencies:	To be developed in the design stage; integration with the program to develop the new hospital								
Estimated Planning & Design Costs \$:	800,000				Estimated Construction Costs \$:	5,000,000			

Project C 29 – Chuuk State Hospital – New Facility (HE/2)

Project Title:	Chuuk State Hospital – New Facility	Sector:	Health						
Project Description/Scope:	Construct a new the Chuuk State Hospital as a 96 bed facility in line with the scope included in Appendix H of the Needs Assessment Study, May 2013, including: <ul style="list-style-type: none"> • Nursing units/patients rooms. 96 beds capacity • Medical Nursing Suite – 15 beds • Surgery Nursing Suite – 15 beds • Birthing Suite – 10 beds • Pediatrics Nursing Suite –8 beds • Infectious Diseases Unit – 12 beds • Psychiatric Unit – 4 beds • Skilled Nursing Unit – 32 beds • Emergency Department – 2,034 ft² • Surgical/Delivery Suite – 5,606 ft² • Sterile Process – 1,190 ft² • Diagnostic Imaging – 2,649 ft² • Treatment Areas, Medicine/Surgery Clinics – 3,286 ft² • Treatment Areas, Obstetrics/Gynecology – 966 ft² Note: Support spaces will be shared between: <ul style="list-style-type: none"> • Medical Nursing Suite and Surgical Nursing Suite • Pediatrics Nursing Suite and Birthing Suite • Infectious Diseases Unit and Psychiatric Unit 								
Agencies Responsible:	Department of Health								
Project Objectives/Outcomes:	Provide improved critical hospital services and functions								
Project Justification:	Current hospital buildings are up to 50 years old and cannot effectively meet Chuuk’s critical care needs								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	5	5	5	4	5	4	5	5	9.3
Project Status:	Concept (Needs assessment)								
Inclusions:	Critical care facilities								
Exclusions:	Non-critical care facilities to be provided out of renovated sections of the current facility, land acquisition								
Risks & Dependencies:	To be assessed as part of scope definition Renovation of the current facilities to accommodate non-critical functions and services (see Project C 28, HE/1) Integration with the program to renovate the current facilities								
Estimated Planning & Design Costs \$:	3,640,000				Estimated Construction Costs \$:	36,360,000			

Project C 30 – Chuuk Lagoon Dispensaries – Phase 1 (HE/3)

Project Title:	Chuuk Lagoon Dispensaries – Phase 1						Sector:	Health		
Project Description/Scope:	Improve the Phase 1 Chuuk Lagoon dispensaries									
Agencies Responsible:	Department of Health									
Project Objectives/Outcomes:	Provide improved health services and functions at a community level									
Project Justification:	Basic health services in many communities are impacted by the poor condition the existing dispensaries									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	3	3	5	5	4	3	5	5	5	8.4
Project Status:	In Procurement									
Inclusions:	To be managed during implementation									
Exclusions:	To be managed during implementation									
Risks & Dependencies:	To be managed during implementation									
Estimated Planning & Design Costs \$:	Design funded pre FY2016					Estimated Construction Costs \$:	1,600,000			

Project C 31 – Chuuk Lagoon Dispensaries – Phase 2 (HE/4)

Project Title:	Chuuk Lagoon Dispensaries – Phase 2						Sector:	Health		
Project Description/Scope:	Improve the dispensaries within Chuuk Lagoon (located on public land) to the standards and facilities incorporated into the Phase 1 dispensaries									
Agencies Responsible:	Department of Health									
Project Objectives/Outcomes:	Provide improved health services and functions at a community level									
Project Justification:	Basic health services in many communities are impacted by the poor condition the existing dispensaries									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	5	5	4	3	5	5	5	8.4	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	200,000				Estimated Construction Costs \$:	3,800,000				

Project C 32 – Chuuk Lagoon Dispensaries – Phase 3 (HE/5)

Project Title:	Chuuk Lagoon Dispensaries – Phase 3						Sector:	Health		
Project Description/Scope:	Improve the dispensaries within Chuuk Lagoon located on private land to the standards and facilities incorporated into the Phase 1 dispensaries									
Agencies Responsible:	Department of Health									
Project Objectives/Outcomes:	Provide improved health services and functions at a community level									
Project Justification:	Basic health services in many communities are impacted by the poor condition the existing dispensaries									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	5	5	4	3	5	5	5	8.4	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition; purchase of land (see Project C 35 (HE/8))									
Risks & Dependencies:	Land acquisition									
Estimated Planning & Design Costs \$:	500,000				Estimated Construction Costs \$:	9,100,000				

Project C 33 – Outer Island Dispensaries – Phase 1 (HE/6)

Project Title:	Outer Island Dispensaries – Phase 1						Sector:	Health		
Project Description/Scope:	Improve the dispensaries on the Outer Islands located on public land based on the standards and facilities incorporated into the Chuuk Lagoon Phase 1 dispensaries									
Agencies Responsible:	Department of Health									
Project Objectives/Outcomes:	Provide improved health services and functions at a community level									
Project Justification:	Basic health services in many communities are impacted by the poor condition the existing dispensaries									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	5	5	4	3	5	5	5	8.4	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	240,000				Estimated Construction Costs \$:	4,560,000				

Project C 34 – Outer Island Dispensaries – Phase 2 (HE/7)

Project Title:	Outer Island Dispensaries – Phase 2						Sector:	Health		
Project Description/Scope:	Improve the dispensaries on the Outer Islands located on private land to the standards and facilities incorporated into the Phase 1 dispensaries									
Agencies Responsible:	Department of Health									
Project Objectives/Outcomes:	Provide improved health services and functions at a community level									
Project Justification:	Basic health services in many communities are impacted by the poor condition the existing dispensaries									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	5	5	4	3	5	5	5	8.4	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition; purchase of land (see Project C 35 (HE/8))									
Risks & Dependencies:	To be assessed as part of scope definition; land acquisition									
Estimated Planning & Design Costs \$:	340,000				Estimated Construction Costs \$:	6,380,000				

Project C 35 – Chuuk Health Facilities Land Definition and Acquisition (HE/8)

Project Title:	Chuuk Health Facilities Land Definition and Acquisition					Sector:	Health			
Project Description/Scope:	Fully define the land requirements for all dispensaries and acquire all private land									
Agencies Responsible:	Division of Commerce and Industry									
Project Objectives/Outcomes:	Ensure that all dispensaries are located on public land									
Project Justification:	An estimated 38 dispensaries currently occupy private or disputed land									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	3	3	5	5	4	3	5	5	5	8.4
Project Status:	Concept: Land requirements for most dispensaries identified									
Inclusions:	Surveying of land for dispensary use, negotiation and purchase of land and registration of titles									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition ; private land owners will not agree to sell land or will not accept market valuations									
Estimated Planning & Design Costs \$:	500,000					Estimated Construction Costs \$:	0			



Federated States of Micronesia INFRASTRUCTURE DEVELOPMENT PLAN FY2016-FY2025

Volume 4:

Kosrae State Infrastructure Development Plan FY2016-FY2025



This Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 comprises the following parts:

Introduction

Volume 1 Plan Outline

Annexes

Volume 2 National Infrastructure Development Plan

Volume 3 Chuuk State Infrastructure Development Plan

Volume 4 Kosrae State Infrastructure Development Plan

Volume 5 Pohnpei State Infrastructure Development Plan

Volume 6 Yap State Infrastructure Development Plan

The following Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 documents are available:

Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 (all parts)

FSM Infrastructure Development Plan FY2016-FY2025 Outline (Introduction, Volume 1 & Annexes)

National Infrastructure Development Plan FY2016-FY2025 (Volume 2)

Chuuk State Infrastructure Development Plan FY2016-FY2025 (Volume 3)

Kosrae State Infrastructure Development Plan FY2016-FY2025 (Volume 4)

Pohnpei State Infrastructure Development Plan FY2016-FY2025 (Volume 5)

Yap State Infrastructure Development Plan FY2016-FY2025 (Volume 6)

FSM Infrastructure Development Plan FY2016-FY2025 Summary (abbreviated outline and listings of projects)

Volume 4 Kosrae State Infrastructure Development Plan

Foreword by the Governor

I am pleased to present to you Kosrae's Infrastructure Development Plan for the period 2016- 2025. This plan is the product of a comprehensive review by all stakeholders, involving all three levels of government as well as key sectors in Kosrae.

In 2013 the Kosrae Strategic Development Plan: 2014- 2023 (KSDP) was finalized, recognizing the needs and aspirations of the Kosrae community and stakeholders in Kosrae. A leadership review and update of the KSDP was conducted in September 2015. The KSDP takes a 10 year view of Kosrae and its place in Federated States of Micronesia and the opportunities and concerns that it faces. The KSDP includes identified key infrastructures, without which targeted development may not occurred as envisioned in the plan.

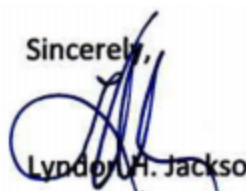


Infrastructure is a vital component for economic or other forms of development. Kosrae takes into consideration the notion that implementation and eventual achievement of aspirations and strategic targets identified within the KSDP necessitate the existence of certain infrastructure. This updated Kosrae Infrastructure Development Plan takes into account key infrastructure identified in the KSDP and other planning documents like the Kosrae Shoreline Management Plan with specific emphasis on climate change adaptation infrastructures, including relocation of roads and utility lines inland from the coastal areas, to sustain our livelihoods now and our future generations.

The Plan includes a dissection of funding sources available to the state, mostly through the COFA with U.S. Government and others. The amount of infrastructure development funding available for Kosrae is \$96.3 million and the total value of priority projects is \$162.7 million - a funding gap of approximately 40%. Regardless, I am especially encouraged now that we have developed a more coordinated framework to work with our development partners through increased dialogues and especially with the adoption of the FSM ODA Policy 2013, which entails the biannual development partner forum meeting.

Finally I recognize the considerable effort that has gone into the Plan from the State Infrastructure Planning and Implementation Committee and the Kosrae State Legislature. The assistance of the Asian Development Bank is also acknowledged for providing the technical assistance team that supported the Plan development.

I commend this Infrastructure Development Plan to the people of Kosrae, at home and abroad, & and I look forward to the support of our development partners as we begin the challenge of delivering on our vision.

Sincerely,

Lyndon H. Jackson
Governor, Kosrae State

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Part 1 Introduction

This Volume 4 of the IDP is known as the **Kosrae State Infrastructure Development Plan FY2016 to FY2025** (the Kosrae IDP).

1.1 Overview

Kosrae is the easternmost and second largest island of the FSM, located approximately 372 miles southeast of Pohnpei, between Hawaii and Guam. Kosrae has a land area of 42 square miles and EEZ of 200nm. Between 1997 and 2010, Kosrae's population declined by 12 percent to its current population of 6,616 people (FSM Census 2010), constituting 6 percent of FSM's population. The negative population growth is largely due to considerable out-migration to the US and its territories primarily for employment and education. Accordingly, the working population age has dramatically declined, significantly reducing the productive work force and local production (UNFPA, 2013). This trend is mainly attributed to poor economic performance and reductions in the public sector, which has traditionally been the main employer. As at 2010, the unemployment rate in Kosrae was significantly high at 23 percent.

Kosrae is the only state without an outer island. It is divided into four municipalities, with respective populations as follows: Lelu (2,160), Malem (1,300), Tafunsak (2,173) and Utwe (983). Geographically, the state is characterized by steep mountains and deep valleys covered with thick, fertile tropical vegetation and forests, and dense mangrove forests in coastal areas. The island's main natural resources are its abundant forests with significant agricultural potential, marine products and deep-seabed minerals.

1.2 State Development Objectives

Successive State Governments have worked creatively and hard to build a firm foundation to maintain the Island's quality of life and encourage a successful private and public sector.

In 2013 the **Kosrae Strategic Development Plan: 2014 – 2023** (KSDP) was finalized, recognizing the needs and aspirations of the Kosrae community and stakeholders in Kosrae. The KSDP takes a 10 year view of Kosrae and its place in Federated States of Micronesia and the North Pacific region and the opportunities and concerns that it faces.

Kosrae's issues are complex, and as observed during the consultation process 'they are all interconnected'. The SDP's goal is to steadily build sustainability working across the social, economic, environmental and governance spheres to provide a place where residents live healthy, safe, productive lives in harmony with the cultural and natural richness of the island of Kosrae.

Kosrae may have a small population but is an island of unique natural and cultural resources and opportunities and the SDP provides a clear vision and goals for the community to work towards and review these opportunities in line with the Long Term Fiscal Framework, other planning initiatives and changes in global and regional context.

The SDP identifies the needs of the State and articulates the vision, aspirations and priorities for Kosrae. It covers a wide range of stakeholders and all levels of Government and aims to:

1. inform longer-term decisions to be made by Kosrae in relation to policy, planning and resource allocation
2. complement, guide and inform Kosrae's other strategic planning and budgeting systems and decision-making
3. capture the expertise, interests and views of stakeholders representing the whole of the community (government, business, interest groups, individuals and community)

- organizations) into a framework that describes how the community of Kosrae aspires to reach its full potential
4. provide a means of informing other levels of government and external assistance agencies about our aspirations
 5. provide a basis for transparency and accountability through strategic planning matrixes for the development and implementation of operational and action plans

The 5 designated development sectors in the SDP; Health, Education, Environment, Private Sector and Social and Culture, are analogous to the parts of a machine where a specific part performs a particular task that when performed simultaneously with other parts, moves in cohesion and ultimately achieves the specific purpose of the whole machine. This is the essence of the 5 development sectors of the Kosrae SDP:

1. the private sector plays the role of producing jobs, providing income and generally plays a role in providing for the economic well-being of Kosrae
2. education plays a role in preparing and developing a good labor force essential for supporting economic, social, political and cultural development
3. good health of the citizenry ensures long-term economic growth; it is generally the case that good health standards of an entity – low infant mortality and increasing/higher life expectancy, etc. - correlate to higher economic growth and thus equate to a good standard of living
4. managing development to ensure sustainable use of the natural environment and resources, and ultimately ensure future generations of Kosraeans also benefit from Kosrae's natural resources and natural heritage
5. preserving and promoting a way of life that promotes the safety, equality, and social development of the Kosrae citizenry

Infrastructure is a vital component for economic or other forms of development. The KSDP takes into consideration the notion that implementation and eventual achievement of aspirations and strategic targets identified in this plan necessitate existence of certain infrastructure. Infrastructure needs of actions and goals in SDP are included in the respective sector action plan.

The Kosrae Infrastructure Policy Implementation Committee (KIPIC) is a governing body created by law, as its name would suggest, to lead the planning and more so the implementation of infrastructure policies in Kosrae. As emphasized in the previous section, and in the context of infrastructure development planning, the KSDP links and utilizes planning previously undertaken by KIPIC for the purpose of facilitating implementation of infrastructure policies and projects.

The KIPIC has been instrumental in planning infrastructure development for the State and it is expected that it will play a key role in its implementation.

1.3 Climate and the Challenges of Change

There is little seasonal variation in temperature, with around 3°F (1.5°C) between the average hottest and coolest months but two distinct seasons – a wet season from November to April and a dry season from May to October. Rainfall is affected by the movement of the Convergence Zone; strengthening and moving north in the wet season with the West Pacific Monsoon bringing additional rain during this period. There is considerable year-on-year variation due to the El Niño-Southern Oscillation (ENSO). El Niño events are associated with drier conditions and occasional droughts and La Niña with above-average numbers of tropical storms and more rainfall.

Notwithstanding the influence of the ENSO, projections by the Pacific Climate Change Science Program 2011 show that temperatures will continue to rise, as will sea level and ocean acidification and the

intensity and frequency of days of extreme rainfall. Tropical storm/typhoon numbers are projected to decline. Specific FSM-wide climate change projections are included in Volume 1.

The risk from other geo-hazards in Kosrae is low relative to the other States; its earthquake rating is the lowest and tropic storms/typhoons are generally in their formative stages in the vicinity of Kosrae, strengthening as they move westward.

Kosrae’s response to the climate change challenge is documented in the **Joint State Action Plan**³⁰ and **Shoreline Management Plan**³¹. The latter includes a number of infrastructure projects intended to relocate vulnerable infrastructure, including roads and utilities, from shoreline areas and to facilitate the relocation of communities away from areas susceptible to the impacts of climate change. These projects have been included in Kosrae’s program for priority infrastructure development. Other projects which contribute to climate change adaptation and mitigation are:

1. Renewable energy projects
2. Farm road improvements

An Act sometimes referred to as the CC Act was passed in 2011 with the stated aim of consolidating the authority of the Kosrae Island Resource Management Authority; reference to climate change in the document is as follows:

(18) adopt climate risk reduction and climate change adaptation measures based upon existing weather and climate extremes and projected climate changes, and to provide consultation on application of climate change impacts and adaptation measures to the location, design and construction of public projects and other development projects.

1.4 Plan Development

The Kosrae IDP presents the State’s priority infrastructure investments for the next 10 years identified by the Kosrae IPIC and government and community stakeholders. The projects have been prioritized according to three periods; Period 1, FY2016 to FY2019 (during which the Amended Compact arrears are intended to be fully appropriated), Period 2, FY2020 to FY2022, and Period 3, FY2023 to FY2025.

The IPIC-led group assessed the contribution of each priority project to the IDP strategic objectives (Volume 1, section 2.2.2) to provide a Strategic Rating out of 10. Although strategic ratings are not comparable between projects and sectors due to variations in the scope of projects and inherent sector factors (and cannot be used to prioritize projects), the rating process has nonetheless confirmed that the priority projects each make a strong contribution to relevant strategic objectives.

The development process provided valuable input into the management and implementation arrangements (section 2.2) and with the sector managers provided information for the priority projects outlines incorporated into the Kosrae IDP (Part 4).

³⁰ (GoKS, 2015) - Kosrae Joint State Action Plan for Disaster Risk Management and Climate Change

³¹ (NIWA, 2013) - Kosrae Shoreline Management Plan, NIWA Client Report No HAM2013-133

Part 2 Plan Outline

2.1 Investment Strategy

2.1.1 Available Funding

Details of the funding available from FSM’s development partners and the National Government can be found in Volume 1, Part 3 of the IDP.

Kosrae receives Amended Compact funds according to the formula set by the FSM Congress (currently 12.10 percent). The underpinning nature of infrastructure warrants a more even distribution of infrastructure funding so funds associated with bilateral donors, multilateral banks and climate change are not allocated on a formula-basis. An amount equal to 20 percent of these funds is included in the Kosrae IDP, however Kosrae may receive a greater or lesser amount on a program or project basis.

The funding available to Kosrae State is 14 percent of total available IDP infrastructure funding. Table K 1 shows the allocation over the 10 years of the IDP; \$96.3 million for development and \$12.6 million for maintenance.

Table K 1 – Total Available Kosrae IDP Funding

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Kosrae										
Development	11,476,369	11,594,672	10,542,242	10,539,077	8,762,838	9,218,206	9,212,840	9,206,741	7,870,091	7,894,733
Maintenance	1,786,131	1,785,953	1,479,197	1,478,864	1,052,072	1,051,585	1,051,020	1,050,378	909,678	912,272
TOTAL	13,262,500	13,380,625	12,021,438	12,017,941	9,814,911	10,269,791	10,263,860	10,257,119	8,779,769	8,807,004

2.1.2 Priority Projects

The Kosrae IDP includes priority projects estimated at \$162.7 million across 9 of the 10 infrastructure sectors. The breakdown of project estimates by sector is shown in Figure K 1 and the listing of priority projects is included in Table K 2.

Figure K 1 – Kosrae IDP Breakdown by Sector

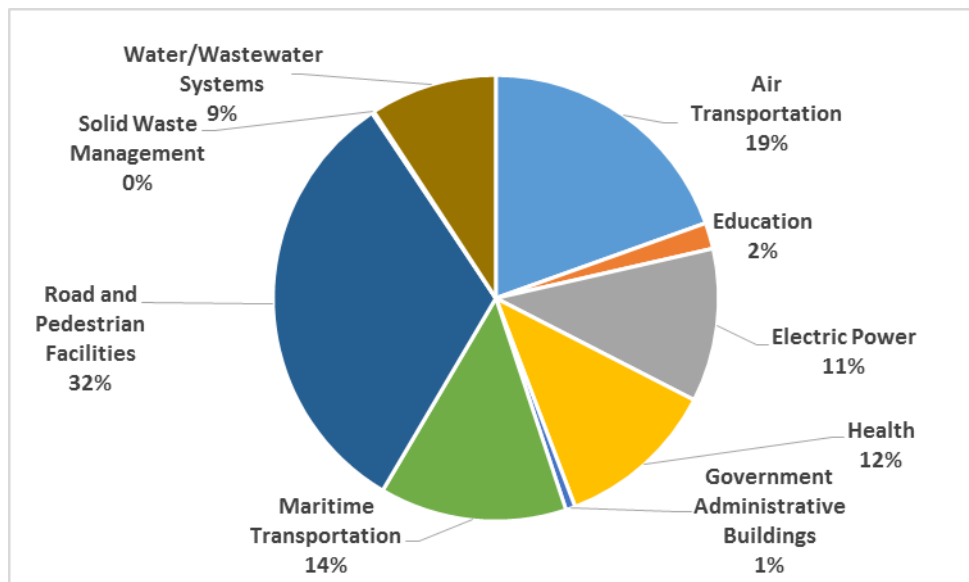


Table K 2 – Kosrae IDP Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
PM/1	Kosrae State PMO	4,000,000	All	N/A
EP/1	Electric Power Improvements	3,700,000	1	8.0
EP/2	Electric Power Generation Improvements	140,000	1	8.0
EP/3	Electric Power Distribution Improvements	685,000	1	8.0
EP/4	Electric Power Capital Equipment	870,000	1/2	8.0
EP/5	Renewable Energy Capacity and Flexibility Improvements	8,000,000	1/2	8.7
EP/6	Increase Renewable Electric Power Generation	4,250,000	1/2	8.7
WW/1	Malem Water System Improvements	3,000,000	1/2	9.1
WW/2	Muntunte/Yata Water System Improvements	3,500,000	1/2	9.1
WW/3	Walung Water System Storage Tank & Treatment	1,000,000	1/2	9.1
WW/4	Lelu Water System Improvements	3,148,000	1/2	9.1
WW/5	Lelu/Tofol Wastewater System Improvements	4,000,000	1/2	9.1
SW/1	Solid Waste Management Expansion & Consolidation	250,000	1	8.9
RD/1	Inland Road - Section 1, Malem to Yesing to Utwe	11,495,000	1/2	8.9
RD/2	Inland Road - Section 2, Mutunnenea to Sialat to Yekula	5,091,000	2/3	8.9
RD/3	Inland Road - Section 3, Malem to Pilyuul to Tenwak	5,098,000	2/3	8.9
RD/4	Inland Road - Section 4, Cross Island Road, Okat to Tofol	7,614,000	3	8.9
RD/5	Inland Road - Section 5, Utwe to Walung	15,363,000	1	8.9
RD/6	Lelu Causeway Road, Sidewalk and Protection Improvements	600,000	1/2	8.9
RD/7	Lelu Farm Road Improvements	1,038,000	1	8.0
RD/8	Utwe Farm Road Improvements	564,000	1	8.0
RD/9	Malem Farm Road Improvements	1,132,000	1	8.0
RD/10	Tafunsak Farm Road Improvements	420,000	1	8.0
RD/11	Establish Asphalt Plant	1,500,000	1	7.8
RD/12	Main Road Drainage Improvements	1,080,000	1/2	8.9
MT/1	Pacific Tuna Industries Facility Rehabilitation	500,000	1/2	6.9
MT/2	Marine Transportation Infrastructure Improvements	1,050,000	1	6.9
MT/3	Safety and Accessibility Improvements at 3 Harbors	20,000,000	1/2	7.1
AT/1	New Airport Terminal & Facilities	11,000,000	1/2	6.4
AT/2	Airport Runway Extension & Safety Area Improvement	20,000,000	3	6.4
ED/1	Malem Elementary School	2,000,000	1	7.6
ED/2	School Facilities Improvements	1,000,000	1	6.7

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
HE/1	Kosrae State Hospital	18,520,000	1	9.3
GB/1	Kosrae State Legislature Building	1,100,000	1/2	6.4
Total Funding Required		162,708,000		
MTCE	Infrastructure Maintenance	12,560,000		

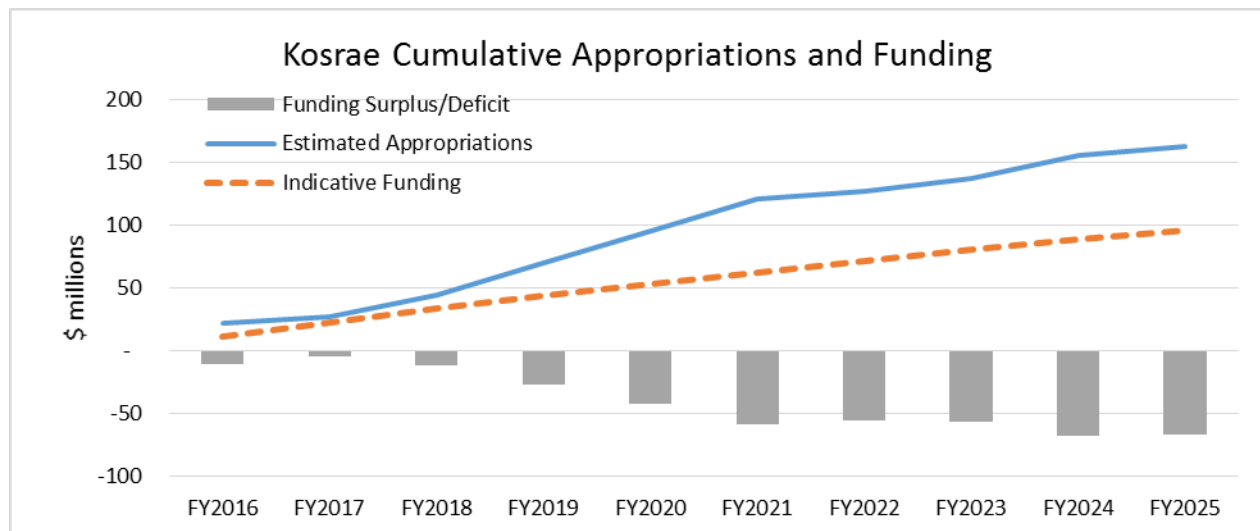
2.1.3 Project Funding Requirements

Based on the project priorities identified during development of the Kosrae IDP, a funding appropriation profile covering the 10 year period has been estimated. In summary, as shown in Figure K 2, the Kosrae IDP priority projects exceed available funding by almost 70 percent.

Kosrae’s planned appropriations are close to matching available funding until FY2019. From then on the funding gap increases to around \$50 million per year by FY2021 and remains at this level for the remainder of the planning period.

The funding required for the Kosrae State Hospital construction grant in FY2016 exceeds Kosrae’s Amended Compact arrears and FY2016 appropriation.

Figure K 2 – Kosrae IDP Available Funding and Estimated Appropriations



2.1.4 Infrastructure Maintenance

Kosrae State has a total of \$12.56 million of maintenance funding available from FY2016 to FY2025. This includes \$2.16 million required to match the available Amended Compact IMF funding.

2.2 Management and Implementation

2.2.1 State Governance

An effective State IPIC will provide the basis for strong governance of infrastructure delivery at the State program and project level once the coordinated control processes have been established.

Most importantly the intended upgraded role of the IPIC and establishment of the implementation framework outlined below will devolve the planning and implementation responsibilities to the States without compromising control, integrity and governance.

2.2.2 Implementation model

National program management

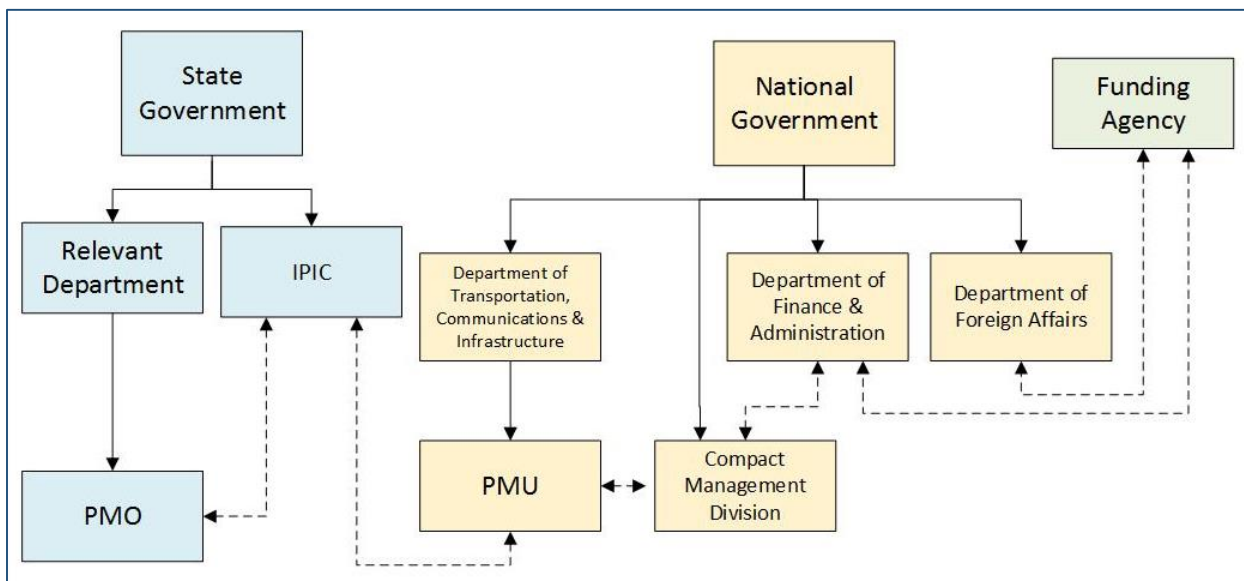
The implementation model retains the PMU within DTCI but restructures the unit to focus on **Program Management**. The PMU will provide ongoing support to the State to ensure standards are developed and shared, subsequent design and construction contracts are consistent with appropriate risk management and will provide peer review expertise as required.

State delivery accountabilities

The State will be accountable for **Project Management**, from initial planning, through design to construction completion. The State will form a Project Management Office (PMO). The PMO will undertake all the project management activities from initial design through to construction and completion.

The general structure of the implementation model is shown on Figure K 3.

Figure K 3 – Organization Chart of Infrastructure Delivery



The PMO will initially contract with the private sector (external party) to ensure project delivery capability is in place by Q3 2016. The contracted external party will be used across all four States within FSM to provide consistency of project management approaches, processes and methodologies.

State Project Management Offices

The State PMO will have the following resources:

- Project Manager(s)
- Contracting Officer(s)
- Resident Engineers and Inspectors
- Technical Specialists as required

General Considerations

The cost of the PMO is estimated to be between 5 and 7 percent of the State infrastructure development program which is within international benchmarks and internationally recognized as a legitimate program cost.

The IDP includes provision for the required funds for the PMO as part of the Amended Compact component of the State's infrastructure development program (noting that Amended Compact PMO funding is dedicated to the delivery of Amended Compact projects).

The external party providing the PMO services will be excluded from participating in any further contract for the design, construction or supervision on an IDP project for which it has project management responsibilities to ensure probity is maintained.

The external party will be contractually bound to build local project management capacity in the State and will have its capacity building plans and performance regularly reviewed by IPIC.

The roles and responsibilities for each party involved in planning, implementation and management of the IDP's Amended Compact component are documented in Annex A of the IDP.

2.2.3 Process enhancements

All infrastructure projects require defined project management processes from pre-design through funds release, design and construction to successful completion. Best practice processes incorporate key steps, hold points, client reviews and concise and complete documentation to support such processes.

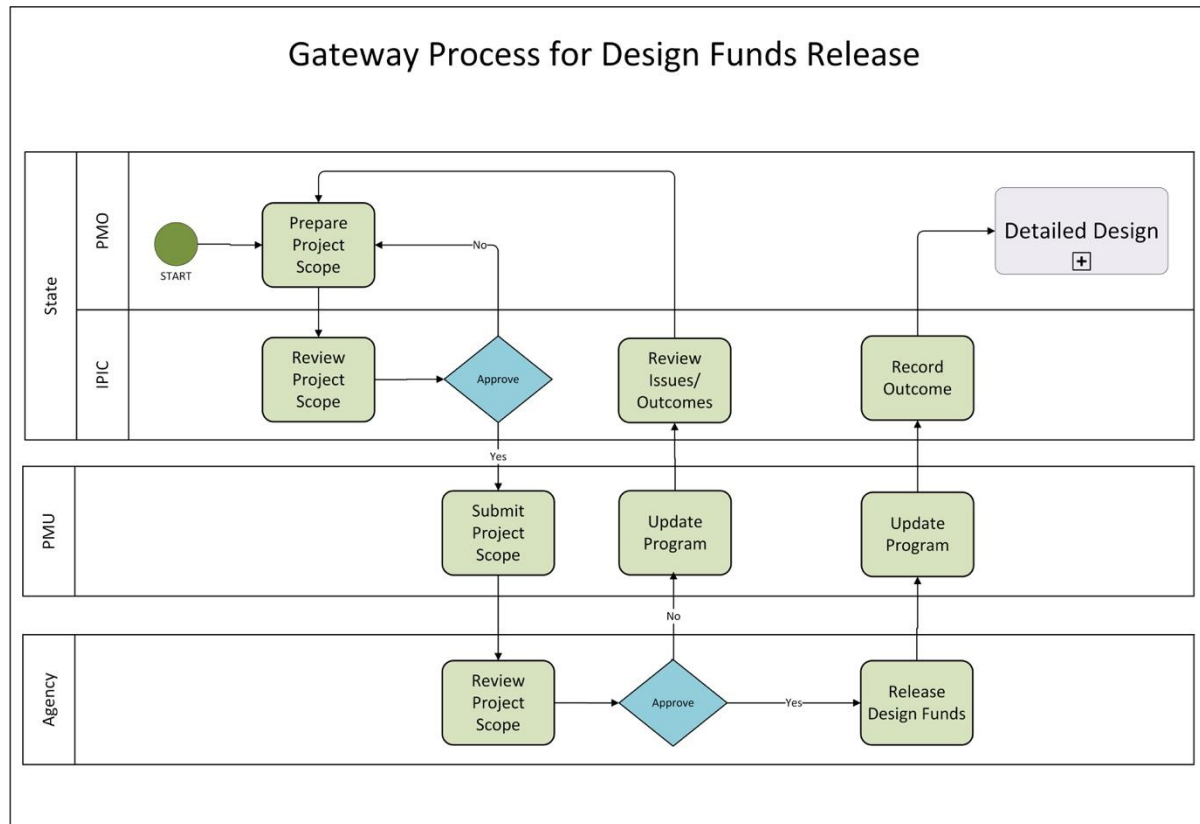
It is also good practice to release funds at two stages, initially to release funds to enable the full project design to be undertaken and then, prior to the construction procurement process commencing, the funding required for construction. This approach facilitates the orderly progress of the project while ensuring that after design there is a review of the project scope, time and cost and any changes are formally signed off before committing funds for construction.

Pre-Design and initial funds release

The PMO will fully document the project scope and formally agree this information with the IPIC.

The project will be submitted for the release of initial (generally design) funds once endorsed by the IPIC. For Amended Compact funded projects this submission is to the PMU and then onward to OIA. Figure K 4 shows the process for this stage as an example of the processes that will be operated by the PMO and other bodies.

Figure K 4 – Example Process Diagram



Once the initial funds have been appropriated, the PMO will conduct (if required) a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the design consultant.

Design and construction funds release

The PMO will formally review each project with the IPIC twice during design. The PMO will also hold regular client meetings with sector representatives.

The IPIC reviews will be held when the design is 30 percent complete and when it is 100 percent complete (but still subject to review). The 30 percent design review will ensure that designs remain on an agreed path before significant design costs are incurred.

Following a design being accepted as complete a second submission will be made to the funding agency for the appropriation of construction funds. For Amended Compact funded projects this submission is to the PMU and then onward to the OIA.

Construction procurement

Once construction funds have been appropriated, the PMO will conduct a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the construction contractor (and any required supervision consultant).

Variations

The PMO will process variations generally as follows:

- variations in scope require IPIC approval to ensure project outcomes remain fully agreed
- variations in scope or cost that require additional funding will be endorsed by IPIC before submission to Government and/or OIA (as required) for approval

- change orders to a contract will be processed in accordance with the PMU’s planned contract management manual

Completion

The PMO will prepare a Project Completion Report for endorsement by the IPIC. This report will include analysis of the project on a time, cost and quality basis. PMU will prepare summary KPIs to compare performance for the four State PMOs and identify areas for improvement.

2.3 Institutional Projects

The IDP (Volume 1, section 6.4) contains a number of institutional projects that will have an impact on Kosrae State infrastructure:

- asset management policy, strategy and capacity in all States
- a FSM Building Code
- maritime and aviation safety and security capacity

Part 3 Infrastructure Development

3.1 Infrastructure Development to Date

The estimated Kosrae State infrastructure development funding in the period FY2004 to FY2015 is shown in Table K 3 against the funding planned in the IDP 2004 over its whole 20 year period.

Table K 3 – Planned and Estimated Infrastructure Development Funding

Sector	IDP 2004 Total Funds FY2004-FY2025 (\$)	Estimated Development Funding FY2004-FY2015 (\$)¹		
		Amended Compact Grants	Estimated Other Funding	Estimated Total Funding
Electric Power	1,632,000	147,000	3,771,000	3,918,000
Water/Wastewater Systems	22,515,000	550,000	2,728,000	3,278,000
Solid Waste Management	7,500,000			
Roads and Pedestrian Facilities	23,868,000		12,000,000	12,000,000
Maritime Transportation	118,000			
Air Transportation	5,665,000	2,083,000	52,412,000	54,495,000
Telecommunications				
Education	8,156,000	10,308,000	5,000,000	15,308,000
Health	6,400,000	222,000		222,000
Government Administrative Buildings	2,575,000	2,225,000		2,225,000
Total \$:	78,429,000	15,534,600	75,911,000	91,446,000

Notes: 1. Estimated funding does not include maintenance and some project management and design costs

3.2 Sector Outlines and Priority Projects

3.2.1 Electric Power

Electric power is provided by Kosrae Utility Authority (KUA) with a mandate to generate sufficient revenue to cover costs.

A high percentage of customers have a metered supply and O&M costs are largely covered from tariff revenue. Improvements to and/or rehabilitation of generation and distribution assets and major network extensions, as well as the integration of renewable energy sources into the grid, are dependent on external financing.

Kosrae has a determined program to increase the proportion of electric power from renewable sources as well as undertaking energy efficiency programs at a number of levels, all of which is contributing to a declining reliance on imported fuel oils for electric power generation.

The electric power projects in the Kosrae IDP are listed in Table K 4 and support the sector Goal to develop electric power infrastructure to ensure that all areas of the country are provided with electric power in an efficient and effective manner in accordance with demand such that:

1. households are provided with power for basic livelihood purposes
2. local manpower can realize production opportunities and potential

3. power is available for basic services such as schools, hospitals, water and wastewater systems
4. national targets for renewable energy are achieved

The priority projects are also aligned with the major 2020 targets in the National Energy Policy for renewable energy sources to be at least 30 percent of total energy production and for a 50 percent increase in electric power efficiency.

Further information on each project can be found in the Project Outlines in Part 4.

Table K 4 – Electric Power Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
EP/1	Electric Power Improvements	3,700,000	1	8.0
EP/2	Electric Power Generation Improvements	140,000	1	8.0
EP/3	Electric Power Distribution Improvements	685,000	1	8.0
EP/4	Electric Power Capital Equipment	870,000	1/2	8.0
EP/5	Renewable Energy Capacity and Flexibility Improvements	8,000,000	1/2	8.7
EP/6	Increase Renewable Electric Power Generation	4,250,000	1/2	8.7
Total Funding Required		17,645,000		

3.2.2 Water/Wastewater Systems

Water and wastewater systems are currently the responsibility of the Department of Transportation and Infrastructure, although part of KUA’s mandate is to deliver water and wastewater utility services on a self-funding basis.

The reliability and quality of water supply from the current schemes can be problematic and are the key drivers for upgrading water supply systems. Unlike electric power, there is limited metered supply and O&M of water and wastewater systems.

Future transfer of water schemes to KUA in future will depend on the identified upgrading projects addressing important viability and sustainability issues; upgrading household connections, metering of all customers, modifying community water usage and setting an appropriate tariff.

The single wastewater scheme is relatively limited in extent but includes key government facilities, including the hospital, and the populations in Tofol and Lelu. The scheme incorporates settling ponds and the resulting effluent discharges directly to the sea with a number of components requiring rehabilitation or renewal.

The water/wastewater projects in the Kosrae IDP are listed in Table K 5 and support elements of the sector goal to provide water and wastewater infrastructure that:

1. meets the demand for water supply and wastewater infrastructure in an effective and efficient manner
2. improves existing water abstraction, treatment and distribution systems
3. evaluates and institutes technologically appropriate liquid waste management systems
4. improves and initiates wastewater facilities to increase coverage and contribute towards improvements in public health and environmental conditions
5. contributes towards the prevention of water borne diseases through the provision of potable water supplies

Further information on each project can be found in the Project Outlines in Part 4.

Table K 5 – Water/Wastewater System Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
WW/1	Malem Water System Improvements	3,000,000	½	9.1
WW/2	Muntunte/Yata Water System Improvements	3,500,000	½	9.1
WW/3	Walung Water System Storage Tank & Treatment	1,000,000	½	9.1
WW/4	Lelu Water System Improvements	3,148,000	½	9.1
WW/5	Lelu/Tofol Wastewater System Improvements	4,000,000	½	9.1
Total Funding Required		14,648,000		

3.2.3 Solid Waste Management

Solid waste management at the central landfill site is the responsibility of the Department of Transportation and Infrastructure. The site is licensed by Kosrae Island Resource Management Authority and employs the Fukuoka Method common across the Pacific as an appropriate and cost-effective method for disposal and processing of solid waste.

There are unlicensed landfill sites in the municipalities despite the initial objective to close and rehabilitate these sites after establishing the central site. Small collection vehicles collect and transport solid waste to the central site.

The solid waste management project in the Kosrae ISP listed in Table K 6 includes ongoing improvements of the central solid waste management system and closure and rehabilitation of the municipal sites, supporting the sector goal to provide solid waste management infrastructure that:

1. meets the demand for solid waste infrastructure in an effective and efficient manner
2. evaluates and institutes technologically appropriate solid waste management systems
3. reduces volume of solid waste for disposal by maximizing recycling and separation opportunities thereby minimizing the land area required
4. prevents solid waste having adverse effects on the terrestrial and marine environments

Further information on the project can be found in the Project Outlines in Part 4.

Table K 6 – Solid Waste Management Priority Project

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
SW/1	Solid Waste Management Expansion & Consolidation	250,000	1	8.9
Total Funding Required		250,000		

3.2.4 Roads and Pedestrian Facilities

Road infrastructure in Kosrae is the responsibility of the Department of Transportation and Infrastructure. The road and pedestrian facilities projects are largely driven by the needs and priorities set out in the Kosrae Shoreline Management Plan³².

³² (NIWA, 2013)

The road and pedestrian facilities projects in the Kosrae IDP are listed in Table K 7 and support the sector goal to provide road and pedestrian facilities infrastructure that:

1. enables transportation facilities to be adequate in terms of condition, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. meets the demand for road and pedestrian infrastructure in an effective and efficient manner, including concrete/asphalt paving of all primary road systems
3. incorporates pedestrian walkways in the design and construction of roads
4. extends cross-island and inner roads to facilitate agricultural and other development
5. is resilient to the impacts of climate change

A key component of the priority program is the establishment of an asphalt plant with asphalt laying equipment to support the extensive road development program and later maintenance activities to improve the sustainability of road infrastructure.

Further information on each project can be found in the Project Outlines in Part 4.

Table K 7 – Road and Pedestrian Facilities Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
RD/1	Inland Road - Section 1, Malem to Yesing to Utwe	11,495,000	1/2	8.9
RD/2	Inland Road - Section 2, Mutunnenea to Sialat to Yekula	5,091,000	2/3	8.9
RD/3	Inland Road - Section 3, Malem to Pilyuul to Tenwak	5,098,000	2/3	8.9
RD/4	Inland Road - Section 4, Cross Island Road, Okat to Tofol	7,614,000	3	8.9
RD/5	Inland Road - Section 5, Utwe to Walung	15,363,000	1	8.9
RD/6	Lelu Causeway Road, Sidewalk and Protection Improvements	600,000	1/2	8.9
RD/7	Lelu Farm Road Improvements (5.19 miles)	1,038,000	1	8.0
RD/8	Utwe Farm Road Improvements (2.82 miles)	564,000	1	8.0
RD/9	Malem Farm Road Improvements (5.66 miles)	1,132,000	1	8.0
RD/10	Tafunsak Farm Road Improvements (2.10 miles)	420,000	1	8.0
RD/11	Establish Asphalt Plant	1,500,000	1	7.8
RD/12	Main Road Drainage Improvements	1,080,000	1/2	8.9
Total Funding Required		50,995,000		

3.2.5 Maritime Transportation

Maritime infrastructure in Kosrae is the responsibility of the Kosrae Ports Authority. The sector projects at Okat Port will provide improved facilities for cargo handling and storage, including cold storage of perishables, and ensure that the port conforms to international safety and security requirements. The navigational aids project will also improve safety at Kosrae’s other two ports.

The maritime transportation projects in the Kosrae IDP are listed in Table K 8 and support the sector goal to provide maritime transportation infrastructure that:

1. enables market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. provides improved dock facilities to meet both fisheries and commercial shipping needs
3. facilitates modern, safe and efficient inter-state and inter-island passenger and cargo vessels
4. coordinates and facilitates the improvement of aids to navigation

Further information on each project can be found in the Project Outlines in Part 4.

Table K 8 – Maritime Transportation Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
MT/1	Pacific Tuna Industries Facility Rehabilitation	500,000	1/2	6.9
MT/2	Marine Transport Infrastructure Improvements	1,050,000	1	6.9
MT/3	Safety and Accessibility Improvements at 3 Harbors	20,000,000	1/2	7.1
Total Funding Required		21,550,000		

3.2.6 Air Transportation

Kosrae International Airport is also the responsibility of the Kosrae Ports Authority and has a current Master Plan³³. The sector projects will address the operational, safety and security limitations for both aircraft and ground handling through an extension of the runway and safety areas and construction of a new terminal building.

The air transportation projects in the Kosrae IDP are listed in Table K 9 and support the sector goal to provide air transportation infrastructure that:

1. provides adequate air transportation facilities and services in terms of condition, frequency, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country
2. enables air carrier airports to improve safety and eliminate payload restrictions

Further information on each project can be found in the Project Outlines in Part 4.

Table K 9 – Air Transportation Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
AT/1	New Airport Terminal & Facilities	11,000,000	1/2	6.4
AT/2	Airport Runway Extension & Safety Area Improvement	20,000,000	3	6.4
Total Funding Required		31,000,000		

³³ (Leo A Daly, 2012k) - Kosrae International Airport Final Master Plan

3.2.7 Education

The Department of Education is responsible for Kosrae’s public education infrastructure, excluding the College of Micronesia. All public schools has been improved in recent years other than Malem Elementary School.

Malem School will be improved under the Kosrae IDP utilizing the standardized school design based on Utwe School. A range of facilities at other schools will be upgraded including security fencing.

The education projects in the Kosrae IDP are listed in Table K 10 and support the sector goal to provide education infrastructure that:

1. ensures that the learning experience is enhanced and diversified
2. improves student and faculty interest and morale, and thereby improves the effectiveness of education and significantly increases the student retention rates through graduation from elementary or secondary schools
3. removes constraints on the availability of high school education for all graduates of elementary school, and to provide an array of post-secondary education opportunities for all high school graduates who seek further education
4. continues to assist and strengthen private educational institutions to the nation
5. is supported by facilities improvement programs that address the need for maintenance, renovation and construction of new facilities to support quality student instruction
6. is supported by equipment maintenance guidelines
7. is resilient to potential natural disasters and the impacts of climate change

Further information on each project can be found in the Project Outlines in Part 4.

Table K 10 – Education Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
ED/1	Malem Elementary School	2,000,000	1	7.6
ED/2	School Facilities Improvements	1,000,000	1	6.7
Total Funding Required		3,000,000		

3.2.8 Health

The Department of Health’s principal resource, the Kosrae State Hospital will be redeveloped under the Kosrae IDP. Procurement for the redevelopment will be undertaken in FY2016.

The hospital redevelopment listed in Table K 11 supports the sector goal to provide health infrastructure that:

1. provides modern and efficient hospital facilities to meet the health needs of the nation
2. facilitates an upgraded the curative health system to minimize the needs for referrals to foreign medical facilities
3. provides health care facilities within reasonable access of all citizens
4. has facilities improvement programs that address the need for maintenance, renovation and construction of new facilities
5. has adequate funds for maintenance to prevent rapid deterioration of facilities
6. is resilient to potential natural disasters and the impacts of climate change

Further information on the project can be found in the Project Outlines in Part 4.

Table K 11 – Health Priority Project

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
HE/1	Kosrae State Hospital	18,520,000	1	9.3
Total Funding Required		18,520,000		

3.2.9 Government Administrative Buildings

The Department of Transportation and Infrastructure is responsible for the Government’s administrative buildings.

A new Legislature Building will be constructed under the Kosrae IDP in support of the sector goal to provide government administrative building infrastructure that:

1. provides modern and efficient facilities required for government personnel to effectively undertake their functions
2. provides an environment that enables equipment used by government personnel to be adequately maintained
3. encourages a high morale and work ethic amongst government employees by providing a suitable work environment
4. provides elected officials with suitable office space and chambers in which to conduct their responsibilities

Further information on the project can be found in the Project Outlines in Part 4.

Table K 12 – Government Administrative Buildings Priority Project

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
GB/1	Kosrae State Legislature Building	1,100,000	1/2	6.4
Total Funding Required		1,100,000		

3.3 Whole of Life Costs

The costs associated with new infrastructure do not end with purchase or construction. It is one step in the life cycle of an asset that begins with the initial identification of needs through to the disposal of the asset at the end of its useful life. When all these costs are combined, the total may be more than double the cost of the initial purchase/construction price.

The provision of adequate funding for preventative maintenance as part of a whole of life approach to asset management is a key institutional issue for FSM, like other Pacific Island countries.

Estimates of the Kosrae IDP priority project maintenance costs by sector over a 20 year period are included in Table K 13. Although some assets have a life other than 20 years, this period has been chosen to provide an indication of the maintenance funding required on an annual basis.

The annual percentage maintenance cost and the asset life factors can be found in Table 14 in Volume 1, Part 6, section 6.2 of the IDP.

Table K 13 – Kosrae IDP 20 Year Maintenance Costs

Sector	20 Year Costs (\$)		B / A	Annual Maintenance Cost (\$)
	Construction (A)	Maintenance (B)		
Electric Power	16,829,000	11,805,000	70%	590,000
Water/Wastewater Systems	13,316,000	5,327,000	40%	266,000
Solid Waste Management	250,000	100,000	40%	5,000
Road and Pedestrian Facilities	46,756,000	37,679,000	81%	1,884,000
Maritime Transportation	20,524,000	12,410,000	60%	621,000
Air Transportation	28,182,000	49,636,000	176%	2,482,000
Education	2,857,000	1,429,000	50%	71,000
Health	18,520,000	14,816,000	80%	741,000
Government Administrative Buildings	1,000,000	600,000	60%	30,000
Total	148,234,000	133,802,000	90%	6,690,000

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4.1 Electric Power Projects

Project K 1 – Electric Power Improvements (EP/1)

Project Title:	Electric Power Improvements	Sector:	Electric Power						
Project Description/Scope:	Improve Kosrae’s electric power reliability, security and efficiency by: <ul style="list-style-type: none"> • providing a new fuel-powered generator to replace equipment up to 35 years old • renewing underground cabling at Lelu and the Airport 								
Agencies Responsible:	Kosrae Utilities Authority								
Project Objectives/Outcomes:	Improve the reliability, security and cost-effectiveness of electric power in Kosrae								
Project Justification:	Current electric power needs to be more reliable, secure and cost-effective								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	4	4	4	4	3	4	4	4	8.0
Project Status:	Scoped: Project has been assessed by JICA and is in the process of being approved								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	3,700,000			

Project K 2 – Electric Power Generation Improvements (EP/2)

Project Title:	Electric Power Generation Improvements	Sector:	Electric Power						
Project Description/Scope:	Improve Kosrae’s electric power generation reliability, security and efficiency by increasing the fuel storage capacity to 100,000 gallons (~60 percent increase) and renewing the fuel centrifuge system								
Agencies Responsible:	Kosrae Utilities Authority								
Project Objectives/Outcomes:	Improve the reliability, security and cost-effectiveness of electric power in Kosrae								
Project Justification:	Current electric power needs to be more reliable, secure and cost-effective								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	4	4	4	4	3	4	4	4	8.0
Project Status:	Scoped: Improvement needs identified								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	140,000			

Project K 3 – Electric Power Distribution Improvements (EP/3)

Project Title:	Electric Power Distribution Improvements					Sector:	Electric Power			
Project Description/Scope:	Improve Kosrae’s electric power distribution with a double circuit upgrade from Tofol to Triangle and from Tafunsak Town (Wasr Wasr) to Okat									
Agencies Responsible:	Kosrae Utilities Authority									
Project Objectives/Outcomes:	Improve the reliability of electric power in Kosrae									
Project Justification:	Current electric power needs to be more reliable									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	4	4	4	3	4	4	4	8.0	
Project Status:	Scoped: Improvement needs identified									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	685,000				

Project K 4 – Electric Power Capital Equipment (EP/4)

Project Title:	Electric Power Capital Equipment	Sector:	Electric Power						
Project Description/Scope:	Improve Kosrae’s electric power availability, reliability, security and cost-effectiveness by providing modern and capable capital equipment, particularly for line installation and maintenance, including: <ul style="list-style-type: none"> • Lineman’s bucket trucks • Augur truck/digger • Tree chipper truck • Backhoe/excavator • Forklift • Portable submersible pump 								
Agencies Responsible:	Kosrae Utilities Authority								
Project Objectives/Outcomes:	Improve the availability, reliability, security and cost-effectiveness of electric power in Kosrae								
Project Justification:	Current electric power needs to be more reliable, secure and cost-effective								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	4	4	4	4	3	4	4	4	8.0
Project Status:	Scoped: Improvement needs identified								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	870,000			

Project K 5 – Renewable Energy Capacity and Flexibility Improvements (EP/5)

Project Title:	Renewable Energy Capacity and Flexibility Improvements					Sector:	Electric Power			
Project Description/Scope:	Increase the contribution of renewable energy to Kosrae’s electric power needs, including: <ul style="list-style-type: none"> • Solar powered street lighting on major roads • Renewable energy storage system (flywheel based) • Feasibility study to identify renewable energy sources and projects to provide up to 50 percent of Kosrae’s electric power needs 									
Agencies Responsible:	Kosrae Utilities Authority									
Project Objectives/Outcomes:	Reduce Kosrae’s reliance on imported fuel for electric power generation									
Project Justification:	Imported fuel for electric power generation is a significant cost to the Kosrae economy									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	4	4	4	5	4	4	5	8.7	
Project Status:	Scoped: Renewable energy needs scope for inclusion in EDF 11 submission									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	400,000				Estimated Construction Costs \$:	7,600,000				

Project K 6 – Increase Renewable Electric Power Generation (EP/6)

Project Title:	Increase Renewable Electric Power Generation					Sector:	Electric Power			
Project Description/Scope:	Increase renewable energy’s contribution to Kosrae’s electric power needs by implementing 1.25 MW of renewable energy projects based on the proposed feasibility study									
Agencies Responsible:	Kosrae Utilities Authority									
Project Objectives/Outcomes:	Increase the contribution of renewable energy to Kosrae’s electric power needs to at least 35 percent and reduce reliance on imported fuel for electric power generation									
Project Justification:	Imported fuel for electric power generation is a significant cost to the Kosrae economy									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	4	4	4	5	4	4	5	8.7	
Project Status:	Concept: Project depends on outcome of the proposed feasibility study									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition; proposed feasibility does not proceed									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	4,250,000				

4.2 Water/Wastewater System Projects

Project K 7 – Malem Water System Improvements (WW/1)

Project Title:	Malem Water System Improvements						Sector:	Water/Wastewater Systems		
Project Description/Scope:	Rehabilitate elements of the Malem water supply system and introduce water treatment and fluoridation									
Agencies Responsible:	Department of Transportation and Infrastructure									
Project Objectives/Outcomes:	Provide the Malem community with improved water supply reliability and quality to improve living conditions and public health									
Project Justification:	The Malem water supply is not currently treated and elements of the system are in need of rehabilitation									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	5	3	5	5	9.1	
Project Status:	Scoped: Existing system with identified improvement needs									
Inclusions:	Rehabilitation of system elements and treatment of the water supply									
Exclusions:	Extension of the system, transfer of the system to KUA									
Risks & Dependencies:	To be developed in the design stage; user behaviors compromise the improvements									
Estimated Planning & Design Costs \$:	273,000				Estimated Construction Costs \$:	2,727,000				

Project K 8 – Muntunte/Yata Water System Improvements (WW/2)

Project Title:	Muntunte/Yata Water System Improvements						Sector:	Water/Wastewater Systems		
Project Description/Scope:	Rehabilitate elements of the Muntunte/Yata water supply system and introduce water treatment and fluoridation									
Agencies Responsible:	Department of Transportation and Infrastructure									
Project Objectives/Outcomes:	Provide the Muntunte/Yata community with improved water supply reliability and quality to improve living conditions and public health									
Project Justification:	The Muntunte/Yata water supply is not currently treated and elements of the system are in need of rehabilitation									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	5	3	5	5	9.1	
Project Status:	Scoped: Existing system with identified improvement needs									
Inclusions:	Rehabilitation of system elements and treatment of the water supply									
Exclusions:	Extension of the system, transfer of the system to KUA									
Risks & Dependencies:	To be developed in the design stage; user behaviors compromise the improvements									
Estimated Planning & Design Costs \$:	318,000				Estimated Construction Costs \$:	3,182,000				

Project K 9 – Walung Water System Storage Tank & Treatment (WW/3)

Project Title:	Walung Water System Storage Tank & Treatment						Sector:	Water/Wastewater Systems		
Project Description/Scope:	Incorporate a storage tank into the Walung water system and introduce water treatment and fluoridation									
Agencies Responsible:	Department of Transportation and Infrastructure									
Project Objectives/Outcomes:	Provide the Walung community with improved water supply reliability and quality to improve living conditions and public health									
Project Justification:	The Walung water supply lacks storage capacity and is not currently treated									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	5	3	5	5	9.1	
Project Status:	Scoped: Existing system with identified improvement needs									
Inclusions:	Addition of storage capacity and treatment of the water supply									
Exclusions:	To be developed in the design stage; extension of the system, transfer of the system to KUA									
Risks & Dependencies:	User behaviors compromise the improvements									
Estimated Planning & Design Costs \$:	90,000				Estimated Construction Costs \$:	910,000				

Project K 10 – Lelu Water System Improvements (WW/4)

Project Title:	Lelu Water System Improvements						Sector:	Water/Wastewater Systems		
Project Description/Scope:	Rehabilitate elements of the Lelu water supply system and introduce water treatment and fluoridation									
Agencies Responsible:	Department of Transportation and Infrastructure									
Project Objectives/Outcomes:	Provide the Lelu community with improved water supply reliability and quality to improve living conditions and public health									
Project Justification:	The Lelu water supply is not currently treated and elements of the system are in need of rehabilitation									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	5	3	5	5	9.1	
Project Status:	Scoped: Existing system with identified improvement needs									
Inclusions:	Rehabilitation of system elements and treatment of the water supply									
Exclusions:	Extension of the system, transfer of the system to KUA									
Risks & Dependencies:	To be developed in the design stage; user behaviors compromise the improvements									
Estimated Planning & Design Costs \$:	286,000				Estimated Construction Costs \$:	2,862,000				

Project K 11 – Lelu/Tofol Wastewater System Improvements (WW/5)

Project Title:	Lelu/Tofol Wastewater System Improvements	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Rehabilitate elements of the Lelu/Tofol wastewater system and introduce the treatment of the wastewater prior to discharge to the sea								
Agencies Responsible:	Department of Transportation and Infrastructure								
Project Objectives/Outcomes:	Provide the Lelu/Tofol community and government facilities with improved wastewater system reliability and treat the wastewater to improve living conditions and public health								
Project Justification:	The Lelu/Tofol wastewater system that includes key government facilities including the State Hospital and High School is not currently treated prior to discharge to the sea and elements of the system are in need of rehabilitation								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	3	5	3	5	5	9.1
Project Status:	Scoped: Existing system with identified improvement needs								
Inclusions:	Rehabilitation of system elements and treatment of the wastewater prior to discharge								
Exclusions:	Extension of the system, transfer of the system to KUA								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	364,000				Estimated Construction Costs \$:	3,636,000			

4.3 Solid Waste Management Projects

Project K 12 – Solid Waste Management Expansion & Consolidation (SW/1)

Project Title:	Solid Waste Management Expansion & Consolidation		Sector:	Solid Waste Management					
Project Description/Scope:	Expand and consolidate the use of the State solid waste management facility in Tofol, including: <ul style="list-style-type: none"> • Expanding the area available for solid waste disposal at the Tofol facility • Improving pump capacity and reliability at the Tofol facility • Rehabilitating the disposal areas currently used by Municipalities • Providing additional solid waste collection vehicles to ensure a frequent, reliable collection service in all accessible areas 								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Improve the management of solid waste in Kosrae by expanding and improving the current State facility and consolidating all municipal solid waste at the State facility, including rehabilitation of areas currently used by Municipalities								
Project Justification:	The State solid waste management facility in Tofol utilizes the Fukuoka method common across the Pacific for the effective management of solid waste, however some Municipalities still manage solid waste in less suitable areas. With some expansion and improvement of the State solid waste facility, all solid waste can be managed more appropriately and existing municipal sites can be rehabilitated								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	2	5	3	5	5	8.9
Project Status:	Scoped: State solid waste facility and improvement/expansion needs identified								
Inclusions:	Rehabilitation of municipal tip areas by appropriate removal of solid waste and back-filling of those areas								
Exclusions:	Decontamination of municipal tip areas								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	250,000			

4.4 Road and Pedestrian Facilities Projects

Project K 13 – Inland Road Development - Section 1 Malem to Yesing to Utwe (RD/1)

Project Title:	Inland Road Development - Section 1 Malem to Yesing to Utwe					Sector:	Road and Pedestrian Facilities			
Project Description/Scope:	<p>Consistent with Strategy 3 of the Kosrae Shoreline Management Plan, (<i>Over the next one to two generations the primary coastal road network and associated infrastructure currently located on the beach/storm berm is developed inland away from the long-term erosion and coastal inundation risk</i>), develop the inland road network in the Malem/Yesing/Utwe area:</p> <ul style="list-style-type: none"> • Inland Road - Malem to Yeseng (1.24 miles, new road) • Access Road – Malem (0.54 miles, upgrade existing road) • Access Road – Yeseng (0.31 miles, upgrade existing road) • Inland Road - Yesing to Finsrem (Utwe) (1.57 miles, upgrade existing road, 1.53 miles new road) • Access Road - Utwe to Finsrem (0.37 miles, upgrade existing road) • Inland Road - Finsrem to Finkol (1.18 miles, upgrade existing road) • Access Road - Utwe to Finkol (0.71 miles, upgrade existing road) 									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	<p>Improve the resilience of Kosrae’s road network and provide the infrastructure necessary to achieve other Shoreline Management Plan strategies, particularly:</p> <p>Strategy 4: locate new development away from areas of risk from present and future coastal hazards</p> <p>Strategy 5: encourage existing residential property owners to reposition homes away from areas of high risk from present and future hazards</p>									
Project Justification:	Mitigate climate change impacts and improve resilience of infrastructure and communities from present and future hazards									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	5	4	4	5	5	4	4	8.9	
Project Status:	Scoped: Scope and justification outlined in Kosrae’s Shoreline Management Plan									
Inclusions:	Relocation/repositioning of utilities (electric power, water supply and telecommunications)									
Exclusions:	Mitigation of any landslip or earthquake risks (not part of Shoreline Management Plan assessment)									
Risks & Dependencies:	<p>To be developed in the design stage</p> <p>Requires attention to the other Shoreline Management Plan strategies to move development and communities into the areas opened up by the development of inland roads</p> <p>Land owners agree to lease any additional land required for road development at no cost</p>									
Estimated Planning & Design Costs \$:	893,000				Estimated Construction Costs \$:	7,094,000 (road development) 3,508,000 (utilities)				

Project K 14 – Inland Road Development - Section 2 Mutunnenea to Sialat to Yekula (RD/2)

Project Title:	Inland Road Development - Section 2 Mutunnenea to Sialat to Yekula		Sector:	Road and Pedestrian Facilities					
Project Description/Scope:	Consistent with Strategy 3 of the Kosrae Shoreline Management Plan, <i>(Over the next one to two generations the primary coastal road network and associated infrastructure currently located on the beach/storm berm is developed inland away from the long-term erosion and coastal inundation risk)</i> , develop the inland road network in the Mutunnenea/Sialat/Yekula area: <ul style="list-style-type: none"> • Mutunnenea to Sialat (2.80 miles, upgrade existing road) • Sialat to Yekula/Wiya (0.48 miles, upgrade existing road, 0.22 miles new road) 								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Improve the resilience of Kosrae’s road network and provide the infrastructure necessary to achieve other Shoreline Management Plan strategies, particularly: <ul style="list-style-type: none"> • Strategy 4: locate new development away from areas of risk from present and future coastal hazards • Strategy 5: encourage existing residential property owners to reposition homes away from areas of high risk from present and future hazards 								
Project Justification:	Mitigate climate change impacts and improve resilience of infrastructure and communities from present and future hazards								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	4	5	4	4	5	5	4	4	8.9
Project Status:	Scoped: Scope and justification outlined in Kosrae’s Shoreline Management Plan								
Inclusions:	Relocation/repositioning of utilities (electric power, water supply and telecommunications)								
Exclusions:	Mitigation of any landslip or earthquake risks (not part of Shoreline Management Plan assessment)								
Risks & Dependencies:	To be developed in the design stage. Requires attention to the other Shoreline Management Plan strategies to move development and communities into the areas opened up by the development of inland roads Land owners agree to lease any additional land required for road development at no cost								
Estimated Planning & Design Costs \$:	386,000				Estimated Construction Costs \$:	3,005,000 (road development) 1,700,000 (utilities)			

Project K 15 – Inland Road Development - Section 3 Malem to Pilyuul to Tenwak (RD/3)

Project Title:	Inland Road Development - Section 3 Malem to Pilyuul to Tenwak		Sector:	Road and Pedestrian Facilities					
Project Description/Scope:	Consistent with Strategy 3 of the Kosrae Shoreline Management Plan, <i>(Over the next one to two generations the primary coastal road network and associated infrastructure currently located on the beach/storm berm is developed inland away from the long-term erosion and coastal inundation risk)</i> , develop the inland road network in the Malem/Pilyuul/Tenwak area: <ul style="list-style-type: none"> • Inland Road - Malem to Pilyuul (1.55 miles, upgrade existing road) • Access Road - Pilyuul (0.27 miles, upgrade existing road) • Access Road - Yewak (0.47 miles, upgrade existing road) • Inland Road – Pilyuul to Tenwak (0.94 miles, new road) • Access Road - Tenwak (0.09 miles, upgrade existing road) 								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Improve the resilience of Kosrae’s road network and provide the infrastructure necessary to achieve other Shoreline Management Plan strategies, particularly: <ul style="list-style-type: none"> • Strategy 4: locate new development away from areas of risk from present and future coastal hazards • Strategy 5: encourage existing residential property owners to reposition homes away from areas of high risk from present and future hazards 								
Project Justification:	Mitigate climate change impacts and improve resilience of infrastructure and communities from present and future hazards								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	4	5	4	4	5	5	4	4	8.9
Project Status:	Scoped: Scope and justification outlined in Kosrae’s Shoreline Management Plan								
Inclusions:	Relocation/repositioning of utilities (electric power, water supply and telecommunications)								
Exclusions:	Mitigation of any landslide or earthquake risks (not part of Shoreline Management Plan assessment)								
Risks & Dependencies:	To be developed in the design stage. Requires attention to the other Shoreline Management Plan strategies to move development and communities into the areas opened up by the development of inland roads Land owners agree to lease any additional land required for road development at no cost								
Estimated Planning & Design Costs \$:	390,000				Estimated Construction Costs \$:	3,082,000 (road development) 1,626,000 (utilities)			

Project K 16 – Inland Road Development - Section 4 Cross Island Road, Okat to Tofol (RD/4)

Project Title:	Inland Road Development - Section 4 Cross Island Road, Okat to Tofol		Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Consistent with Strategy 3 of the Kosrae Shoreline Management Plan, <i>(Over the next one to two generations the primary coastal road network and associated infrastructure currently located on the beach/storm berm is developed inland away from the long-term erosion and coastal inundation risk)</i> , develop the inland road network by developing the cross-island road from Tofol to Okat: <ul style="list-style-type: none"> • Improve existing road – Okat end (2.00 miles, upgrade existing road) • Improve existing road – Tofol end (0.76 miles, upgrade existing road) • Construct connecting road (1.76 miles, new road, including major culverts and bridge) 									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Improve the resilience of Kosrae’s road network and provide the infrastructure necessary to achieve other Shoreline Management Plan strategies, particularly: <ul style="list-style-type: none"> • Strategy 4: locate new development away from areas of risk from present and future coastal hazards • Strategy 5: encourage existing residential property owners to reposition homes away from areas of high risk from present and future hazards 									
Project Justification:	Mitigate climate change impacts and improve resilience of infrastructure and communities from present and future hazards Provide more direct and climate resilient link between Lelu, Malem and Utwe municipalities and the Port and Airport									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	5	4	5	4	4	5	5	4	4	8.9
Project Status:	Scoped: Scope and justification outlined in Kosrae’s Shoreline Management Plan									
Inclusions:	Relocation/repositioning of utilities (electric power, telecommunications and some water supply)									
Exclusions:	Water supply (little existing or future development along the new section of road) Mitigation of any landslip or earthquake risks (not part of Shoreline Management Plan assessment)									
Risks & Dependencies:	To be developed in the design stage Requires attention to the other Shoreline Management Plan strategies to move development and communities into the areas opened up by the development of inland roads Land owners agree to lease any additional land required for road development at no cost									
Estimated Planning & Design Costs \$:	599,000					Estimated Construction Costs \$:	4,932,000 (road development) 2,083,000 (utilities)			

Project K 17 – Inland Road Development - Section 5 Utwe to Walung (RD/5)

Project Title:	Inland Road Development - Section 5 Utwe to Walung		Sector:	Road and Pedestrian Facilities					
Project Description/Scope:	Consistent with Strategy 3 of the Kosrae Shoreline Management Plan, (<i>Over the next one to two generations the primary coastal road network and associated infrastructure currently located on the beach/storm berm is developed inland away from the long-term erosion and coastal inundation risk</i>), develop the inland road network by developing the current 4WD only access from Utwe to Walung: <ul style="list-style-type: none"> • Construct new road (9.50 miles) 								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Improve the resilience of Kosrae’s road network and provide the infrastructure necessary to achieve other Shoreline Management Plan strategies, particularly: <ul style="list-style-type: none"> • Strategy 4: locate new development away from areas of risk from present and future coastal hazards • Strategy 5: encourage existing residential property owners to reposition homes away from areas of high risk from present and future hazards 								
Project Justification:	Mitigate climate change impacts and improve resilience of infrastructure and communities from present and future hazards. Provide road access to Walung (currently boat access only) and provide improved access to health, education and other government services, as well as commercial and employment opportunities.								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	4	5	4	4	5	5	4	4	8.9
Project Status:	Scoped: Scope and justification outlined in Kosrae’s Shoreline Management Plan								
Inclusions:	Relocation/repositioning of utilities (electric power and telecommunications)								
Exclusions:	Water supply (little existing or future development along the new section of road) Mitigation of any landslip or earthquake risks (not part of Shoreline Management Plan assessment)								
Risks & Dependencies:	To be developed in the design stage Environmental impacts of building the road through the Utwe-Walung Conservation Area Requires attention to the other Shoreline Management Plan strategies to move development and communities into the areas opened up by the development of inland roads Land owners agree to lease any additional land required for road development at no cost								
Estimated Planning & Design Costs \$:	1,124,000				Estimated Construction Costs \$:	10,912,000 (road development) 3,327,000 (utilities)			

Project K 18 – Lelu Causeway Road, Sidewalk and Protection Improvements (RD/6)

Project Title:	Lelu Causeway Road, Sidewalk and Protection Improvements	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Improve the condition, safety and function of the Lelu Causeway, including: <ul style="list-style-type: none"> • Provision of a sidewalk and car parking facilities • Replacement of safety barriers • Provision of street lights • Rehabilitation and improvement of sea protection 								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	To improve the safety and functionality of the Lelu Causeway, particularly to provide for the safety of the community using the causeway for recreational purposes								
Project Justification:	Lelu Causeway is the sole link to the Lelu community and commercial area and is currently in poor condition with non-functional safety barriers, undermining from failed areas of sea protection and inadequate provision for the community using the causeway for recreation								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	4	4	4	4	5	5	5	5	8.9
Project Status:	Concept: Concept plan for improving the safety, function and condition of the Causeway								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	Replacement/upgrading of utility services, other than new street lighting								
Risks & Dependencies:	To be assessed as part of scope definition; continued use of the Causeway during improvement works								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	600,000			

Project K 19 – Lelu Farm Road Improvement (RD/7)

Project Title:	Lelu Farm Road Improvements					Sector:	Road and Pedestrian Facilities			
Project Description/Scope:	Improve the condition and serviceability of Farm Roads in Lelu Municipality (5.19 miles)									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Improve the condition and serviceability of Kosrae’s Farm Road network to provide safer and more reliable access to the sealed road network									
Project Justification:	Farm Roads can be subject to weather and other disruptions and condition can affect road user costs and convenience, impacting on access to health, education and other government services, as well as commercial and employment opportunities									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	5	5	5	3	3	4	3	4	4	8.0
Project Status:	Concept									
Inclusions:	Improvements to road surface condition and side drainage, minor improvements to alignment and width									
Exclusions:	Improvements to utilities, sealing of road surface, general improvements to road standards									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	94,000					Estimated Construction Costs \$:	944,000			

Project K 20 – Utwe Farm Road Improvements (RD/8)

Project Title:	Utwe Farm Road Improvements						Sector:	Road and Pedestrian Facilities		
Project Description/Scope:	Improve the condition and serviceability of Farm Roads in Utwe Municipality (2.82 miles)									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Improve the condition and serviceability of Kosrae’s Farm Road network to provide safer and more reliable access to the sealed road network									
Project Justification:	Farm Roads can be subject to weather and other disruptions and condition can affect road user costs and convenience, impacting on access to health, education and other government services, as well as commercial and employment opportunities									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	3	3	4	3	4	4	8.0	
Project Status:	Concept									
Inclusions:	Improvements to road surface condition and side drainage, minor improvements to alignment and width									
Exclusions:	Improvements to utilities, sealing of road surface, general improvements to road standards									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	51,000				Estimated Construction Costs \$:	513,000				

Project K 21 – Malem Farm Road Improvements (RD/9)

Project Title:	Malem Farm Road Improvements						Sector:	Road and Pedestrian Facilities		
Project Description/Scope:	Improve the condition and serviceability of Farm Roads in Malem Municipality (5.66 miles)									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Improve the condition and serviceability of Kosrae’s Farm Road network to provide safer and more reliable access to the sealed road network									
Project Justification:	Farm Roads can be subject to weather and other disruptions and condition can affect road user costs and convenience, impacting on access to health, education and other government services, as well as commercial and employment opportunities									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	3	3	4	3	4	4	8.0	
Project Status:	Concept									
Inclusions:	Improvements to road surface condition and side drainage, minor improvements to alignment and width									
Exclusions:	Improvements to utilities, sealing of road surface, general improvements to road standards									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	103,000				Estimated Construction Costs \$:	1,029,000				

Project K 22 – Tafunsak Farm Road Improvements (RD/10)

Project Title:	Tafunsak Farm Road Improvements					Sector:	Road and Pedestrian Facilities			
Project Description/Scope:	Improve the condition and serviceability of Farm Roads in Tafunsak Municipality (2.1 miles)									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Improve the condition and serviceability of Kosrae’s Farm Road network to provide safer and more reliable access to the sealed road network									
Project Justification:	Farm Roads can be subject to weather and other disruptions and condition can affect road user costs and convenience, impacting on access to health, education and other government services, as well as commercial and employment opportunities									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	5	5	5	3	3	4	3	4	4	8.0
Project Status:	Concept									
Inclusions:	Improvements to road surface condition and side drainage, minor improvements to alignment and width									
Exclusions:	Improvements to utilities, sealing of road surface, general improvements to road standards									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	38,000					Estimated Construction Costs \$:	382,000			

Project K 23 – Establish Asphalt Plant (RD/11)

Project Title:	Establish Asphalt Plant	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Establish an asphalt plant appropriate to Kosrae’s road development and maintenance needs								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Establish a core capability to produce asphalt for road development projects, avoiding the need for contractors to import asphalt plant for each project, and undertaking road maintenance as and when required								
Project Justification:	Kosrae’s sealed roads have asphalt surfacing in need of asphalt patching and resurfacing and road development projects require contractors to import asphalt plant on a project-by-project basis								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	2	2	3	3	5	5	7.8
Project Status:	Concept								
Inclusions:	Establishment of asphalt plant and asphalt laying equipment, including a stock of spares and consumables, training of local staff and design of standard asphalt mixes appropriate to Kosrae’s needs and locally available materials								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition; sustainability of local capacity to operate asphalt plant								
Estimated Planning & Design Costs \$:	included in construction costs	Estimated Construction Costs \$:	1,500,000						

Project K 24 – Main Road Drainage Improvements (RD/12)

Project Title:	Main Road Drainage Improvements	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Rehabilitate the drainage along and across all of Kosrae’s main roads								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Reduce the hazard of and damage caused by water collecting on road surfaces and mitigate the impact of water from roads on adjacent properties								
Project Justification:	Kosrae’s roads are often inundated during heavy rain, creating a safety hazard and accelerating pavement damage and inadequate longitudinal drainage often means that water from roads enters adjacent property impacting on residents and occupiers								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	4	4	4	4	5	5	5	5	8.9
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	50,000	Estimated Construction Costs \$:	1,030,000						

4.5 Maritime Transportation Projects

Project K 25 – Pacific Tuna Industries Facility Rehabilitation (MT/1)

Project Title:	Pacific Tuna Industries Facility Rehabilitation					Sector:	Maritime Transportation			
Project Description/Scope:	Rehabilitate the ex-Pacific Tuna Industries facility to provide a cool store facility for fisheries operating and/or based in Kosrae waters Explore the option of the private sector (e.g. existing lessee) funding the rehabilitation as part of an extended lease agreement									
Agencies Responsible:	Kosrae Port Authority									
Project Objectives/Outcomes:	Provide a facility that supports additional use of Okat Port as a fisheries base									
Project Justification:	Existing cool store asset is unutilized and with some additional investment could become a cornerstone economic asset for use by Kosrae-based fisheries operations and to provide an additional revenue source for KPA									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	4	1	1	3	2	5	5	6.9	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition Kosrae State Government does not transfer ownership to KPA Existing lessee does not cooperate with plans to rehabilitate the facility									
Estimated Planning & Design Costs \$:	50,000				Estimated Construction Costs \$:	450,000				

Project K 26 – Maritime Transportation Infrastructure Improvements (MT/2)

Project Title:	Maritime Transportation Infrastructure Improvements	Sector:	Maritime Transportation						
Project Description/Scope:	Improve infrastructure in both Okat and Lelu Harbors for safety and compliance with international codes, including improvements to: <ul style="list-style-type: none"> • Okat Port stevedoring building, container storage yard surface for improve handling and storage of transshipped cargos • Okat Port security fencing and lighting to meet International Maritime Organization requirements • Okat Port and Lelu Harbor navigational aids (Lelu needs to be available as an alternative safe anchorage under the International Ship and Port Security Code) 								
Agencies Responsible:	Kosrae Port Authority								
Project Objectives/Outcomes:	Improve maritime infrastructure for vessels and transshipment of cargo and compliance with international codes and needs of users								
Project Justification:	Existing safety and compliance issues with current Okat Port facilities and poor conditions for transshipment of cargo								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	4	1	1	3	2	5	5	6.9
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	950,000			

Project K 27 – Safety and Accessibility Improvements at 3 Harbors (MT/3)

Project Title:	Safety and Accessibility Improvements at 3 Harbors	Sector:	Maritime Transportation						
Project Description/Scope:	Dredge and remove hazards to improve safety and accessibility at Okat, Lelu and Utwe harbors								
Agencies Responsible:	Kosrae Port Authority								
Project Objectives/Outcomes:	Improve safety and accessibility to Kosrae’s harbors								
Project Justification:	Safety and accessibility at all Kosrae harbors affected to some degree by shallow depths and other hazards								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	3	1	1	4	4	4	5	7.1
Project Status:	Scoped: Identified areas requiring dredging and/or hazard removal								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	500,000				Estimated Construction Costs \$:	19,500,000			

4.6 Air Transportation Projects

Project K 28 – New Airport Terminal & Facilities (AT/1)

Project Title:	New Airport Terminal & Facilities					Sector:	Air Transportation			
Project Description/Scope:	Construct new terminal and provide associated facilities based on the Airport Master Plan									
Agencies Responsible:	Kosrae Port Authority									
Project Objectives/Outcomes:	To provide a new airport terminal that conforms with relevant security requirements and provides an appropriate level of facilities for passengers (including commercial and tourism facilities) and airline, immigration, customs and quarantine services									
Project Justification:	Inadequate levels of security, passenger facilities and immigration, customs and quarantine services provided at current terminal									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
4	4	2	3	3	2	2	4	5	6.4	
Project Status:	Concept									
Inclusions:	New terminal building and related security and passenger/baggage handling and passenger processing facilities									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition Continuity of services and security during transition to new terminal and facilities									
Estimated Planning & Design Costs \$:	1,000,000				Estimated Construction Costs \$:	10,000,000				

Project K 29 – Kosrae International Airport Runway Extension & Safety Area Improvement (AT/2)

Project Title:	Kosrae International Airport Runway Extension & Safety Area Improvement					Sector:	Air Transportation			
Project Description/Scope:	Extend the runway by minimum 750 feet (nominal length 6,500 feet) to the east consistent with the Airport Master Plan and improve the safety areas to a minimum of 200 feet each									
Agencies Responsible:	Kosrae Port Authority									
Project Objectives/Outcomes:	To provide a runway and associated safety areas that is more appropriate to the operational needs of airlines and aircraft using the airport									
Project Justification:	Limitations on the airlines and aircraft currently using the airport and sub-optimal safety conditions									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	4	4	2	4	3	2	3	3	4	6.4
Project Status:	Scoped: Master plan includes guidance for runway extension and associated improvements and facilities and services									
Inclusions:	Improved safety areas and all associated facilities, including fencing, perimeter road, lighting and signing									
Exclusions:	Resurfacing of existing runway									
Risks & Dependencies:	To be developed in the design stage Environmental impacts of extending the runway onto the adjacent reef									
Estimated Planning & Design Costs \$:	1,820,000					Estimated Construction Costs \$:	18,180,000			

4.7 Education Projects

Project K 30 – Malem Elementary School (ED/1)

Project Title:	Malem Elementary School					Sector:	Education			
Project Description/Scope:	Using the design prepared for Utwe Elementary School, construct the same school facilities. Design work should be limited to changes related to different site conditions at the Malem site.									
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide upgraded classroom facilities equivalent to other Elementary Schools in Kosrae									
Project Justification:	Existing school facilities in need of rehabilitation/renewal.									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	3	2	5	3	4	4	4	7.6	
Project Status:	Scoped: Exiting base design available									
Inclusions:	Furniture and fittings									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage Site conditions at Malem are similar to Utwe and only limited design work is required									
Estimated Planning & Design Costs \$:	50,000				Estimated Construction Costs \$:	1,950,000				

Project K 31 – School Facilities Improvements (ED/2)

Project Title:	School Facilities Improvements					Sector:	Education			
Project Description/Scope:	Improve facilities at Kosrae schools, including: <ul style="list-style-type: none"> Security fencing 									
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide all of the facilities required for the safe and secure operation of Kosrae’s schools									
Project Justification:	Existing school facilities in need of safety and security improvements									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
4	3	3	2	4	3	3	4	4	6.7	
Project Status:	Scoped: Improvement needs identified at each school									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:					Estimated Construction Costs \$:	1,000,000				

4.8 Health Projects

Project K 32 – Kosrae State Hospital (HE/1)

Project Title:	Kosrae State Hospital					Sector:	Health			
Project Description/Scope:	Redevelop the State Hospital on the basis of the finalized design									
Agencies Responsible:	Department of Health									
Project Objectives/Outcomes:	To establish the State’s principal health facility to deliver health services to the community that are reasonable and appropriate to their needs									
Project Justification:	State hospital services and facilities are not able to provide the health services required by the community.									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	4	5	5	5	9.3	
Project Status:	Designed: Design practically complete, temporary facilities to facilitate rebuilding phasing underway									
Inclusions:	As already agreed									
Exclusions:	As already agreed									
Risks & Dependencies:	To be managed during implementation Provision of Compact Grant									
Estimated Planning & Design Costs \$:	Design funded pre FY2016				Estimated Construction Costs \$:	18,520,000				

4.9 Government Administrative Building Projects

Project K 33 – Kosrae State Legislature (GB/1)

Project Title:	Kosrae State Legislature					Sector:	Government Administrative Buildings			
Project Description/Scope:	Develop a new building for the Kosrae State Legislature									
Agencies Responsible:	Department of Transportation and Infrastructure									
Project Objectives/Outcomes:	Provide the Kosrae State Legislature with a new building that provides updated facilities for the efficient and efficient operation of the Legislature									
Project Justification:	Current building no longer meet the needs of the Legislature									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
2	2	3	3	3	4	4	4	4	6.4	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	1,000,000				



Federated States of Micronesia INFRASTRUCTURE DEVELOPMENT PLAN FY2016-FY2025

Volume 5:

Pohnpei State Infrastructure Development Plan FY2016-FY2025



This Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 comprises the following parts:

Introduction

Volume 1 Plan Outline

Annexes

Volume 2 National Infrastructure Development Plan

Volume 3 Chuuk State Infrastructure Development Plan

Volume 4 Kosrae State Infrastructure Development Plan

Volume 5 Pohnpei State Infrastructure Development Plan

Volume 6 Yap State Infrastructure Development Plan

The following Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 documents are available:

Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 (all parts)

FSM Infrastructure Development Plan FY2016-FY2025 Outline (Introduction, Volume 1 & Annexes)

National Infrastructure Development Plan FY2016-FY2025 (Volume 2)

Chuuk State Infrastructure Development Plan FY2016-FY2025 (Volume 3)

Kosrae State Infrastructure Development Plan FY2016-FY2025 (Volume 4)

Pohnpei State Infrastructure Development Plan FY2016-FY2025 (Volume 5)

Yap State Infrastructure Development Plan FY2016-FY2025 (Volume 6)

FSM Infrastructure Development Plan FY2016-FY2025 Summary (abbreviated outline and listings of projects)

Volume 5 Pohnpei State Infrastructure Development Plan

FOREWORD

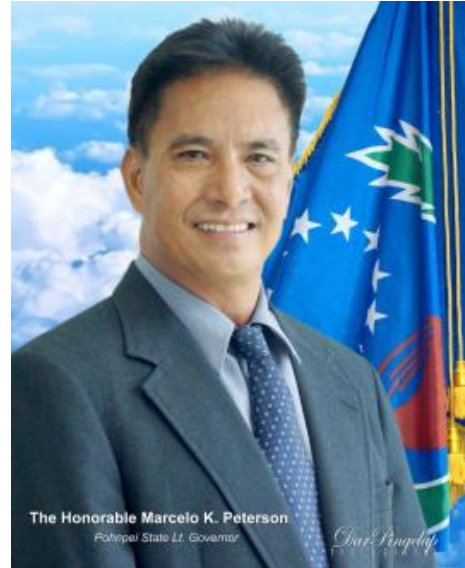
I am very pleased to present to you an update of Pohnpei State's Infrastructure Development Plan for the period FY2016 – FY2025. Here in Pohnpei, Infrastructure has been placed at the center of the Pohnpeian policy-makers' agenda, as it has become clear that the domestic economy is in need of enhanced domestic investment. If the new Pohnpei prioritized projects indicated in this FSM Infrastructure Development Plan are properly implemented, they will have the potential to improve vastly the business environment as well as the standard of living for Pohnpei's general population. Increased productivity, decreased travel times, access to new markets and new avenues for trade and investment are just some of the ways that improved infrastructure can benefit those living and working in Pohnpei.

The Pohnpei State's Strategic Development Plan serves as the heart of Pohnpei State's Economic Development Plan, which includes the recommendations of key decision-makers, all of whom have deep knowledge of, and experience with infrastructure projects in Pohnpei. What emerged out of the Pohnpei State's Strategic Development Plan is a clear path forward, supported by suggested reforms and improvements.

I trust this FSM Infrastructure Development Plan will prove a valuable resource for the Municipalities, State and National Government decision-makers and planners, and as well as the general population. Infrastructure projects in areas such as education, health, roads and bridges, power and utilities, air transportation, maritime, and water supply have the potential to contribute greatly to the further development of Pohnpei.

Finally, I recognize the extensive effort that has gone into the Infrastructure Development Plan from the Pohnpei State Infrastructure Planning and Implementation Committee and the State Executives. The assistance of the FSM Government and the Asian Development Bank is also acknowledged for providing the technical assistance that supported the development of this plan.

I commend this Infrastructure Development Plan and look forward to supporting and working towards our vision in improving the communities within Pohnpei State.




The Honorable Marcelo K. Peterson
Governor, Pohnpei State Government

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Part 1 Introduction

This Volume 5 of the IDP is known as the **Pohnpei State Infrastructure Development Plan FY2016 to FY2025** (the Pohnpei IDP).

1.1 Overview

Pohnpei State lies east of Kosrae, midway between Honolulu and Manila. The State consists of the main island of Pohnpei and outer islands of Mwokilloa, Pingelap, Sapwuafi, Nukuoro, and Kapingamarangi, in addition to 25 smaller islands within a barrier reef, and 137 widely-scattered coral atolls. Pohnpei State has a total land area of 133.4 square miles and an EEZ of 151,000 square miles. With a population of 35,981, Pohnpei is the second most populous state in FSM, after Chuuk, constituting 35 percent of the population of FSM (FSM 2010 Census). 96.1 percent of this population is on Pohnpei Island, while 3.9 percent reside on outer islands. Over 56 percent of the total State population is under the age of 25. The main island of Pohnpei is where Palikir, the capital of FSM, and the constitutional seat of the government, is situated. Occupying over 97 percent of the State's land area, Pohnpei Island is the largest, highest, most populous, and developed island in the FSM. Pohnpei Island is mountainous, with lush dense tropical forests, extensive mangrove swamps, abundant marine life, and rich biodiversity. It is also one of the wettest places on earth, recording about 300 inches of rain each year.

The capital of Pohnpei State, Kolonia, is the largest town in the state, and Pohnpei Island's main urban area. Most economic activity is concentrated in Pohnpei Island. The Pohnpei economy is very dependent on external financing, with government activities mostly centered on implementing projects provided under the Compact Agreement. The public sector dominates the economy and employs the majority of the workforce, while the private sector is small, but active, employing people in sectors such as wholesale and retail, construction, fishing, agriculture, hospitality, and small-scale manufacturing. On a household and community level, subsistence farming and fishing are important. Pohnpei recorded real GDP of \$153.7 million in 2012, with a per capita GDP of \$3,036 in 2013, and an unemployment rate of 9 percent in 2010. Similar to other FSM States, Pohnpei is highly dependent on food, fuel and other essential commodity imports arriving by sea. The commercial airport in Pohnpei has limited services for international airfreight, and civil airfields located on Sapwafik Atoll, and Mwoakilloa and Pingelap Atoll, do not support commercial flights. Maritime transport therefore remains the primary means of transport to the main and outer islands of Pohnpei. With Pohnpei State serving as the hub for inter-state and intra-state passenger and cargo services, safe and efficient operation of Pohnpei seaport is therefore essential to facilitating and sustaining external trade and commerce and delivery of essential commodities to these islands.

1.2 State Development Objectives

The **Pohnpei State Strategic Development Plan** (PSDP) is a strategic policy document. It is intended to organize and integrate existing sector plans and programs and the SDP into a strategic plan designed to meet the unique needs of Pohnpeian citizens and residents and to present a unified vision of Pohnpei's future.

Based on clear values, principles, public participation, and cross-sector engagement the State of Pohnpei carried out a state-level cross-sector assessment and strategic goal analysis process. This process was based on the assumption that tourism would serve as the focal point for economic development and centered on the "World Park" concept as both a unique tourism brand and an organizing concept for cross-sector sustainable development. The resulting PSDP not only provides direction for sustainable development decisions, but also provides a platform for ongoing cross-sector engagement and decision-making.

The PSDP includes an extensive array of strategic goals, outcomes (broad goals), associated activities, and accompanying outputs (measurable objectives).

Development of the PSDP was guided by eleven important values and principles developed by Pohnpeians and other Micronesian citizens.

1. The planning process and resulting strategic development plan will be driven by State economic sectors and guided by needs and desires of Pohnpeian citizens and stakeholders.
2. The planning process and resulting plan will be consistent with Pohnpeian values.
3. Decision making will be consistent with Pohnpei-specific customs and traditions.
4. Decision makers from all sectors will be engaged throughout the planning and implementation processes.
5. Pohnpeians must own and be fully invested in the process of developing the Pohnpei State Strategic Development Plan and take ownership of the strategic goals, outcomes, activities and outputs.
6. The strategic development plan will be outcome-, output- and accountability-oriented.
7. The strategic development plan will be designed for both short- and long-term goal achievement.
8. The strategic development plan will create opportunities for continuous evaluation and longitudinal assessment.
9. The process of strategic development planning will focus on developing local capacity.
10. Sustainability, stewardship, quality of Micronesian life, and environmental quality will serve as key philosophical and operating principles to be infused into the strategic plan.
11. Coupled and consistent with established Pohnpeian “best practices,” global best practices drawn from sustainable development efforts will be utilized to direct planning, development, implementation, and decision-making.

1.2.1 Infrastructure in the Strategic Development Plan

Mission Statement for the Infrastructure Sector

To plan, promote, and implement sustainable economic and social infrastructure development programs and projects in support of public good, private sector investment, economic growth, and revenue generation within the State of Pohnpei.

Sector Rationale

High quality and maintained sustainable infrastructure systems will provide structural support for private sector investment and enhancement of Pohnpeian quality of life. Thoughtfully creating an interconnected system of energy resources, solid waste management strategies, wastewater treatment technologies, potable water sources, and ground, marine, and air transportation facilities will provide significant support to environmental improvement and economic growth. Utilizing a multidimensional approach to infrastructure development and management, in combination with sustainability efforts in the other sectors, will create a unique opportunity to develop a sound foundation for long-term economic, environmental, and social stability.

Strategic Goal 1

To develop a comprehensive sustainable funding system to finance public utilities.

Rationale: Identifying reliable funding sources and organizing the financial resources to support development, enhancement, and maintenance of publicly funded resources is essential to the overall economic success of Pohnpei. Fiscal planning decisions that consider the needs of all economic sectors and equitable distribution of costs are key elements of long-term infrastructure viability. A sustainable economy is dependent on its infrastructure, which is dependent on sound financial management.

Strategic Goal 2 (Air Transportation)

To provide safe, well-maintained, and sustainable aviation and air service infrastructure.

Rationale: Reliable air transportation is essential to the viability of all Pohnpeian economic sectors. Air transport serves as the most expedient link to global resources and the global economy by providing essential services to the tourism industry as well as other commercial sector businesses. Investment in and enhancement of reasonably and fairly priced air transportation infrastructure will expand the reach of Pohnpeian exports to new global markets as well as provide within-FSM transport for residents.

Strategic Goal 3 (Maritime Transportation)

To improve port-based revenue in Pohnpei by providing affordable, reliable, and sustainable shipping services.

Rationale: Improvement of land- and water-based maritime facilities will provide the capacity to increase both export and import of bulk goods in support of the Pohnpeian economy. Agricultural and fisheries products may be exported more expediently through more efficient and effective port services. Ability to efficiently service foreign vessels of all types and sizes in need of repair and maintenance or resupply can increase Pohnpei's income from external sources. Services to outer islands will be improved through vessel upgrading and regular scheduling. Travel to and from outer islands as well as import/export of goods will result in positive impacts on those local economies.

Strategic Goal 4 (Electric Power and Other Energy Sources)

To maintain existing and develop new renewable, reliable, affordable, and sustainable facilities for power generation.

Rationale: Reliable electrical power is essential to economic success as well as modern living standards in Pohnpei. Fortunately for the State of Pohnpei, several electrical power-generating technologies have potential for application to meet future electrical power needs. Investigation of these technologies may lead to the use of renewable energy resources, which will reduce negative environmental impacts of petroleum-based fuels as well as support development of businesses that will contribute to economic growth.

Strategic Goal 5 (Water)

To maintain existing and develop new renewable, reliable, affordable, and sustainable facilities for potable water supply.

Rationale: Safe potable water is another fundamental resource that contributes to safeguarding Pohnpeian quality of life and growing its economy. Safe and reliable fresh water supplies support high quality public health, improved environmental quality, and expanded economic development, including growth of a viable tourism industry.

Strategic Goal 6 (Sewer and Wastewater)

To maintain existing and develop new reliable, affordable, and sustainable facilities for sewer and wastewater management.

Rationale: Creative solutions to sewer and wastewater management challenges will significantly contribute to the health and welfare of Pohnpei's land, aquatic and marine resources, and its residents. A healthy environment contributes both to the quality of Pohnpeian life and to economic development. Vibrant, healthy, and safe natural environments attract tourists.

Strategic Goal 7 (Solid Waste)

To provide safe, environmentally sound solid waste management facilities and equipment.

Rationale: As the Pohnpeian economy improves, greater solid waste management challenges will develop. New, appropriate policies, technologies, and strategies will support solutions that can minimize the production of solid waste, process it in ways that do not threaten environmental and human health, and remove much of the existing unsightly waste, thereby improving the aesthetic and environmental quality of Pohnpei.

Strategic Goal 8 (Roads/Pedestrian Facilities)

To improve and maintain motorized, non-motorized, and pedestrian ground transportation infrastructure.

Rationale: Great strides have been made in the early 2000s to improve the ability of Pohnpeians to move around the main island. Ground transportation resources serve as another fundamental resource supporting economic development, health care access (particularly emergency care), educational access, and community involvement. Residents and visitors alike will benefit by having multiple dedicated routes of safe access to Pohnpeian services, businesses, and amenities.

Strategic Goal 9 (Telecommunications)

To continually improve and maintain a telecommunication system that will support reliable, affordable communications.

Rationale: Connectivity is essential for economic development and global interaction, both bringing the world to Pohnpei and Pohnpei to the world. Access to local and global communication networks will enable businesses to explore and service markets in Pohnpei, the other Federated States of Micronesia, and foreign countries. New technologies may provide supplemental or alternative solutions to health care, education, and business development through online support, online intervention strategies, and real-time international communication.

1.3 Climate and the Challenges of Change

The Joint State Action Plan for Pohnpei, dealing with climate change and the development of infrastructure to adapt to climate change, is being finalized in conjunction with the supporting agency SPC. It is likely to follow a similar pattern to that for Kosrae, as the challenges and issues are similar. Current projects included in the IDP will contribute to climate change mitigation and adaptation, in particular by:

- Improved access and reduced fuel use from the upgraded road system
- Increased use of renewable energy
- Improvements to water supply and development of new sources

1.4 Plan Development

The Pohnpei IDP presents the State's priority infrastructure investments for the next 10 years identified by the Pohnpei IPIC and government and community stakeholders. The projects have been prioritized according to three periods, Period 1: FY2016 to FY2019 (during which the Amended Compact arrears are intended to be fully appropriated), Period 2: FY2020 to FY2022, and Period 3: FY2023 to FY2025.

The IPIC-led group assessed the contribution of each priority project to the IDP strategic objectives (Volume 1, section 2.2.2) to provide a Strategic Rating out of 10. Although strategic ratings are not comparable between projects and sectors due to variations in the scope of projects and inherent sector factors (and cannot be used to prioritize projects), the rating process has nonetheless confirmed that the priority projects each make a strong contribution to relevant strategic objectives.

The development process provided valuable input into the management and implementation arrangements (section 2.2) and with the sector managers provided information for the priority projects outlines incorporated into the Pohnpei IDP (Part 4).

Part 2 Plan Outline

2.1 Investment Strategy

2.1.1 Available Funding

Details of the funding available from FSM’s development partners and the National Government can be found in Volume 1, Part 3 of the IDP.

Pohnpei receives Amended Compact funds according to the formula set by the FSM Congress (currently 28.13 percent). The underpinning nature of infrastructure warrants a more even distribution of infrastructure funding so funds associated with bilateral donors, multilateral banks and climate change are not allocated on a formula-basis. An amount equal to 25 percent of these funds is included in the Pohnpei IDP, however Pohnpei may receive a greater or lesser amount on a program or project basis.

Pohnpei State’s available infrastructure funding is 27 percent of total available IDP funding. Table P 1 shows the allocation over the 10 years of the IDP; \$175.7 million for development and \$25.5 million for maintenance.

Table P 1 – Total Available Pohnpei IDP Funding

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Pohnpei										
Development	22,615,273	22,761,328	21,443,178	21,435,822	15,146,780	15,711,012	15,698,537	15,684,357	12,576,922	12,634,209
Maintenance	2,642,001	2,641,586	3,088,041	3,087,267	2,445,851	2,444,718	2,443,404	2,441,912	2,114,813	2,120,844
TOTAL	25,257,274	25,402,914	24,531,219	24,523,088	17,592,631	18,155,729	18,141,942	18,126,268	14,691,736	14,755,053

2.1.2 Priority Projects

The Pohnpei IDP includes priority projects estimated at \$253.8 million across 9 of the 10 infrastructure sectors. The breakdown of project estimates by sector is shown in Figure P 1 and the listing of priority projects is included in Table P 2.

Figure P 1 – Pohnpei IDP Breakdown by Sector

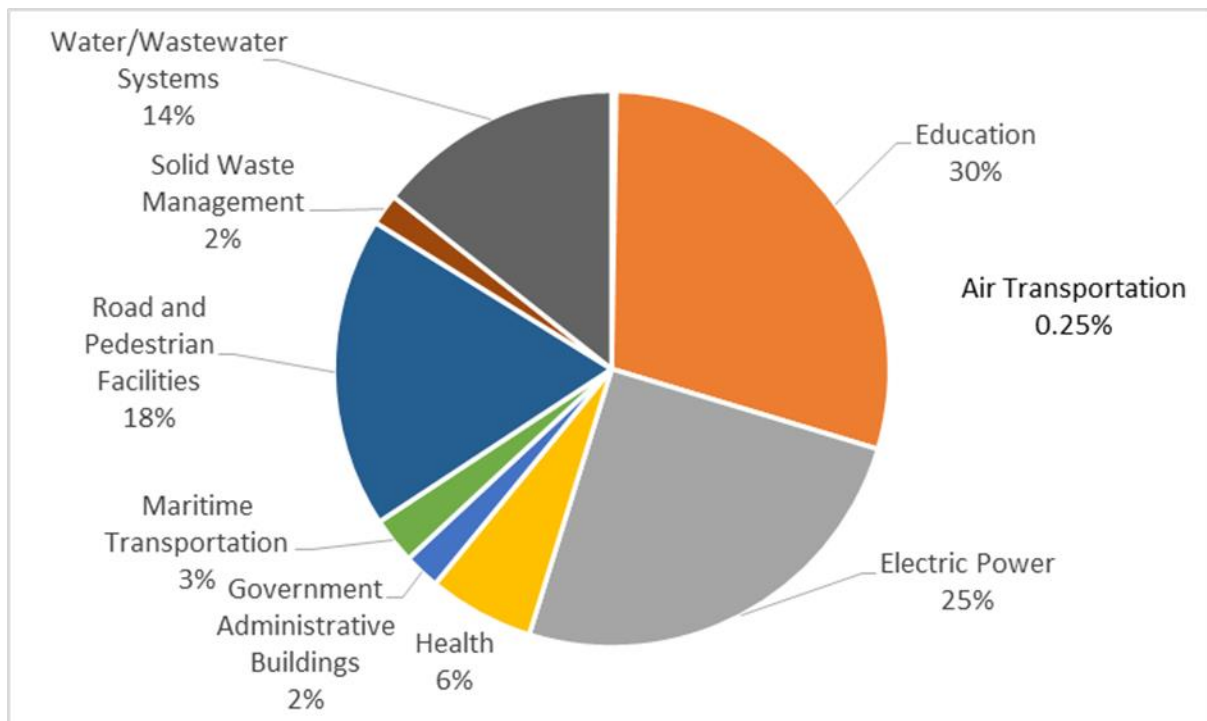


Table P 2 – Pohnpei IDP Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
PM/1	Pohnpei Project Management Office	5,000,000	All	N/A
EP/1	Improve Electric Power Distribution System	5,577,000	1	9.1
EP/2	Renewable Energy Development - Solar Power Phase 1	10,000,000	1	9.3
EP/3	Renewable Energy Development - Solar Power Phase 2	30,000,000	2/3	9.3
EP/4	Renewable Energy Development - Hydro Power Phase 1	16,000,000	2/3	9.6
EP/5	Expand Micro Grids on Outer Islands - Phase 1	500,000	1	6.9
EP/6	Expand Micro Grids on Outer Islands - Phase 2	500,000	2	6.9
WW/1	Extend Water Distribution - COM to Diadi	6,380,000	1	10.0
WW/2	Extend Water Distribution - Diadi to NMS	2,200,000	1	10.0
WW/3	Extend Water Distribution - KinaKapw to Lehn Diadi	8,000,000	1	10.0
WW/4	Develop New Surface Water Supply Sources	1,500,000	1	10.0
WW/5	Develop New Sub-Surface Water Supply Sources	2,000,000	1	10.0
WW/6	Improve Water Supply Distribution - Phase 1	8,643,000	1/2	10.0
WW/7	Connect Sokehs Island to Kolonia Wastewater Plant	3,000,000	1/2	10.0
WW/8	Improve Existing Wastewater System	2,000,000	1	10.0
WW/9	Improve Water Supply in Outer Islands	2,000,000	1/2/3	7.1
SW/1	Improve Management/Operation of Dekehtik Site - Phase 1	2,500,000	1/2	7.6
SW/2	Improve Management/Operation of Dekehtik Site - Phase 2	1,500,000	2/3	7.6
SW/3	Improve Solid Waste Collection and Transport	500,000	1	7.8
RD/1	Rehabilitate/Resurface Primary Road - Phase 1	4,500,000	1/2	9.6
RD/2	Rehabilitate/Resurface Primary Road - Phase 2	4,500,000	2/3	9.6
RD/3	Improve Shoulders and Drainage on Primary Road	1,000,000	1	9.6
RD/4	Upgrade Unsealed Secondary Roads - Phase 1	13,500,000	1/2/3	9.8
RD/5	Rehabilitate/Resurface Secondary Roads - Phase 1	3,240,000	1/2	9.6
RD/6	Rehabilitate/Resurface Secondary Roads - Phase 2	3,240,000	2/3	9.6
RD/7	Improve Primary and Secondary Road Bridges	12,000,000	1/2/3	9.6
RD/8	Provide Pedestrian Safety Facilities	1,000,000	1/2	7.6
RD/9	Provide Road between Dehphek and Takaieu	2,000,000	1/2	9.3
MT/1	Pohnpei Port - Dredging of Channel & Anchorage	1,200,000	1	8.0
MT/2	Improve Navigational Aids - Pohnpei & Outer Islands	250,000	1	7.8
MT/3	Improve Port Precinct Lighting and Fencing	100,000	1	5.3
MT/4	Provide Floating Dock/Work Platform	150,000	1	3.8
MT/5	Remove Sunken Vessels	5,000,000	1	6.0

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
AT/1	Extend Cargo Storage Facilities	200,000	2	7.6
AT/2	Pingelap Airstrip Improvements	85,000	1	6.9
AT/3	Mokil Airstrip Improvements	65,000	1	6.9
AT/4	Sapwuahfik Airstrip Improvements	289,000	1	6.9
ED/1	Elementary Schools Phase 1a	24,159,000	1/2	8.9
ED/2	Elementary Schools Phase 1b	10,703,000	1/2	8.9
ED/3	Elementary Schools Phase 2	4,205,000	3	8.9
ED/4	High Schools Phase 1	10,059,000	1	8.9
ED/5	High Schools Phase 2	19,800,000	1/2/3	8.9
ED/6	School Sanitary Facilities	900,000	1	9.3
ED/7	Covered Gymnasium Facilities in all Municipalities	3,300,000	1	7.6
HE/1	Pohnpei Primary Healthcare Facility	5,500,000	1	8.7
HE/2	State Diagnostic Center	3,700,000	1/2	9.1
HE/3	State Critical Care Unit	1,500,000	1/2	9.1
HE/4	Improve Electric Power Efficiency and Reliability	1,800,000	1	9.3
HE/5	Renovate State Hospital Air Conditioning System	100,000	1	8.9
HE/6	Improve Ambulance Services	200,000	1	5.6
HE/7	Convert Dispensaries into Health Centers	1,000,000	1/2	8.7
HE/8	Improve Outer Island Dispensaries	1,000,000	1/2	8.7
HE/9	Upgrade State Hospital ICT Infrastructure & Services	500,000	1/2	6.2
GB/1	Facilities for Office of Economic Affairs	540,000	1	5.8
GB/2	Pohnpei Public Market	1,200,000	1	8.2
GB/3	Renovate Municipal Offices	1,100,000	1	6.0
GB/4	Renovate Legislature Complex	2,000,000	1	2.9
GB/5	Renovate PUC Building	400,000	1	5.3
Total Funding Required		253,785,000		
MTCE	Infrastructure Maintenance	25,470,000		

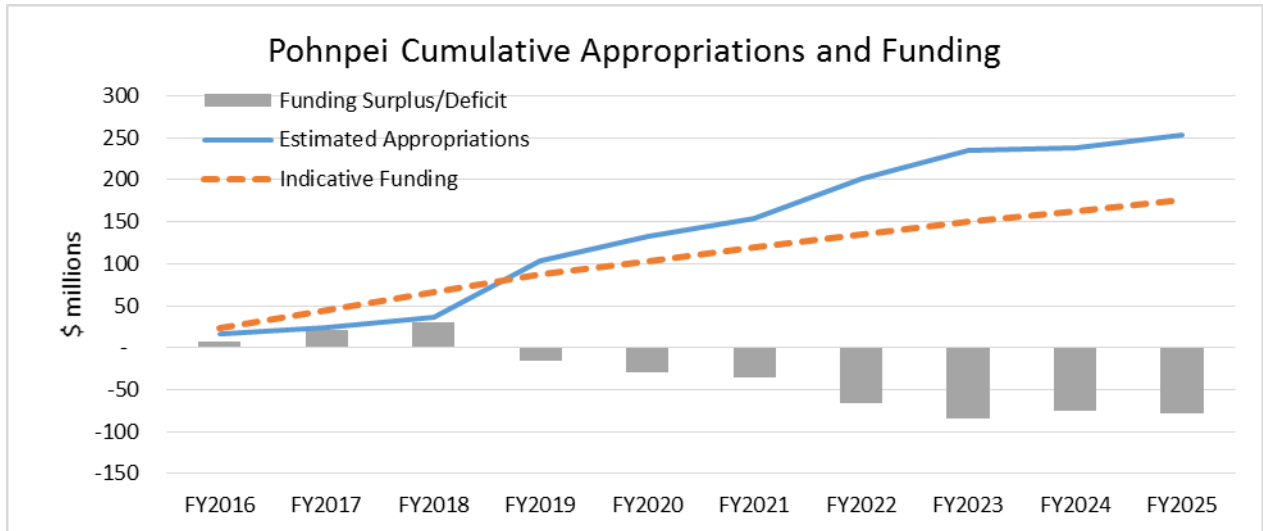
2.1.3 Project Funding Requirements

Based on the project priorities identified during development of the Pohnpei IDP, a funding appropriation profile covering the 10 year period has been estimated. In summary the Pohnpei IDP priority projects exceed available funding by almost 45 percent as shown in Figure P 2,

As a result of the March 2012 JEMCO decision the gap in Amended Compact funding leads to a period of low demand for funds with planning and design the dominant activities. Appropriations for construction will be significant by FY2019. From this point on appropriations will likely exceed funding identified in the

IDP. This implies additional funding needs to be identified and/or priorities reassessed. The planned review of the Pohnpei IDP in FY2019 will provide the opportunity to undertake this reassessment.

Figure P 2 – Pohnpei IDP Available Funding and Estimated Appropriations



2.1.4 Infrastructure Maintenance

Pohnpei has a total of \$25.47 million of maintenance funding available from FY2016 to FY2025. This includes \$4.32 million required to match the available Amended Compact IMF funding.

2.2 Management and Implementation

2.2.1 State Governance

An effective State IPIC will provide the basis for strong governance of infrastructure delivery at the State program and project level once the coordinated control processes have been established.

Most importantly the intended upgraded role of the IPIC and establishment of the implementation framework outlined below will devolve the planning and implementation responsibilities to the States without compromising control, integrity and governance.

2.2.2 Implementation model

National program management

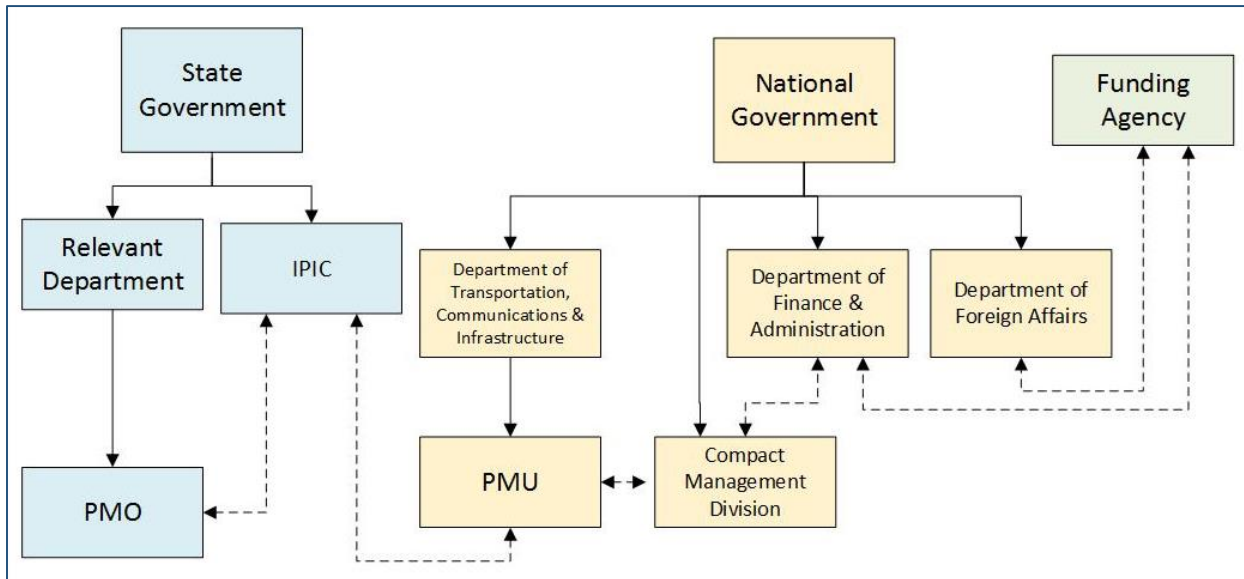
The implementation model retains the PMU within DTCI but restructures the unit to focus on **Program Management**. The PMU will provide ongoing support to the State to ensure standards are developed and shared, subsequent design and construction contracts are consistent with appropriate risk management and will provide peer review expertise as required.

State delivery accountabilities

The State will be accountable for **Project Management**, from initial planning, through design to construction completion. The State will form a Project Management Office (PMO). The PMO will undertake all the project management activities from initial design through to construction and completion.

The general structure of the implementation model is shown on Figure P 3.

Figure P 3 – Organization Chart of Infrastructure Delivery



The PMO will initially contract with the private sector (external party) to ensure project delivery capability is in place by Q3 2016. The contracted external party will be used across all four States within FSM to provide consistency of project management approaches, processes and methodologies.

State Project Management Offices

The State PMO will have the following resources:

- Project Manager(s)
- Contracting Officer(s)
- Resident Engineers and Inspectors
- Technical Specialists as required

General Considerations

The cost of the PMO is estimated to be between 5 and 7 percent of the State infrastructure development program which is within international benchmarks and internationally recognized as a legitimate program cost.

The IDP includes provision for the required funds for the PMO as part of the Amended Compact component of the State’s infrastructure development program (noting that Amended Compact PMO funding is dedicated to the delivery of Amended Compact projects).

The external party providing the PMO services will be excluded from participating in any further contract for the design, construction or supervision on an IDP project for which it has project management responsibilities to ensure probity is maintained.

The external party will be contractually bound to build local project management capacity in the State and will have its capacity building plans and performance regularly reviewed by IPIC.

The roles and responsibilities for each party involved in planning, implementation and management of the IDP’s Amended Compact component are documented in Annex A of the IDP.

2.2.3 Process enhancements

All infrastructure projects require defined project management processes from scope definition through funds release, design and construction to successful completion. Best practice processes incorporate key steps, hold points, client reviews and concise and complete documentation to support such processes.

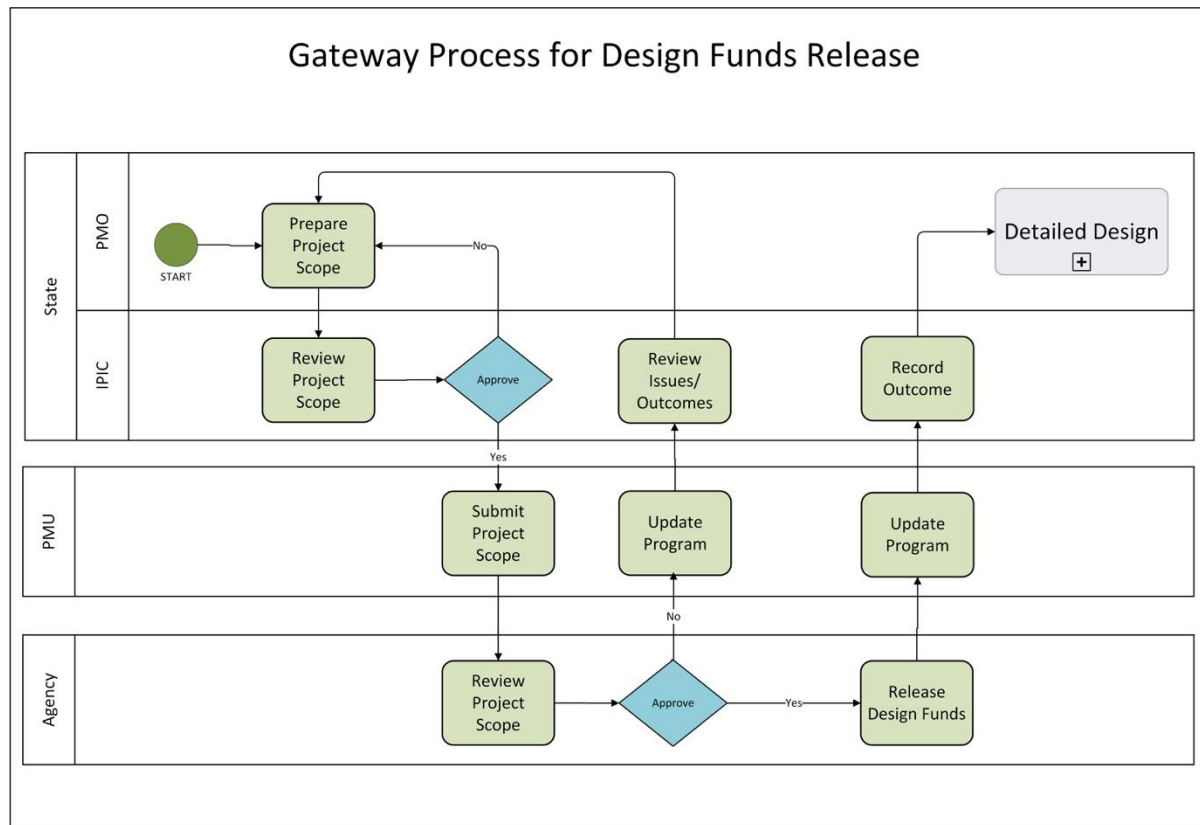
It is also good practice to release funds at two stages: initially to release funds to enable the full project design to be undertaken and then, prior to the construction procurement process commencing, the funding required for construction. This approach facilitates the orderly progress of the project while ensuring that after design there is a review of the project scope, time and cost and any changes are formally signed off before committing funds for construction.

Pre-Design and initial funds release

The PMO will fully document the project scope and formally agree this information with the IPIC.

The project will be submitted for the release of initial (generally design) funds once endorsed by the IPIC. For Amended Compact funded projects this submission is to the PMU and then onward to OIA. Figure P 4 shows the process for this stage as an example of the processes that will be operated by the PMO and other bodies.

Figure P 4 – Example Process Diagram



Once the initial funds have been appropriated, the PMO will conduct (if required) a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the design consultant.

Design and construction funds release

The PMO will formally review each project with the IPIC twice during design. The PMO will also hold regular client meetings with sector representatives.

The IPIC reviews will be held when the design is 30 percent complete and when it is 100 percent complete (but still subject to review). The 30 percent design review will ensure that designs remain on an agreed path before significant design costs are incurred.

Following a design being accepted as complete a second submission will be made to the funding agency for the appropriation of construction funds. For Amended Compact funded projects this submission is to the PMU and then onward to the OIA.

Construction procurement

Once construction funds have been appropriated, the PMO will conduct a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the construction contractor (and any required supervision consultant).

Variations

The PMO will process variations generally as follows:

- variations in scope require IPIC approval to ensure project outcomes remain fully agreed
- variations in scope or cost that require additional funding will be endorsed by IPIC before submission to Government and/or OIA (as required) for approval
- change orders to a contract will be processed in accordance with the PMU's planned contract management manual

Completion

The PMO will prepare a Project Completion Report for endorsement by the IPIC. This report will include analysis of the project on a time, cost and quality basis. PMU will prepare summary KPIs to compare performance for the four State PMOs and identify areas for improvement.

2.3 Institutional Projects

The IDP (Volume 1, section 6.4) contains a number of institutional projects that will have an impact on Pohnpei State infrastructure:

- asset management policy, strategy and capacity in all States
- a FSM Building Code
- maritime and aviation safety and security capacity

Part 3 Infrastructure Development

3.1 Infrastructure Development to Date

The estimated Pohnpei State infrastructure development funding in the period FY2004 to FY2015 is shown in Table P 3 against the funding planned in the IDP 2004 over its whole 20 year period.

Table P 3 – Planned and Estimated Infrastructure Development Funding

Sector	IDP 2004 Total Funds FY2004-FY2025 (\$)	Estimated Development Funding FY2004-FY2015 (\$)¹		
		Amended Compact Grants	Estimated Other Funding	Estimated Total Funding
Electric Power	11,853,000	557,000	8,399,000	8,956,000
Water/Wastewater Systems	34,953,000	6,264,000	8,252,000	14,516,000
Solid Waste Management	10,700,000			
Roads and Pedestrian Facilities	28,836,000			
Maritime Transportation	23,853,000		16,500,000	16,500,000
Air Transportation	18,442,000	1,496,000	116,034,000	117,530,000
Telecommunications				
Education	31,472,000	14,457,000		14,457,000
Health	3,650,000	2,166,000		2,166,000
Government Administrative Buildings	9,400,000	283,000	5,000,000	5,283,000
Total \$:	173,159,000	25,223,000	154,185,000	179,408,000

Notes: 1. Estimated funding does not include maintenance and some project management and design costs

3.2 Sector Outlines and Priority Projects

3.2.1 Electric Power

Electric power is provided by Pohnpei Utility Authority (PUC) with a focus on Pohnpei Island although support is also provided to outer island electric power facilities.

A high percentage of customers have a metered supply and O&M costs are largely covered from tariff revenue. Improvements to and/or rehabilitation of generation and distribution assets and major network extensions, as well as the integration of renewable energy sources into the grid, are dependent on external financing.

Pohnpei has a determined program to increase the proportion of electric power sourced from renewable sources as well as undertaking energy efficiency programs at a number of levels, all of which is contributing to a declining reliance on imported fuel oils for electric power generation. A future generating capacity of 20MW is planned, evenly split between solar and hydro power (current generating capacity is around 10MW). Planning has identified a “solar farm” site in government ownership and sufficient hydropower sources. The first phases of the envisaged renewable energy program are the cornerstone of the electric power projects included in the Pohnpei IDP.

The electric power projects in the Pohnpei IDP are listed in Table P 4 and support the sector Goal to develop electric power infrastructure to ensure that all areas of the country are provided with electric power in an efficient and effective manner in accordance with demand such that:

1. households are provided with power for basic livelihood purposes
2. local manpower can realize production opportunities and potential
3. power is available for basic services such as schools, hospitals, water and wastewater systems
4. national targets for renewable energy are achieved

The priority projects are also aligned with the major 2020 targets in the National Energy Policy for renewable energy sources to be at least 30 percent of total energy production and for a 50 percent increase in electric power efficiency.

Further information on each project can be found in the Project Outlines in Part 4.

Table P 4 – Electric Power Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
EP/1	Improve Electric Power Distribution System	5,577,000	1	9.1
EP/2	Renewable Energy Development - Solar Power Phase 1	10,000,000	1	9.3
EP/3	Renewable Energy Development - Solar Power Phase 2	30,000,000	2/3	9.3
EP/4	Renewable Energy Development - Hydro Power Phase 1	16,000,000	2/3	9.6
EP/5	Expand Micro Grids on Outer Islands - Phase 1	500,000	1	6.9
EP/6	Expand Micro Grids on Outer Islands - Phase 2	500,000	2	6.9
Total Funding Required		62,577,000		

3.2.2 Water/Wastewater Systems

Water and wastewater systems are also the responsibility of the PUC with its mandate to generate sufficient to cover O&M costs. Similar to electric power, commercial operations are centered on Pohnpei Island where there is broad metering of water supply and effective O&M of water and wastewater systems.

The projects included in the Pohnpei IDP are divided between improving the existing systems and extending both water and wastewater systems. Water system extension projects will continue the program to provide a “ring system” around Pohnpei Island and the wastewater system will be extended to Sokehs Island communities. Rehabilitation of the wastewater system in existing areas to reduce the amount of storm water intrusion is key to ensuring the wastewater treatment plant has the capacity for the Sokehs Island and future extension areas.

The water/wastewater projects in the Pohnpei IDP listed in Table P 5 support elements of the sector goal to provide water and wastewater infrastructure that:

1. meets the demand for water supply and wastewater infrastructure in an effective and efficient manner
2. improves existing water abstraction, treatment and distribution systems
3. evaluates and institutes technologically appropriate liquid waste management systems
4. improves and initiates wastewater facilities to increase coverage and contribute towards improvements in public health and environmental conditions
5. contributes towards the prevention of water borne diseases through the provision of potable water supplies

Further information on each project can be found in the Project Outlines in Part 4.

Table P 5 – Water/Wastewater System Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
WW/1	Extend Water Distribution - COM to Diadi	6,380,000	1	10.0
WW/2	Extend Water Distribution - Diadi to NMS	2,200,000	1	10.0
WW/3	Extend Water Distribution - KinaKapw to Lehn Diadi	8,000,000	1	10.0
WW/4	Develop New Surface Water Supply Sources	1,500,000	1	10.0
WW/5	Develop New Sub-Surface Water Supply Sources	2,000,000	1	10.0
WW/6	Improve Water Supply Distribution - Phase 1	8,643,000	1/2	10.0
WW/7	Connect Sokehs Island to Kolonia Wastewater Plant	3,000,000	1/2	10.0
WW/8	Improve Existing Wastewater System	2,000,000	1	10.0
WW/9	Improve Water Supply in Outer Islands	2,000,000	1/2/3	7.1
Total Funding Required		35,723,000		

3.2.3 Solid Waste Management

Solid waste management at the central landfill site is the responsibility of the Environmental Protection Agency. The site is operated by Pohnpei Waste Management Services and employs the Fukuoka Method common across the Pacific as an appropriate and cost-effective method for disposal and processing of solid waste.

The Dekehtik site is adequate for Pohnpei's medium-term needs, subject to improvements being made in areas of; bunding and other protective measures, handling and storage of hazardous wastes, separation and storage of recyclable wastes and rehabilitation of completed cells. The site mostly serves the Kolonia area and although this represents the majority of Pohnpei Island's solid waste, there is a need to improve Kolonia's solid waste collection and establish a collection in the other municipalities.

The solid waste management projects in the Pohnpei IDP are listed in Table P 6 and support the sector goal to provide solid waste management infrastructure that:

1. meets the demand for solid waste infrastructure in an effective and efficient manner
2. evaluates and institutes technologically appropriate solid waste management systems
3. reduces volume of solid waste for disposal by maximizing recycling and separation opportunities thereby minimizing the land area required
4. prevents solid waste having adverse effects on the terrestrial and marine environments

Further information on each project can be found in the Project Outlines in Part 4.

Table P 6 – Solid Waste Management Priority Project

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
SW/1	Improve Management/Operation of Dekehtik Site - Phase 1	2,500,000	1/2	7.6
SW/2	Improve Management/Operation of Dekehtik Site - Phase 2	1,500,000	2/3	7.6
SW/3	Improve Solid Waste Collection and Transport	500,000	1	7.8
Total Funding Required		4,500,000		

3.2.4 Roads and Pedestrian Facilities

Road infrastructure in Pohnpei is the responsibility of the Department of Transportation and Infrastructure and is really only developed on Pohnpei Island where the primary ring road is sealed, as are some of the secondary roads.

The projects included in the Pohnpei IDP target primary road rehabilitation and proactive periodic resurfacing to preserve its condition and to address localized safety and capacity issues including narrow bridges and sidewalks near schools. Secondary road projects include rehabilitation and resurfacing of currently sealed roads and sealing of around half of the currently unsealed roads. A new secondary road will also be constructed between Dehpehk and Takaieu on Pohnpei Island’s east coast.

The road and pedestrian facilities projects included in the Pohnpei IDP are listed in Table P 7 and support the sector goal to provide road and pedestrian facilities infrastructure that:

1. enables transportation facilities to be adequate in terms of condition, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. meets the demand for road and pedestrian infrastructure in an effective and efficient manner, including concrete/asphalt paving of all primary road systems
3. incorporates pedestrian walkways in the design and construction of roads
4. extends cross-island and inner roads to facilitate agricultural and other development
5. is resilient to the impacts of climate change

Further information on each project can be found in the Project Outlines in Part 4.

Table P 7 – Road and Pedestrian Facilities Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
RD/1	Rehabilitate/Resurface Primary Road - Phase 1	4,500,000	1/2	9.6
RD/2	Rehabilitate/Resurface Primary Road - Phase 2	4,500,000	2/3	9.6
RD/3	Improve Shoulders and Drainage on Primary Road	1,000,000	1	9.6
RD/4	Upgrade Unsealed Secondary Roads - Phase 1	13,500,000	1/2/3	9.8
RD/5	Rehabilitate/Resurface Secondary Roads - Phase 1	3,240,000	1/2	9.6
RD/6	Rehabilitate/Resurface Secondary Roads - Phase 2	3,240,000	2/3	9.6
RD/7	Improve Primary and Secondary Road Bridges	12,000,000	1/2/3	9.6
RD/8	Provide Pedestrian Safety Facilities	1,000,000	1/2	7.6
RD/9	Provide Road between Dehpehk and Takaieu	2,000,000	1/2	9.3
Total Funding Required		44,980,000		

3.2.5 Maritime Transportation

The Pohnpei Port Authority, responsible for operation of Pohnpei Port at Dekehtik and navigational aids throughout the State, will implement a number of projects in support of the current Pohnpei Port Project including harbor clearance and security and safety improvement as well as improvements to navigational aids around Pohnpei and outer islands.

The maritime transportation projects in the Pohnpei IDP are listed in Table P 8 and support elements of the sector goal to provide maritime transportation infrastructure that:

1. enables market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. provides improved dock facilities to meet both fisheries and commercial shipping needs
3. facilitates modern, safe and efficient inter-state and inter-island passenger and cargo vessels
4. coordinates and facilitates the improvement of aids to navigation

Further information on each project can be found in the Project Outlines in Part 4.

Table P 8 – Maritime Transportation Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
MT/1	Pohnpei Port - Dredging of Channel & Anchorage	1,200,000	1	8.0
MT/2	Improve Navigational Aids - Pohnpei & Outer Islands	250,000	1	7.8
MT/3	Improve Port Precinct Lighting and Fencing	100,000	1	5.3
MT/4	Provide Floating Dock/Work Platform	150,000	1	3.8
MT/5	Remove Sunken Vessels	5,000,000	1	6.0
Total Funding Required		6,700,000		

3.2.6 Air Transportation

The Pohnpei Port Authority, responsible for operation of Pohnpei Airport at Dekehtik, will continue to improve facilities and safety and security at the airport.

Improvements to the outer island airstrips are part of the overall program jointly prepared by DTCl the Department of Transportation and Infrastructure.

The air transportation projects in the Pohnpei IDP are listed in Table P 9 and support the sector goal to provide air transportation infrastructure that:

1. provides adequate air transportation facilities and services in terms of condition, frequency, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country
2. enables air carrier airports to improve safety and eliminate payload restrictions
3. improves all domestic airports to the required standards of safety

Further information on each project can be found in the Project Outlines in Part 4.

Table P 9 – Air Transportation Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
AT/1	Extend Cargo Storage Facilities	200,000	2	7.6
AT/2	Pingelap Airstrip Improvements	85,000	1	6.9
AT/3	Mokil Airstrip Improvements	65,000	1	6.9
AT/4	Sapwuahfik Airstrip Improvements	289,000	1	6.9
Total Funding Required		639,000		

3.2.7 Education

The Department of Education is responsible for Pohnpei’s public education infrastructure, excluding the College of Micronesia. The priority projects in the Pohnpei IDP have been selected based on the Chuuk State School Facility Repair and Construction Master Plan³⁴. The elementary school projects in the Pohnpei IDP include schools according to whether the schools:

1. are located on public land (phase 1 schools) or private land (phase 2 schools, and
2. in phase 1 include only renovation works (phase 1a schools) or renovation and construction (phase 1b)

Separate projects will redevelop the Pohnpei Island Central School (PICS) and complete the renovation and construction works at Pohnpei’s other high schools. Other projects will improve sanitary facilities to ensure ongoing schools accreditation and covered gymnasium facilities will be established in each municipality for both school and community use.

The education projects in the Pohnpei IDP are listed in Table P 10 and support the sector goal to provide education infrastructure that:

1. ensures that the learning experience is enhanced and diversified
2. improves student and faculty interest and morale, and thereby improves the effectiveness of education and significantly increases the student retention rates through graduation from elementary or secondary schools
3. removes constraints on the availability of high school education for all graduates of elementary school, and to provide an array of post-secondary education opportunities for all high school graduates who seek further education
4. continues to assist and strengthen private educational institutions to the nation
5. is supported by facilities improvement programs that address the need for maintenance, renovation and construction of new facilities to support quality student instruction
6. is supported by equipment maintenance guidelines
7. is resilient to potential natural disasters and the impacts of climate change

Further information on each project can be found in the Project Outlines in Part 4.

³⁴ (Aloterre Consulting, 2012p) - Pohnpei State School Facility Repair and Construction Master Plan

Table P 10 – Education Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
ED/1	Elementary Schools Phase 1a	24,159,000	1/2	8.9
ED/2	Elementary Schools Phase 1b	10,703,000	1/2	8.9
ED/3	Elementary Schools Phase 2	4,205,000	3	8.9
ED/4	High Schools Phase 1	10,059,000	1	8.9
ED/5	High Schools Phase 2	19,800,000	1/2/3	8.9
ED/6	School Sanitary Facilities	900,000	1	9.3
ED/7	Covered Gymnasium Facilities in all Municipalities	3,300,000	1	7.6
Total Funding Required		73,126,000		

3.2.8 Health

The Department of Health will continue to improve the healthcare available to Pohnpei's citizens through a number of projects in the Pohnpei IDP. Within the central healthcare precinct the Primary Healthcare Facility will be redeveloped and the State Hospital will be extended to provide diagnostic and critical care services that are currently not available to citizens and visitors. Other projects will improve health services away from Kolonia and in the outer islands and health support services.

The health projects in the Pohnpei IDP are listed in Table P 11 and support elements of the sector goal to provide health infrastructure that:

1. provides modern and efficient hospital facilities to meet the health needs of the nation
2. facilitates an upgraded the curative health system to minimize the needs for referrals to foreign medical facilities
3. provides health care facilities within reasonable access of all citizens
4. has facilities improvement programs that address the need for maintenance, renovation and construction of new facilities
5. has adequate funds for maintenance to prevent rapid deterioration of facilities
6. is resilient to potential natural disasters and the impacts of climate change

Further information on each project can be found in the Project Outlines in Part 4.

Table P 11 – Health Priority Project

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
HE/1	Pohnpei Primary Healthcare Facility	5,500,000	1	8.7
HE/2	State Diagnostic Center	3,700,000	1/2	9.1
HE/3	State Critical Care Unit	1,500,000	1/2	9.1
HE/4	Improve Electric Power Efficiency and Reliability	1,800,000	1	9.3
HE/5	Renovate State Hospital Air Conditioning System	100,000	1	8.9
HE/6	Improve Ambulance Services	200,000	1	5.6
HE/7	Convert Dispensaries into Health Centers	1,000,000	1/2	8.7

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
HE/8	Improve Outer Island Dispensaries	1,000,000	1/2	8.7
HE/9	Upgrade State Hospital ICT Infrastructure & Services	500,000	1/2	6.2
Total Funding Required		15,300,000		

3.2.9 Government Administrative Buildings

The Department of Transportation and Infrastructure will undertake a program to improve Pohnpei’s government administrative buildings at state and municipal level.

New buildings for the Office of Economic Affairs and the Kolonia Public Market will support tourism and agricultural development. Improvements will also be made to municipal offices and the State Legislature as well as the PUC building.

The government administrative buildings sector projects in the Pohnpei IDP are listed in Table P 12 and support elements of the sector goal to provide government administrative building infrastructure that:

1. provides modern and efficient facilities required for government personnel to effectively undertake their functions
2. provides an environment that enables equipment used by government personnel to be adequately maintained
3. encourages a high morale and work ethic amongst government employees by providing a suitable work environment
4. provides elected officials with suitable office space and chambers in which to conduct their responsibilities

Further information on each project can be found in the Project Outlines in Part 4.

Table P 12 – Government Administrative Buildings Priority Project

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
GB/1	Facilities for Office of Economic Affairs	540,000	1	5.8
GB/2	Pohnpei Public Market	1,200,000	1	8.2
GB/3	Renovate Municipal Offices	1,100,000	1	6.0
GB/4	Renovate Legislature Complex	2,000,000	1	2.9
GB/5	Renovate PUC Building	400,000	1	5.3
Total Funding Required		5,240,000		

3.3 Whole of Life Costs

The costs associated with new infrastructure do not end with purchase or construction. It is one step in the life cycle of an asset that begins with the initial identification of needs through to the disposal of the asset at the end of its useful life. When all these costs are combined, the total may be more than double the cost of the initial purchase/construction price.

The provision of adequate funding for preventative maintenance as part of a whole of life approach to asset management is a key institutional issue for FSM, like other Pacific Island countries.

Estimates of the Pohnpei IDP priority project maintenance costs by sector over a 20 year period are included in Table P 13. Although some assets have a life other than 20 years, this period has been chosen to provide an indication of the maintenance funding required on an annual basis.

The annual percentage maintenance cost and the asset life factors can be found in Table 14 in Volume 1, Part 6, section 6.2 of the IDP.

Table P 13 – Pohnpei IDP 20 Year Maintenance Costs

Sector	20 Year Costs (\$)		B / A	Annual Maintenance Cost (\$)
	Construction (A)	Maintenance (B)		
Electric Power	58,472,000	33,097,000	57%	1,655,000
Water/Wastewater Systems	33,754,000	13,502,000	40%	675,000
Solid Waste Management	4,286,000	2,476,000	58%	124,000
Road and Pedestrian Facilities	42,232,000	28,472,000	67%	1,424,000
Maritime Transportation	1,623,000	1,474,000	91%	74,000
Air Transportation	629,000	1,149,000	183%	57,000
Education	68,787,000	34,393,000	50%	1,720,000
Health	14,954,000	12,603,000	84%	630,000
Government Administrative Buildings	4,915,000	2,949,000	60%	147,000
Total	229,652,000	130,115,000	57%	6,506,000

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4.1 Electric Power Projects

Project P 1 – Improve Electric Power Distribution System (EP/1)

Project Title:	Improve Electric Power Distribution System	Sector:	Electric Power						
Project Description/Scope:	Improve Pohnpei’s electric power distribution reliability, security and efficiency by: <ul style="list-style-type: none"> • Providing O&M Vehicles • Primary Pole Replacement • Cross Arm Replacement • Improving CashPower Facility • Improving Metering of 3 Phase Customers 								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	Provide more reliable and secure electric power supply to consumers on a fair and equitable basis								
Project Justification:	Current electric power needs to be more reliable and secure and revenue collection needs to be maximized								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	5	3	4	5	5	9.1
Project Status:	Concept								
Inclusions:	Additional distribution poles and lines								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	5,577,000			

Project P 2 – Renewable Energy Development - Solar Power Phase 1 (EP/2)

Project Title:	Renewable Energy Development - Solar Power Phase 1	Sector:	Electric Power						
Project Description/Scope:	Increase the contribution of renewable energy to Pohnpei’s electric power needs by developing an initial 2MW of solar photo-voltaic electric power generation and associated storage at the State Solar Power Facility								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	Reduce Pohnpei’s reliance on imported fuel for electric power generation and achieve a minimum 30 percent of electric power from renewable sources by 2020								
Project Justification:	Target of at least 30 percent of electric power from renewable sources by 2020								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	5	5	3	5	5	9.3
Project Status:	Concept: public land has been set aside for at least 10MW of solar electric power generation								
Inclusions:	Solar PV generation with energy storage and connection to the Pohnpei grid								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	1,000,000				Estimated Construction Costs \$:	9,000,000			

Project P 3 – Renewable Energy Development - Solar Power Phase 2 (EP/3)

Project Title:	Renewable Energy Development - Solar Power Phase 2	Sector:	Electric Power						
Project Description/Scope:	Increase the contribution of renewable energy to Pohnpei’s electric power needs by developing an additional 6MW of solar photo-voltaic electric power generation and associated storage at the State Solar Power Facility								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	Reduce Pohnpei’s reliance on imported fuel for electric power generation and achieve a minimum 30 percent of electric power from renewable sources by 2020								
Project Justification:	Target of at least 30 percent of electric power from renewable sources by 2020								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	5	5	3	5	5	9.3
Project Status:	Concept: public land has been set aside for at least 10MW of solar electric power generation								
Inclusions:	Solar PV generation with energy storage and connection to the Pohnpei grid								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	1,000,000				Estimated Construction Costs \$:	29,000,000			

Project P 4 – Renewable Energy Development - Hydro Power Phase 1 (EP/4)

Project Title:	Renewable Energy Development - Hydro Power Phase 1	Sector:	Electric Power						
Project Description/Scope:	Increase the contribution of renewable energy to Pohnpei’s electric power needs by developing an further 2MW of hydro-electric power generation								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	Reduce Pohnpei’s reliance on imported fuel for electric power generation and achieve a minimum 30 percent of electric power from renewable sources by 2020 and increase diversity in sources								
Project Justification:	Target of at least 30 percent of electric power from renewable sources by 2020								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	5	5	4	5	5	9.6
Project Status:	Concept: hydro power potential of at least 10MW has been identified								
Inclusions:	Hydro-electric power generation, including water diversion and power house								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	1,600,000				Estimated Construction Costs \$:	14,400,000			

Project P 5 – Outer Island Micro Grid Expansion – Phase 1 (EP/5)

Project Title:	Outer Island Micro Grid Expansion – Phase 1	Sector:	Electric Power						
Project Description/Scope:	Make electric power available to additional communities on outer islands by establishing micro-grids that largely utilize solar PV								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	To provide electric power to outer island communities								
Project Justification:	Outer island communities do not have access to electric power								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	4	4	4	5	5	3	2	1	6.9
Project Status:	Concept								
Inclusions:	Electric power generation facility and connection to community, business and private premises								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition Community does not take responsibility for micro grid operation and/or receives no technical support								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	500,000			

Project P 6 – Outer Island Micro Grid Expansion – Phase 2 (EP/6)

Project Title:	Outer Island Micro Grid Expansion – Phase 2	Sector:	Electric Power						
Project Description/Scope:	Make electric power available to additional communities on outer islands by establishing micro-grids that largely utilize solar PV								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	To provide electric power to outer island communities								
Project Justification:	Outer island communities do not have access to electric power								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	4	4	4	5	5	3	2	1	6.9
Project Status:	Concept								
Inclusions:	Electric power generation facility and connection to community, business and private premises								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition Community does not take responsibility for micro grid operation and/or receives no technical support								
Estimated Planning & Design Costs \$:	included in construction costs					Estimated Construction Costs \$:	500,000		

4.2 Water/Wastewater System Projects

Project P 7 – Extend Water Distribution System - COM to Diadi (WW/1)

Project Title:	Extend Water Distribution System - COM to Diadi	Sector:	Water/Wastewater Systems
Project Description/Scope:	Extend the western side distribution system from the COM to Diadi towards the midway point at NMS		
Agencies Responsible:	Pohnpei Utilities Corporation		
Project Objectives/Outcomes:	Provide extended areas of Pohnpei with reliable, safe, secure and financially viable water supply		
Project Justification:	Areas of Pohnpei do not have access to a public water supply		
Strategic Alignment			
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services
5	5	5	5
Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies
5	5	5	5
Improve financial sustainability of infrastructure			Strategic Rating (out of 10)
5			10.0
Project Status:	Designed		
Inclusions:	As per other water distribution extension projects		
Exclusions:	To be managed during implementation		
Risks & Dependencies:	To be managed during implementation		
Estimated Planning & Design Costs \$:	Design funded pre FY2016	Estimated Construction Costs \$:	6,380,000

Project P 8 – Extend Water Distribution System - Diadi to NMS (WW/2)

Project Title:	Extend Water Distribution System- Diadi to NMS	Sector:	Water/Wastewater Systems
Project Description/Scope:	Extend the western side distribution system from the end of the current phase to the midway point at NMS		
Agencies Responsible:	Pohnpei Utilities Corporation		
Project Objectives/Outcomes:	Provide extended areas of Pohnpei with reliable, safe, secure and financially viable water supply		
Project Justification:	Areas of Pohnpei do not have access to a public water supply		
Strategic Alignment			
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services
5	5	5	5
Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies
5	5	5	5
Improve financial sustainability of infrastructure			Strategic Rating (out of 10)
5			10.0
Project Status:	Concept		
Inclusions:	As per other water distribution extension projects		
Exclusions:	To be assessed as part of scope definition		
Risks & Dependencies:	To be assessed as part of scope definition		
Estimated Planning & Design Costs \$:	200,000	Estimated Construction Costs \$:	2,000,000

Project P 9 – Extend Water Distribution System - KinaKapw to Lehn Diadi (WW/3)

Project Title:	Extend Water Distribution System - KinaKapw to Lehn Diadi	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Extend the eastern side distribution system from KinaKapw to Lehn Diadi towards the midway point at NMS								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	Provide extended areas of Pohnpei with reliable, safe, secure and financially viable water supply								
Project Justification:	Areas of Pohnpei do not have access to a public water supply								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	5	5	5	5	10.0
Project Status:	Designed								
Inclusions:	As per design								
Exclusions:	To be managed during implementation								
Risks & Dependencies:	To be managed during implementation								
Estimated Planning & Design Costs \$:	Completed		Estimated Construction Costs \$:	8,000,000					

Project P 10 – Develop New Surface Water Supply Sources (WW/4)

Project Title:	Develop New Surface Water Supply Sources	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Develop additional surface water sources to meet the water supply needs in extension areas of Pohnpei								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	Provide extended areas of Pohnpei with reliable, safe, secure and financially viable water supply								
Project Justification:	Current water sources do not have the capacity to meet the needs of extension areas								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	5	5	5	5	10.0
Project Status:	Concept								
Inclusions:	Stream diversion and water collection, connection into the water supply system								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	150,000		Estimated Construction Costs \$:	1,350,000					

Project P 11 – Develop New Sub-Surface Water Supply Sources (WW/5)

Project Title:	Develop New Sub-Surface Water Supply Sources					Sector:	Water/Wastewater Systems			
Project Description/Scope:	Develop additional sub-surface water sources to meet the water supply needs in extension areas of Pohnpei									
Agencies Responsible:	Pohnpei Utilities Corporation									
Project Objectives/Outcomes:	Provide extended areas of Pohnpei with reliable, safe, secure and financially viable water supply									
Project Justification:	Current water sources do not have the capacity to meet the needs of extension areas									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	5	5	5	5	10.0	
Project Status:	Concept									
Inclusions:	Well establishment and connection to the water supply system									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	200,000				Estimated Construction Costs \$:	1,800,000				

Project P 12 – Improve Water Supply Distribution - Phase 1 (WW/6)

Project Title:	Improve Water Supply Distribution - Phase 1					Sector:	Water/Wastewater Systems			
Project Description/Scope:	Improve the water distribution system, including: <ul style="list-style-type: none"> • Various improvements incl. galvanized pipe replacement & well improvements • Various improvements incl. Palikir upgrade to 4" • Nanpil Dam Improvements • Water Treatment Plant Improvements • MO Plant Improvements • All customers have cash powered meters 									
Agencies Responsible:	Pohnpei Utilities Corporation									
Project Objectives/Outcomes:	Provide safe, reliable, financially viable water supply within the Pohnpei water supply system									
Project Justification:	Range of water supply system components identified as requiring improvement on a priority basis									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	5	5	5	5	10.0	
Project Status:	Scoped									
Inclusions:	As set out in PUC scoping report									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	400,000				Estimated Construction Costs \$:	8,243,000				

Project P 13 – Connect Sokehs Island to Kolonia Wastewater Treatment Plant (WW/7)

Project Title:	Connect Sokehs Island to Kolonia Wastewater Treatment Plant	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Provide a sewer around Sokehs Island and connect it to the Kolonia Sewerage Treatment Plant								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	Provide a safe reliable sewerage collection system for Sokehs Island								
Project Justification:	Existing sewage disposal methods cause environmental and health risks								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	5	5	5	5	10.0
Project Status:	Concept								
Inclusions:	Collection sewer on Sokehs Island and connection to the system in Kolonia								
Exclusions:	Building connections into the collection sewer								
Risks & Dependencies:	To be assessed as part of scope definition Residents and others do not connect into the sewer								
Estimated Planning & Design Costs \$:	150,000				Estimated Construction Costs \$:	2,850,000			

Project P 14 – Improve Existing Wastewater System (WW/8)

Project Title:	Improve Existing Wastewater System	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Improve the collection sewers and building connections within the existing wastewater system, particularly in Kolonia Town								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	Provide a safe, reliable, effective and efficient wastewater system within the currently sewered area of Pohnpei								
Project Justification:	Sections of the collection system are in need of replacement and the condition of building connections allows the infiltration of considerable storm water that affects the operation of the Wastewater Treatment Plant – if storm water infiltration is not reduced the capacity of the treatment plant may not be adequate to take sewerage from extension areas								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	5	5	5	5	10.0
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	1,900,000			

Project P 15 – Improve Water Supply in Outer Islands (WW/9)

Project Title:	Improve Water Supply in Outer Islands	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Improve the water supply on Outer Islands by: <ul style="list-style-type: none"> in areas with reliable rainfall, providing improved rainwater collection and storage systems with basic but effective filtration in areas without reliable rainfall, providing alternative solutions such as solar powered micro desalination and storage systems 								
Agencies Responsible:	Pohnpei Utilities Corporation								
Project Objectives/Outcomes:	Provide Outer Island communities with reliable water supplies								
Project Justification:	Current water supplies that are dependent on rainwater collection can be unreliable and poor quality Ground water depletion is a growing concern in some communities								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	4	4	4	4	5	5	2	1	7.1
Project Status:	Concept								
Inclusions:	Provide reliable water supplies to Outer Island communities								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition Operation of the systems, particularly the micro desalination plants and periodic replacement of filters								
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	1,900,000			

4.3 Solid Waste Management Projects

Project P 16 – Improve Management/Operation of Dekehtik Site - Phase 1 (SW/1)

Project Title:	Improve Management/Operation of Dekehtik Site - Phase 1	Sector:	Solid Waste Management						
Project Description/Scope:	In lieu of relocating Pohnpei’s solid waste management site from Dekehtik, improve the management and operation of the site, including: <ul style="list-style-type: none"> improving the site berms and other containment improving the effectiveness of the Fukuoka method and management of leachates rehabilitating areas that have been filled to capacity providing facilities for separating and storing recyclables providing facilities for separating and safely storing hazardous waste, particularly used oil 								
Agencies Responsible:	EPA (with Pohnpei Waste Management Services)								
Project Objectives/Outcomes:	Improve the environmental conditions and solid waste management facilities at the Dekehtik site								
Project Justification:	The current solid waste management site is adequate for Pohnpei’s needs in at least the medium term, however the environmental conditions and facilities for separation and storage of recyclables and hazardous wastes need to be improved								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	4	5	3	1	5	3	5	4	7.6
Project Status:	Concept								
Inclusions:	Solid waste management center that is compliant with all environmental regulations & standards and minimizes the amount of solid waste going to landfill								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	2,500,000			

Project P 17 – Improve Management/Operation of Dekehtik Site - Phase 2 (SW/2)

Project Title:	Improve Management/Operation of Dekehtik Site - Phase 2	Sector:	Solid Waste Management						
Project Description/Scope:	Continue the proper management and operation of the site as additional disposal areas are required, including: <ul style="list-style-type: none"> • extending the site berms and other containment • implementing the Fukuoka method leachate management in additional disposal areas • rehabilitating areas that have been filled to capacity • maintaining facilities for separating and storing recyclables • maintaining facilities for separating and safely storing hazardous waste, particularly used oil 								
Agencies Responsible:	EPA (with Pohnpei Waste Management Services)								
Project Objectives/Outcomes:	Improve the environmental conditions and solid waste management facilities at the Dekehtik site								
Project Justification:	The current solid waste management site is adequate for Pohnpei’s needs in at least the medium term, however the environmental conditions and facilities for separation and storage of recyclables and hazardous wastes need to be maintained as additional disposal areas are developed								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	4	5	3	1	5	3	5	4	7.6
Project Status:	Concept								
Inclusions:	Solid waste management center that is compliant with all environmental regulations & standards and minimizes the amount of solid waste going to landfill								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	1,500,000			

Project P 18 – Improve Solid Waste Collection and Transport (SW/3)

Project Title:	Improve Solid Waste Collection and Transport	Sector:	Solid Waste Management						
Project Description/Scope:	Improve the collection and transport of solid waste in current areas and extend to other areas on Pohnpei by: <ul style="list-style-type: none"> • establishing solid waste transfer facilities that include separation of recyclables and hazardous wastes • providing appropriate vehicles to transport solid wastes to the Dekehtik disposal site 								
Agencies Responsible:	EPA (with Pohnpei Waste Management Services)								
Project Objectives/Outcomes:	Improve the proportion of solid waste that is collected and transported to the Dekehtik site Improve the proportion of recyclables that are separated at the point of collection								
Project Justification:	There are currently no purpose-built solid waste collection facilities and some municipalities do not have any effective collection and transport arrangements								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	4	5	4	1	5	3	5	4	7.8
Project Status:	Concept								
Inclusions:	Solid waste collection and transport facilities								
Exclusions:	Public education programs								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	500,000			

4.4 Road and Pedestrian Facilities Projects

Project P 19 – Rehabilitate/Resurface Primary Road - Phase 1 (RD/1)

Project Title:	Rehabilitate/Resurface Primary Road - Phase 1		Sector:	Road and Pedestrian Facilities					
Project Description/Scope:	Undertake rehabilitation of 10 percent of the Pohnpei primary road and resurface a further 20 percent								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Maintain the condition of the primary road and reduce future maintenance costs by timely resurfacing the road								
Project Justification:	Sections of the primary road require rehabilitation and others resurfacing to reduce the development of pavement defects								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	4	9.6
Project Status:	Concept								
Inclusions:	Rehabilitation of road pavement and remediation of roadside facilities such as drainage and seawalls Resurfacing of the road, including remediation of pavement defects								
Exclusions:	Realignment or widening of the road								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	4,400,000			

Project P 20 – Rehabilitate/Resurface Primary Road - Phase 2 (RD/2)

Project Title:	Rehabilitate/Resurface Primary Road - Phase 2					Sector:	Road and Pedestrian Facilities			
Project Description/Scope:	Undertake rehabilitation of 10 percent of the Pohnpei primary road and resurface a further 20 percent									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Maintain the condition of the primary road and reduce future maintenance costs by timely resurfacing the road									
Project Justification:	Sections of the primary road require rehabilitation and others resurfacing to reduce the development of pavement defects									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	4	5	5	4	9.6	
Project Status:	Concept									
Inclusions:	Rehabilitation of road pavement and remediation of roadside facilities such as drainage and seawalls Resurfacing of the road, including remediation of pavement defects									
Exclusions:	Realignment or widening of the road									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	4,400,000				

Project P 21 – Improve Shoulders and Drainage on Primary Road (RD/3)

Project Title:	Improve Shoulders and Drainage on Primary Road					Sector:	Road and Pedestrian Facilities			
Project Description/Scope:	Undertake priority shoulder and drainage improvements on the Pohnpei primary road to mitigate future maintenance works									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Eliminate shoulder and drainage problems to reduce the requirement for or scale of future maintenance									
Project Justification:	There are numerous areas where drainage or shoulder conditions contribute to the premature deterioration of the road pavement and accelerate the needs for expensive maintenance treatments									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	4	5	5	4	9.6	
Project Status:	Concept									
Inclusions:	Shoulder and drainage works necessary to reduce the impact on pavement life/condition									
Exclusions:	Works that are not related to pavement condition/life impacts									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	1,000,000				

Project P 22 – Upgrade Unsealed Secondary Roads - Phase 1 (RD/4)

Project Title:	Upgrade Unsealed Secondary Roads - Phase 1						Sector:	Road and Pedestrian Facilities		
Project Description/Scope:	Upgrade around 50 percent (20+ miles) of coral secondary roads to sealed road standard									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Provide secondary roads to sealed road standard and reduce the need to dredge for coral									
Project Justification:	Unsealed coral roads are frequently scoured by Pohnpei’s heavy rainfall and replacement material needs to be dredged and placed – much of this could be avoided by sealing the roads									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	5	5	5	4	9.8	
Project Status:	Concept									
Inclusions:	Formation, pavement and associated drainage works									
Exclusions:	Realignment and utility services									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	1,000,000				Estimated Construction Costs \$:	12,500,000				

Project P 23 – Rehabilitate/Resurface Secondary Roads - Phase 1 (RD/5)

Project Title:	Rehabilitate/Resurface Secondary Roads - Phase 1						Sector:	Road and Pedestrian Facilities		
Project Description/Scope:	Undertake rehabilitation of 10 percent of sealed secondary roads and resurface a further 20 percent									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Maintain the condition of the secondary roads and reduce future maintenance costs by timely resurfacing the roads									
Project Justification:	Sections of the secondary road require rehabilitation and others resurfacing to reduce the development of pavement defects									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	4	5	5	4	9.6	
Project Status:	Concept									
Inclusions:	Rehabilitation of road pavement and remediation of roadside facilities such as drainage and seawalls Resurfacing of the road, including remediation of pavement defects									
Exclusions:	Realignment or widening of the road									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	80,000				Estimated Construction Costs \$:	3,160,000				

Project P 24 – Rehabilitate/Resurface Secondary Roads - Phase 2 (RD/6)

Project Title:	Rehabilitate/Resurface Secondary Roads - Phase 2	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Undertake rehabilitation of 10 percent of sealed secondary roads and resurface a further 20 percent								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Maintain the condition of the secondary roads and reduce future maintenance costs by timely resurfacing the roads								
Project Justification:	Sections of the secondary road require rehabilitation and others resurfacing to reduce the development of pavement defects								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	5	5	4	9.6
Project Status:	Concept								
Inclusions:	Rehabilitation of road pavement and remediation of roadside facilities such as drainage and seawalls Resurfacing of the road, including remediation of pavement defects								
Exclusions:	Realignment or widening of the road								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	80,000				Estimated Construction Costs \$:	3,160,000			

Project P 25 – Improve Primary and Secondary Road Bridges (RD/7)

Project Title:	Improve Primary and Secondary Road Bridges	Sector:	Road and Pedestrian Facilities																																	
Project Description/Scope:	Replace or reconstruct primary and secondary road bridges that are in poor condition or have inadequate width for vehicle and/or pedestrian traffic, including:																																			
	<table border="1"> <thead> <tr> <th>Primary Road Bridges</th> <th>Secondary Road Bridges</th> </tr> </thead> <tbody> <tr><td>Dien (L=30')</td><td>Paies (L=30')</td></tr> <tr><td>Pehleng 1 (L=30')</td><td>Paies (L=50')</td></tr> <tr><td>Pehleng 2 (L=30')</td><td>Peilik 1 (L=30')</td></tr> <tr><td>Sapwehrek (L=35')</td><td>Peilik 2 (L=30')</td></tr> <tr><td>Pahn Meiti (L=15')</td><td>Kepinle (L= 25')</td></tr> <tr><td>Lehnpwus (L=25')</td><td>Ohmine (L=25')</td></tr> <tr><td>Deweneu (L=35')</td><td>Lehpweltik (L=25')</td></tr> <tr><td>Liwi (L=40')</td><td>Senpehn (L=25')</td></tr> <tr><td>Dekehtik (L=30')</td><td>Lukop (L=25')</td></tr> <tr><td>Dekehtik (L=30')</td><td>Kahmar (L=200')</td></tr> <tr><td>Sekere 1 (L= 30')</td><td>Meitik (L=40')</td></tr> <tr><td>Sekere 2 (L= 30')</td><td>Pohras (L=35')</td></tr> <tr><td>Sekere 3 (L= 30')</td><td>Nandaku (L=35')</td></tr> <tr><td>Awak (L=35')</td><td>Sekere Powe 1 (L=15')</td></tr> <tr><td>Saladak 1 (L=25')</td><td>Sekere Powe 2 (L=15')</td></tr> <tr><td>Saladak 2 (L=25')</td><td>Nanwel en Awak (L=15')</td></tr> </tbody> </table>	Primary Road Bridges	Secondary Road Bridges	Dien (L=30')	Paies (L=30')	Pehleng 1 (L=30')	Paies (L=50')	Pehleng 2 (L=30')	Peilik 1 (L=30')	Sapwehrek (L=35')	Peilik 2 (L=30')	Pahn Meiti (L=15')	Kepinle (L= 25')	Lehnpwus (L=25')	Ohmine (L=25')	Deweneu (L=35')	Lehpweltik (L=25')	Liwi (L=40')	Senpehn (L=25')	Dekehtik (L=30')	Lukop (L=25')	Dekehtik (L=30')	Kahmar (L=200')	Sekere 1 (L= 30')	Meitik (L=40')	Sekere 2 (L= 30')	Pohras (L=35')	Sekere 3 (L= 30')	Nandaku (L=35')	Awak (L=35')	Sekere Powe 1 (L=15')	Saladak 1 (L=25')	Sekere Powe 2 (L=15')	Saladak 2 (L=25')	Nanwel en Awak (L=15')	
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Saladak 2 (L=25')	Nanwel en Awak (L=15')																																			
Agencies Responsible:	Department of Transportation & Infrastructure																																			
Project Objectives/Outcomes:	Provide bridges with appropriate width and carrying capacity, including sidewalks for pedestrians																																			
Project Justification:	Many primary and secondary road bridges are substandard and some present particular risks particularly in the vicinity of schools																																			
Strategic Alignment																																				
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)																											
5	5	5	5	5	4	5	5	4	9.6																											
Project Status:	Concept																																			
Inclusions:	Generally replacement of current superstructure with one of appropriate width and side protection																																			
Exclusions:	To be assessed as part of scope definition																																			
Risks & Dependencies:	To be assessed as part of scope definition Condition of substructures and stream channels may require more extensive works than anticipated																																			
Estimated Planning & Design Costs \$:	1,500,000				Estimated Construction Costs \$:	10,500,000																														

Project P 26 – Provide Pedestrian Safety Facilities (RD/8)

Project Title:	Provide Pedestrian Safety Facilities	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Provide sidewalks and other facilities to improve the safety of pedestrians in the vicinity of schools and at other high risk locations, including improvements to parking facilities in high activity areas								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Provide safe conditions for pedestrians in the vicinity of schools and other high risk areas								
Project Justification:	Pedestrians, including children, often have to walk on the road pavement presenting a significant risk to their safety – this risk is higher where pedestrian numbers are high, such as in the vicinity of schools and in high activity areas such as in town and village centers								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	3	4	5	5	3	5	3	7.6
Project Status:	Concept								
Inclusions:	Provision of facilities that improve pedestrian safety in high risk areas including sealed shoulders, sidewalks and improved parking and other facilities								
Exclusions:	Road improvements								
Risks & Dependencies:	To be assessed as part of scope definition Pedestrians do not use improved facilities without education								
Estimated Planning & Design Costs \$:	50,000	Estimated Construction Costs \$:	950,000						

Project P 27 – Provide Road between Dehpehk and Takaieu (RD/9)

Project Title:	Provide Road between Dehpehk and Takaieu	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Provide a sealed road between Dehpehk and Takaieu (approximately 1.5 miles) from the end of the existing island access road								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Provide new/improved road access to the communities between Dehpehk and Takaieu								
Project Justification:	There is no road between Dehpehk and Takaieu								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	3	5	5	4	9.3
Project Status:	Concept								
Inclusions:	New road between Dehpehk and Takaieu								
Exclusions:	Improvements to the road connecting to the primary road								
Risks & Dependencies:	To be assessed as part of scope definition Availability of land								
Estimated Planning & Design Costs \$:	50,000	Estimated Construction Costs \$:	1,950,000						

4.5 Maritime Transportation Projects

Project P 28 – Pohnpei Port - Dredging of Channel & Anchorage (MT/1)

Project Title:	Pohnpei Port - Dredging of Channel & Anchorage					Sector:	Maritime Transportation			
Project Description/Scope:	Undertake essential dredging and hazard removal within the Pohnpei Port channel and anchorage as identified in the 2010 Pohnpei Port Scoping Study									
Agencies Responsible:	Pohnpei Port Authority									
Project Objectives/Outcomes:	Provide a safe channel and anchorage for vessels using Pohnpei Port									
Project Justification:	As set out in the 2010 Pohnpei Port Scoping Study									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	3	2	1	5	5	5	8.0	
Project Status:	Concept									
Inclusions:	Removal and disposal of materials and hazards									
Exclusions:	Removal of abandoned vessels outside of the channel and anchorage area									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	60,000				Estimated Construction Costs \$:	1,140,000				

Project P 29 – Improve Navigational Aids - Pohnpei & Outer Islands (MT/2)

Project Title:	Improve Navigational Aids - Pohnpei & Outer Islands					Sector:	Maritime Transportation			
Project Description/Scope:	Provide necessary navigational aids for the safety of vessels around Pohnpei and the Outer Islands									
Agencies Responsible:	Pohnpei Port Authority									
Project Objectives/Outcomes:	Provide for the safe passage of vessels in the vicinity of islands in Pohnpei State									
Project Justification:	Many marine hazards and channels/passages do not have adequate navigational aids									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
4	4	4	4	4	4	4	5	2	7.8	
Project Status:	Concept									
Inclusions:	Supply and installation of navigational aids for designated hazards, passages and channels									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	250,000				

Project P 30 – Improve Port Precinct Lighting and Fencing (MT/3)

Project Title:	Improve Port Precinct Lighting and Fencing	Sector:	Maritime Transportation						
Project Description/Scope:	Improve lighting and fencing in the Port Precinct (outside of the port improvement project area), including: <ul style="list-style-type: none"> • upgrading lighting and changeover to solar or low energy systems • replacing lengths of ineffective security fencing 								
Agencies Responsible:	Pohnpei Port Authority								
Project Objectives/Outcomes:	Provide a Port Precinct that is safe and secure								
Project Justification:	Current fencing is in poor condition and lighting is inadequate and expensive to operate								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
2	3	2	1	1	4	4	5	2	5.3
Project Status:	Concept								
Inclusions:	Replacement fencing and improved/additional lighting systems								
Exclusions:	Additional fencing								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs		Estimated Construction Costs \$:	100,000					

Project P 31 – Provide Floating Dock/Work Platform (MT/4)

Project Title:	Provide Floating Dock/Work Platform	Sector:	Maritime Transportation						
Project Description/Scope:	Provide a floating dock/work platform that allows equipment and materials to be transported to and used at on-water worksites, including the installation and maintenance of navigational aids								
Agencies Responsible:	Pohnpei Port Authority								
Project Objectives/Outcomes:	Provide the capacity to transport and use appropriate equipment and materials at on-water worksites								
Project Justification:	Currently no capacity to transport and use appropriate equipment and materials at on-water worksites								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
1	2	1	1	1	1	4	4	2	3.8
Project Status:	Concept								
Inclusions:	Floating dock/work platform								
Exclusions:	Additional equipment								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs		Estimated Construction Costs \$:	150,000					

Project P 32 – Remove Sunken Vessels (MT/5)

Project Title:	Remove Sunken Vessels					Sector:	Maritime Transportation			
Project Description/Scope:	Remove abandoned and derelict vessels from with the Pohnpei Port and surrounding areas									
Agencies Responsible:	Pohnpei Port Authority									
Project Objectives/Outcomes:	Improve the safety and amenity of Pohnpei Port and surrounding areas									
Project Justification:	Many vessels around the Pohnpei Port areas are abandoned/derelict and represent hazards and impact on amenity – attempts to have the owners remove the vessels have been unsuccessful									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	3	4	3	1	1	5	2	4	4	6.0
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition Release of contaminants and hazardous materials									
Estimated Planning & Design Costs \$:	50,000					Estimated Construction Costs \$:	4,950,000			

4.6 Air Transportation Projects

Project P 33 – Extend Cargo Storage Facilities (AT/1)

Project Title:	Extend Cargo Storage Facilities	Sector:	Air Transportation						
Project Description/Scope:	Increase the current cargo handling/storage facilities by around 30' x 50'								
Agencies Responsible:	Pohnpei Ports Authority								
Project Objectives/Outcomes:	Provide additional cargo capacity to meet the needs of customers and carriers								
Project Justification:	Existing cargo facility has limited handling and storage capacity								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	3	4	4	2	5	5	5	7.6
Project Status:	Concept								
Inclusions:	Extension of existing cargo facility by around 1500 ft ²								
Exclusions:	Additional cargo handling equipment								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs		Estimated Construction Costs \$:	200,000					

Project P 34 – Pingelap Airstrip Improvements (AT/2)

Project Title:	Pingelap Airstrip Improvements	Sector:	Air Transportation						
Project Description/Scope:	Portions of runway need to be repaved; seawall needs to be immediately restored								
Agencies Responsible:	Department of Transportation & Infrastructure								
Project Objectives/Outcomes:	Improve the airstrip safety								
Project Justification:	Airstrip has identified safety concerns								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	2	3	5	5	2	5	4	2	6.9
Project Status:	Scoped								
Inclusions:	To be developed in the design stage								
Exclusions:	Extension of airstrip to 3,000' (required for prospective aircraft)								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	included in construction costs		Estimated Construction Costs \$:	85,000					

Project P 35 – Mokil Airstrip Improvements (AT/3)

Project Title:	Mokil Airstrip Improvements						Sector:	Air Transportation		
Project Description/Scope:	Portions of runway need to be resurfaced; seawall needs to be improved									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Improve the airstrip safety									
Project Justification:	Airstrip has identified safety concerns									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	2	3	5	5	2	5	4	2	6.9	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	Extension of airstrip to 3,000' (required for prospective aircraft)									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	65,000				

Project P 36 – Sapwuahfik Airstrip Improvements (AT/4)

Project Title:	Sapwuahfik Airstrip Improvements						Sector:	Air Transportation		
Project Description/Scope:	Runway needs resurfacing due to severe cracks, and riprap to protect its edges from strong current									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Improve the airstrip safety									
Project Justification:	Airstrip has identified safety concerns									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	2	3	5	5	2	5	4	2	6.9	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	Reconstruction of the airstrip on or near land and extension of airstrip to 3,000' (required for prospective aircraft)									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	289,000				

4.7 Education Projects

Project P 37 – Elementary Schools Phase 1a (ED/1)

Project Title:	Elementary Schools Phase 1a		Sector:	Education						
Project Description/Scope:	Implement the Pohnpei School Master Plan for Phase 1a Elementary Schools (those on public land and only requiring renovation works), including:									
	MP ID	School	MP Priority	Cost Estimate						
	3	Lukop Elementary School	1	2,213,000						
	4	Palikir Elementary School	11	4,157,000						
	7	Enipein Elementary School	3	1,076,000						
	9	Mand Elementary School	8	343,000						
	11	Awak Elementary School	12	2,445,000						
	12	Kapingamarangi Elementary School	14	628,000						
	13	RSP Elementary School	17	335,000						
	16	Sapwuaifik Elementary School	24	652,000						
	17	Pakein Elementary School	25	227,000						
	18	Pingelap Elementary School	27	227,000						
	19	Sekere Elementary School	30	1,443,000						
	20	Temwen Elementary School	31	250,000						
	22	Sapwalap Elementary School	10	164,000						
	23	ESDM Elementary School	15	252,000						
	24	Nett Elementary School	16	2,327,000						
	25	Ohmine Elementary School	18	3,307,000						
	26	Saladak Elementary School	21	1,250,000						
	27	Kolonia Elementary School	4	2,863,000						
	Agencies Responsible:	Department of Education								
	Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes								
	Project Justification:	As detailed in Pohnpei Schools Master Plan								
	Strategic Alignment									
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	5	5	5	4	5	3	5	5	3	8.9
	Project Status:	Scoped: Master Plan & Detailed Engineering Assessments								
Inclusions:	Fencing and other school facilities									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	2,400,000				Estimated Construction Costs \$:	21,759,000				

Project P 38 – Elementary Schools Phase 1b (ED/2)

Project Title:	Elementary Schools Phase 1b		Sector:	Education					
Project Description/Scope:	Implement the Pohnpei School Master Plan for Phase 1b Elementary Schools (those on public land and requiring both renovation and construction works), including:								
	MP ID	School	MP Priority	Cost Estimate					
	2	Wone Elementary School	13	2,530,000					
	5	Sokehs Powe Elementary School	19	2,936,000					
	6	Salapwuk Elementary School	2	532,000					
	8	Nanpei Memorial Elementary School	6	663,000					
	10	Wapar Elementary School	9	256,000					
	14	Parem Elementary School	19	813,000					
	15	Rohi Elementary School	20	1,955,000					
	21	Mwoakilloa Elementary School	7	1,018,000					
Comments	New 8 classroom block								
	New 8 classroom block								
	New 4 classroom block								
	New ECE facility								
	New ECE facility								
	New 8 classroom block								
	New office & library required								
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes								
Project Justification:	As detailed in Pohnpei Schools Master Plan								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	5	3	5	5	3	8.9
Project Status:	Scoped: Master Plan & Detailed Engineering Assessments								
Inclusions:	Fencing and other school facilities								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	746,000		Estimated Construction Costs \$:	9,957,000					

Project P 39 – Elementary Schools Phase 2 (ED/3)

Project Title:	Elementary Schools Phase 2					Sector:	Education			
Project Description/Scope:	Implement the Pohnpei School Master Plan for Phase 2 Elementary Schools (those on private or disputed), including:									
	MP ID	School			MP Priority	Cost Estimate	Comments			
	28	Pehleng Elementary School			5	3,101,000	New 8 classroom block			
	29	Seinwar Elementary School			23	795,000	Includes new toilet facilities			
	30	Nukuoro Elementary School			26	309,000				
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes									
Project Justification:	As detailed in Pohnpei Schools Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	4	5	3	5	5	3	8.9	
Project Status:	Scoped: Master Plan & Detailed Engineering Assessments									
Inclusions:	Fencing and other school facilities									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	250,000				Estimated Construction Costs \$:	3,955,000				

Project P 40 – High Schools Phase 1 (ED/4)

Project Title:	High Schools Phase 1	Sector:	Education						
Project Description/Scope:	Implement the Pohnpei School Master Plan for Phase 1 High Schools including:								
	School	Cost Estimate							
	Madolenihmw High/Elementary School	4,148,000							
	PICS High School - Phase 1	2,500,000							
	Nanpei Memorial High School	1,347,000							
	Pohnlanges Elementary/High School	1,064,000							
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes								
Project Justification:	As detailed in Pohnpei Schools Master Plan								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	5	3	5	5	3	8.9
Project Status:	Scoped: Master Plan & Detailed Engineering Assessments								
Inclusions:	All works required by transfer of High & Elementary School facilities at Madolenihmw/Pohnlanges, Fencing and other school facilities								
Exclusions:	Existing Design Grants								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	1,000,000		Estimated Construction Costs \$: 9,059,000						

Project P 41 – High Schools Phase 2 (ED/5)

Project Title:	High Schools Phase 2	Sector:	Education						
Project Description/Scope:	Plan and implement the redevelopment of Pohnpei Island Central School (PICS)								
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes								
Project Justification:	As proposed in Pohnpei Schools Master Plan								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	5	3	5	5	3	8.9
Project Status:	Scoped								
Inclusions:	Master plan, design and construction of a redeveloped PICS								
Exclusions:	Currently planned classroom block								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	3,000,000		Estimated Construction Costs \$: 16,800,000						

Project P 42 – School Sanitary Facilities (ED/6)

Project Title:	School Sanitary Facilities	Sector:	Education						
Project Description/Scope:	Provide toilet and drinking water facilities at 9 schools that are currently without such facilities								
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide safe, sanitary toilet and drinking water facilities for students and teachers								
Project Justification:	No suitable toilet and drinking water facilities at these schools								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	5	5	5	5	3	9.3
Project Status:	Concept								
Inclusions:	Connection to available sewer or provision of septic tank with leaching field Connection to available water supply or provision of rainwater collection, storage & filtering system								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	900,000			

Project P 43 – Covered Gymnasium Facilities in all Municipalities (ED/7)

Project Title:	Covered Gymnasium Facilities in all Municipalities	Sector:	Education						
Project Description/Scope:	Provide a covered gymnasium facility at a designated school in each municipality to provide an events, activity and sports facility for the community in general and youths in particular								
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide a central facility for the community and particularly youths to participate in activities and sports								
Project Justification:	Municipalities are lacking having multi-purpose a facility for community events and activities and for youths in engage in sporting activities								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	4	4	4	3	5	5	3	7.6
Project Status:	Concept								
Inclusions:	Paved area with covering that is suitable for school and community events, activities and sports								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition Facilities are not utilized or not appropriately used by the community								
Estimated Planning & Design Costs \$:	300,000				Estimated Construction Costs \$:	3,000,000			

4.8 Health Projects

Project P 44 – Pohnpei Primary Healthcare Facility (HE/1)

Project Title:	Pohnpei Primary Healthcare Facility						Sector:	Health		
Project Description/Scope:	Provide the Pohnpei Primary Healthcare facility as currently designed									
Agencies Responsible:	Department of Health Services / PMU									
Project Objectives/Outcomes:	Provide improved primary healthcare facilities and services, including dental									
Project Justification:	Current primary healthcare facilities no longer meet the needs of DoHS or the community									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	3	5	5	4	5	5	3	8.7	
Project Status:	Designed: Design practically complete									
Inclusions:	Furniture, fittings & equipment									
Exclusions:	To be managed during implementation									
Risks & Dependencies:	To be managed during implementation									
Estimated Planning & Design Costs \$:	Design funded pre FY2016				Estimated Construction Costs \$:	5,500,000				

Project P 45 – State Diagnostic Center (HE/2)

Project Title:	State Diagnostic Center						Sector:	Health		
Project Description/Scope:	Construct and equip a diagnostic center (approx. 40' x 50') that provides Pohnpei citizens and visitors with modern diagnostic facilities									
Agencies Responsible:	Department of Health Services									
Project Objectives/Outcomes:	Provide Pohnpei citizens and visitors with modern diagnostic facilities									
Project Justification:	Modern diagnostic facilities are not available to the majority (~80 percent) of Pohnpei citizens									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	3	5	5	4	5	5	5	9.1	
Project Status:	Concept									
Inclusions:	Building annex adjacent to emergency and theater, diagnostic equipment including CT scanner and ultrasound, necessary radiation protection									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	200,000				Estimated Construction Costs \$:	3,500,000				

Project P 46 – State Critical Care Unit (HE/3)

Project Title:	State Critical Care Unit					Sector:	Health			
Project Description/Scope:	Construct and equip a critical unit “ICU” with 2 beds and staff station) that provides Pohnpei citizens and visitors with a modern critical care facility									
Agencies Responsible:	Department of Health Services									
Project Objectives/Outcomes:	Provide Pohnpei citizens and visitors with modern critical care facilities									
Project Justification:	Critical care unit not currently available at the State Hospital									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	3	5	5	4	5	5	5	9.1	
Project Status:	Concept									
Inclusions:	Building annex adjacent to emergency and theater, critical care facilities and equipment									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	75,000				Estimated Construction Costs \$:	1,425,000				

Project P 47 – Improve Electric Power Efficiency and Reliability (HE/4)

Project Title:	Improve Electric Power Efficiency and Reliability					Sector:	Health			
Project Description/Scope:	Improve the State hospital’s electric power efficiency and reliability by: <ul style="list-style-type: none"> on-site installation of solar PV generation, reducing costs and reliance on external power particularly during emergencies changing over existing lighting and electrical equipment for energy efficient alternatives 									
Agencies Responsible:	Department of Health Services									
Project Objectives/Outcomes:	Increase the proportion of funds available for health services and rely less on external electric power particularly in emergency events									
Project Justification:	Electric power is a significant drain on the overall health services budget and the hospital is largely reliant on external power that is vulnerable to disruption									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	3	5	5	5	5	5	5	9.3	
Project Status:	Concept									
Inclusions:	Solar PV sufficient for the daily needs of the hospital and changeover of inefficient lighting and electrical equipment									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	90,000				Estimated Construction Costs \$:	1,710,000				

Project P 48 – Renovate State Hospital Air Conditioning System (HE/5)

Project Title:	Renovate State Hospital Air Conditioning System					Sector:	Health			
Project Description/Scope:	Replace the existing Freon-based air conditioning system and renovate ducting and outlets to improve cooling efficiency and air quality									
Agencies Responsible:	Department of Health Services									
Project Objectives/Outcomes:	Provide efficient and clean air conditioning to areas that require it and comply with current regulations for such systems									
Project Justification:	Current air conditioning system is Freon-based and efficiency and air quality needs to be improved									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	3	5	5	3	5	5	5	8.9	
Project Status:	Concept									
Inclusions:	Replacement of chiller units and renovation of ducting and outlets									
Exclusions:	Extension of the system to additional areas not requiring air conditioning									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	100,000				

Project P 49 – Improve Ambulance Services (HE/6)

Project Title:	Improve Ambulance Services					Sector:	Health			
Project Description/Scope:	Provide two new fully equipped ambulances for the proper care of patients requiring treatment at the State Hospital									
Agencies Responsible:	Department of health Services									
Project Objectives/Outcomes:	Provide appropriate care for patients requiring transfer to the State Hospital for treatment									
Project Justification:	The only equipped ambulance is expensive to operate, unreliable and not able to be properly maintained locally									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
1	1	1	5	3	2	5	5	2	5.6	
Project Status:	Concept									
Inclusions:	Fully equipped ambulances with a supply of replacement equipment and consumables									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	200,000				

Project P 50 – Convert Dispensaries into Health Centers (HE/7)

Project Title:	Convert Dispensaries into Health Centers						Sector:	Health		
Project Description/Scope:	Convert two dispensaries to Health Center standard (overnight accommodation, laboratory facilities) by: <ul style="list-style-type: none"> improving the facilities at one dispensary to Health Center standard renovating one dispensary and equipping it as a Health Center 									
Agencies Responsible:	Department of Health Services									
Project Objectives/Outcomes:	Provide a higher standard of health care at locations other than the State Hospital									
Project Justification:	Larger populations remote from the State Hospital require higher standards of health care within their local area									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	4	5	5	3	5	5	3	8.7	
Project Status:	Concept									
Inclusions:	Bringing two dispensaries up to Health Center standard, including building works and furniture, fittings and equipment									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	900,000				

Project P 51 – Improve Outer Island Dispensaries (HE/8)

Project Title:	Improve Outer Island Dispensaries						Sector:	Health		
Project Description/Scope:	Renovate and renew the facilities at 5 Outer Island dispensaries									
Agencies Responsible:	Department of Health Services									
Project Objectives/Outcomes:	Provide a basic level of health care in Outer Island communities									
Project Justification:	Outer Island facilities are not currently meeting the needs of their communities due to their condition and/or available facilities									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	4	5	5	3	5	5	3	8.7	
Project Status:	Concept									
Inclusions:	Improvement of the buildings and facilities at Outer Island dispensaries									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	900,000				

Project P 52 – Upgrade State Hospital ICT Infrastructure & Services (HE/9)

Project Title:	Upgrade State Hospital ICT Infrastructure & Services	Sector:	Health						
Project Description/Scope:	Upgrade the State Hospital’s ICT infrastructure and services, including: <ul style="list-style-type: none"> • providing centralized and redundant storage for all health information, including patient records, digital imaging, pharmacy records, staff records, purchasing records • centralizing health system servers and communications infrastructure • connection of existing systems into the new infrastructure • renewing the local ICT network to meet future needs for ICT throughout the hospital, including communications and security systems 								
Agencies Responsible:	Department of Health Services								
Project Objectives/Outcomes:	Provide the core ICT infrastructure and services to facilitate increased use of ICT in delivering health services								
Project Justification:	Current health IT systems are not integrated and health records are at risk of being lost								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
1	3	1	5	5	2	3	5	3	6.2
Project Status:	Concept								
Inclusions:	Central storage and server facilities and renewing the local ICT network								
Exclusions:	Additional health services ICT equipment, modifications to systems to operate in the new centralized environment								
Risks & Dependencies:	To be assessed as part of scope definition Ongoing support for the ICT environment								
Estimated Planning & Design Costs \$:	included in construction costs	Estimated Construction Costs \$:	500,000						

4.9 Government Administrative Buildings

Project P 53 – Facilities for Office of Economic Affairs (GB/1)

Project Title:	Facilities for Office of Economic Affairs						Sector:	Government Administrative Buildings		
Project Description/Scope:	Develop facilities associated with the functions of the Office of Economic Affairs, namely Tourism , Agriculture and the Island Food Community									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Provide a facility for the efficient conduct of Office and Economic Affairs functions									
Project Justification:	OEA does not currently have facilities that allow it to properly undertake its functions									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	4	4	3	1	1	1	4	5	3	5.8
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	50,000					Estimated Construction Costs \$:	490,000			

Project P 54 – Pohnpei Public Market (GB/2)

Project Title:	Pohnpei Public Market						Sector:	Government Administrative Buildings		
Project Description/Scope:	Develop a public market facility in Kolonia Town for the sale of produce and handicrafts									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Provide a facility for: Farmers and handicraft artisans to sell their produce/products Residents to obtain fresh produce Visitors to purchase local handicrafts and produce									
Project Justification:	Current market facilities are not adequate for the sale of fresh produce and handicrafts									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	5	5	5	4	4	3	3	4	4	8.2
Project Status:	Scoped – existing architect’s report									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	100,000					Estimated Construction Costs \$:	1,100,000			

Project P 55 – Renovate Municipal Offices (GB/3)

Project Title:	Renovate Municipal Offices						Sector:	Government Administrative Buildings		
Project Description/Scope:	Renovate Municipal Office as recommended by engineering assessments									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Provide improved facilities for the delivery of municipal functions and services									
Project Justification:	Current Municipal Offices are not adequate for delivery of functions and services									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	4	3	1	1	1	4	5	5	6.0	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	1,000,000				

Project P 56 – Renovate Legislature Complex (GB/4)

Project Title:	Renovate Legislature Complex						Sector:	Government Administrative Buildings		
Project Description/Scope:	Renovate Legislature Complex as recommended by engineering assessments									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Provide improved facilities for the functioning of the Pohnpei Legislature									
Project Justification:	Conditions in the Legislature Complex impact on the efficient functioning of the Legislature									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
2	1	1	1	1	1	1	3	2	2.9	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	1,900,000				

Project P 57 – Renovate PUC Building (GB/5)

Project Title:	Renovate PUC Building						Sector:	Government Administrative Buildings		
Project Description/Scope:	Renovate PUC building in line with PUC’s revised use of the building									
Agencies Responsible:	Department of Transportation & Infrastructure									
Project Objectives/Outcomes:	Provide improved facilities for the functioning and operations of PUC									
Project Justification:	Condition of the current building impact on the efficient functioning and operations of PUC									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	2	2	2	1	1	1	5	5	5	5.3
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs					Estimated Construction Costs \$:	400,000			



Federated States of Micronesia INFRASTRUCTURE DEVELOPMENT PLAN FY2016-FY2025

Volume 6:

Yap State Infrastructure Development Plan FY2016-FY2025



This Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 comprises the following parts:

Introduction

Volume 1 Plan Outline

Annexes

Volume 2 National Infrastructure Development Plan

Volume 3 Chuuk State Infrastructure Development Plan

Volume 4 Kosrae State Infrastructure Development Plan

Volume 5 Pohnpei State Infrastructure Development Plan

Volume 6 Yap State Infrastructure Development Plan

The following Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 documents are available:

Federated States of Micronesia Infrastructure Development Plan FY2016-FY2025 (all parts)

FSM Infrastructure Development Plan FY2016-FY2025 Outline (Introduction, Volume 1 & Annexes)

National Infrastructure Development Plan FY2016-FY2025 (Volume 2)

Chuuk State Infrastructure Development Plan FY2016-FY2025 (Volume 3)

Kosrae State Infrastructure Development Plan FY2016-FY2025 (Volume 4)

Pohnpei State Infrastructure Development Plan FY2016-FY2025 (Volume 5)

Yap State Infrastructure Development Plan FY2016-FY2025 (Volume 6)

FSM Infrastructure Development Plan FY2016-FY2025 Summary (abbreviated outline and listings of projects)

Volume 6 Yap State Infrastructure Development Plan

Foreword by the Governor

I am pleased to present to you an update of Yap State Infrastructure Development Plan for the period FY2016 – FY2025. This Plan is important and significant in our efforts to develop our island economies and cope with global and environmental changes that are affecting our islands and our nation.

The Yap Plan presents priority infrastructure investments for the next 10 years which have been identified by government and community stakeholders. It presents a truly collaborative approach to infrastructure development for our state which sets out the case for developing infrastructure for our island state and provides a direct connection to communities and their needs.

I particularly welcome the inclusion of projects directly linked to climate change adaptation – these are important first steps to a mainstream infrastructure adaptation program in future Plans. Our citizens can also look forward to schools, hospitals, roads and other facilities that are kept in better condition as we improve the way we manage our infrastructure over its life.

Included in the Plan is a realistic level of funding which represents 55 percent of Yap’s infrastructure needs over 10 years. This sets the challenge for our island state, our national government, and our development partners to work together to close the funding gap.

Finally I recognize the considerable effort that has gone into the Plan from State Infrastructure Planning and Implementation Committee and the State Executives. The assistance of the FSM National Government and the Asian Development Bank is also acknowledged for providing the technical assistance team that supported the Plan development.

I commend this Infrastructure Development Plan and look forward to the support of our development partners as we work towards our vision of better facilities and improved infrastructure development in our state.


Honorable Tony Ganngiyen
Governor

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Part 1 Introduction

This Volume 6 of the IDP is known as the **Yap State Infrastructure Development Plan FY2016 to FY2025** (the Yap IDP).

1.1 Overview

Yap State is the westernmost state of the FSM. To the east, in order of distance are Chuuk State (850nm), Pohnpei State (1220nm) and Kosrae State (1523nm). It covers 100,000 square miles of Western Pacific Ocean, between latitude 7 to 10 degrees North and longitude 137 to 140 degrees East. Yap State includes Yap Islands, consisting of four main islands of Yap Island, Tomil-Gagil, Maap and Rumung and eight smaller islets sharing a common coral reef; and 134 outer atolls. All together Yap has a combined land area of 45.6 square miles. Yap Islands, with 38.7 square miles of land, which accounts for 84 percent of the state's total landmass, is home to two-thirds of Yap State's population of 12,055 (FSM 2010 Census). Colonia, the capital of Yap state, is located on the east coast of Yap Island. The 134 outer islands, most of them low-lying atolls, with total land area of about 7 square miles, lie up to 1,200 kilometers eastwards from Colonia and have a total population of about 4,000.

1.2 Climate and the Challenges of Change

The significance of climate change to the State of Yap is set out in the Joint State Action Plan³⁵.

As the westernmost state of FSM, Yap is exposed to a range of threats that create significant vulnerabilities for the state. Yap is located in 'Typhoon Alley', is likely to be disturbed by earthquakes and tsunamis, and suffers droughts due to the impact of El Niño Southern Oscillation (ENSO). ENSO is also the cause of both excessive and below average rainfall.

Yap state is regularly hit by typhoons (especially in June – December), with between three and five typhoons hitting the state each year.

Yap is drier than the other states of FSM, and is highly susceptible to drought. While Yap Proper possesses adequate ground water sources, during prolonged droughts such as the 1997/1998 El Niño these water sources have been known to dry up. The lack of adequate water storage capacity on the outlying islands increases the inhabitant's vulnerability to the impacts of drought.

Yap state, being located near the Yap Trench and the Mariana Trench, is vulnerable to earthquakes, with four significant earthquakes recorded in recent times. Yap also has a high probabilistic tsunami hazard; however no recorded instances of significant tsunami damage have occurred. In the event of a tsunami, Yap state would likely suffer a great deal of damage due to it being largely low-lying.

The distances between islands makes it difficult to get much-needed food, water and medical supplies to residents after a disaster, meaning Yap is more vulnerable to health and other secondary impacts of disasters than the other FSM states.

Yap is very vulnerable to flooding during typhoons and storm surges. The state does not regularly receive large amounts of rain and thus the damage from extreme surge and rainfall events is usually much more intense.

The main island of Yap has also experienced wildfires in years with dry periods such as that of 1997/1998.

The Action Plan identifies a range of broad requirements for infrastructure climate-proofing, and these have been included as a single project in the IDP project list (Project ID CC/1).

³⁵ (GoYS, 2015) - Yap Joint State Action Plan for Disaster Risk Management and Climate Change, Draft

Other projects included in the IDP which contribute to climate change adaptation and mitigation are:

- Renewable energy projects
- Upgrading of roads
- Development of new water wells

1.3 Plan Development

The Yap IDP presents the State’s priority infrastructure investments for the next 10 years identified by the Yap IPIC and government and community stakeholders. The projects have been prioritized according to three periods; Period 1: FY2016 to FY2019 (during which the Amended Compact arrears are intended to be fully appropriated), Period 2: FY2020 to FY2022, and Period 3: FY2023 to FY2025.

The IPIC-led group assessed the contribution of each priority project to the IDP strategic objectives (Volume 1, section 2.2.2) to provide a Strategic Rating out of 10. Although strategic ratings are not comparable between projects and sectors due to variations in the scope of projects and inherent sector factors (and cannot be used to prioritize projects), the rating process has nonetheless confirmed that the priority projects each make a strong contribution to relevant strategic objectives.

The development process provided valuable input into the management and implementation arrangements (section 2.2) and with the sector managers provided information for the priority projects outlines incorporated into the Yap IDP (Part 4).

Part 2 Plan Outline

2.1 Investment Strategy

2.1.1 Available Funding

Details of the funding available from FSM’s development partners and the National Government can be found in Volume 1, Part 3 of the IDP.

Yap receives Amended Compact funds according to the formula set by the FSM Congress (currently 17.55 percent). The underpinning nature of infrastructure warrants a more even distribution of infrastructure funding so funds associated with bilateral donors, multilateral banks and climate change are not allocated on a formula-basis. An amount equal to 20 percent of these funds is included in the Yap IDP, however Yap may receive a greater or lesser amount on a program or project basis.

The funding available to Yap State is 17 percent of total available IDP infrastructure funding. Table Y 1 shows the allocation over the 10 years of the IDP; \$111.4 million for development and \$16.3 million for maintenance.

Table Y 1 – Total Available Yap IDP Funding

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Yap										
Development	12,916,235	13,033,774	11,980,249	11,975,659	10,519,753	10,973,035	10,965,252	10,956,405	9,017,711	9,053,451
Maintenance	1,959,782	1,959,523	1,843,402	1,842,918	1,525,940	1,525,233	1,524,413	1,523,482	1,319,409	1,323,171
TOTAL	14,876,016	14,993,296	13,823,650	13,818,577	12,045,693	12,498,267	12,489,665	12,479,887	10,337,120	10,376,622

2.1.2 Priority Projects

The Yap IDP includes priority projects estimated at \$162.4 million across 9 of the 10 infrastructure sectors. The breakdown of project estimates by sector is shown in Figure Y 1 and the listing of priority projects is included in Table Y 2.

Figure Y 1 – Yap IDP Breakdown by Sector

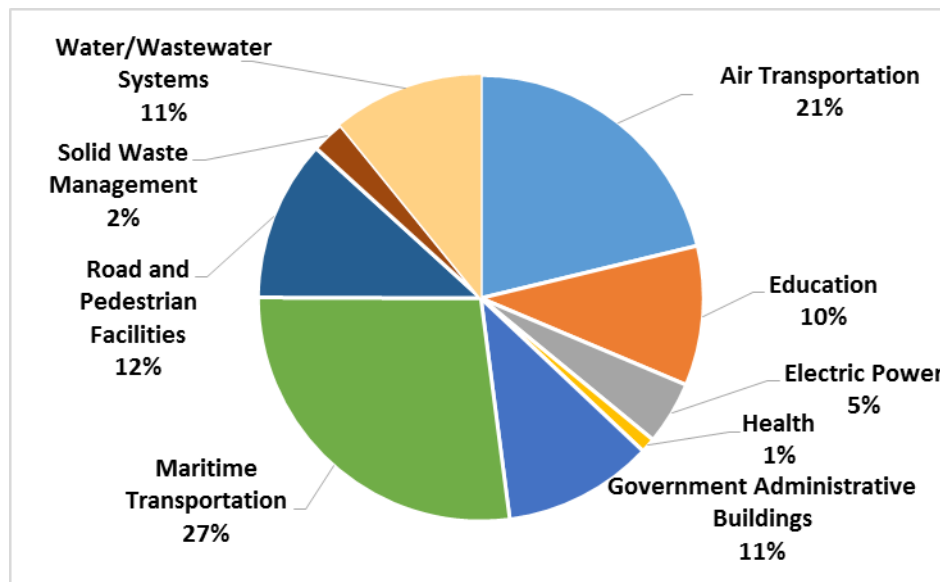


Table Y 2 – Yap IDP Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
PM/1	Yap State PMO	4,000,000	All	N/A
CC/1	Upgrade critical infrastructure for Climate Change Resilience	3,990,000	2	N/A
EP/1	Renewable Energy Extension - Phase 2	1,980,000	2	8.2
EP/2	Renewable Energy Extension - Phase 3	3,780,000	2/3	8.2
EP/3	Electric Power Network Improvements	160,000	1	7.8
EP/4	Electric Power Distribution Improvements	675,000	1	8.2
EP/5	Outer Island Micro Grid Expansion	500,000	3	7.3
WW/1	Central Water - Refurbish Water Storage Tanks	1,500,000	1	9.6
WW/2	Central Water - Replace Water Treatment Plant	1,800,000	1	9.6
WW/3	Central Water - Water Main Rehabilitation Phase 1	500,000	1/2	9.6
WW/4	Central Water - Water Main Rehabilitation Phase 2	500,000	2/3	9.6
WW/5	Central Water - Water Well Renewal & Replacement	200,000	1	9.6
WW/6	Southern Water - Treatment Plant/Distribution Improvements	450,000	1	9.6
WW/7	Southern Water - Well Rehabilitation	870,000	1	9.6
WW/8	Southern Water - Water Storage	300,000	1	9.6
WW/9	Southern Water - Office & Storage Improvements	250,000	1	7.6
WW/10	Central Wastewater - Sewer Main Rehabilitation Phase 1	450,000	1/2	9.6
WW/11	Central Wastewater - Sewer Main Rehabilitation Phase 2	450,000	2/3	9.6
WW/12	Central Wastewater - Renew Treatment Plant Outfall	3,000,000	1	9.6
WW/13	Yap Septic Tank Program	6,500,000	3	9.6
SW/1	Solid Waste Management Improvements - Short Term	700,000	1	8.9
SW/2	Solid Waste Management Improvements - Long Term	3,000,000	2/3	8.9
RD/1	Replacement Bridges - Tagreng, Ganir, Donoch, Tagaaniyal	6,600,000	1	8.9
RD/2	Gagil-Tomil Road Improvements	5,500,000	1	8.7
RD/3	Maap Road Improvements	1,200,000	2	8.7
RD/4	Colonia Road Improvements	2,760,000	1/2	8.7
RD/5	Yap Loop Road Rehabilitation	500,000	3	8.7
RD/6	Establish Asphalt Plant & Core Equipment	1,500,000	1	8.4
AT/1	Yap International Airport Runway Extension	17,500,000	2	8.7
AT/2	Yap International Airport New Terminal	11,000,000	1	9.1
AT/3	Yap International Airport Perimeter Road	3,000,000	1	5.1
AT/4	Fais Airstrip Improvements	1,235,000	2	7.8
AT/5	Ulithi Airstrip Improvements	35,000	2	7.8
MT/1	Colonia Commercial Port Improvements	15,000,000	2/3	8.4

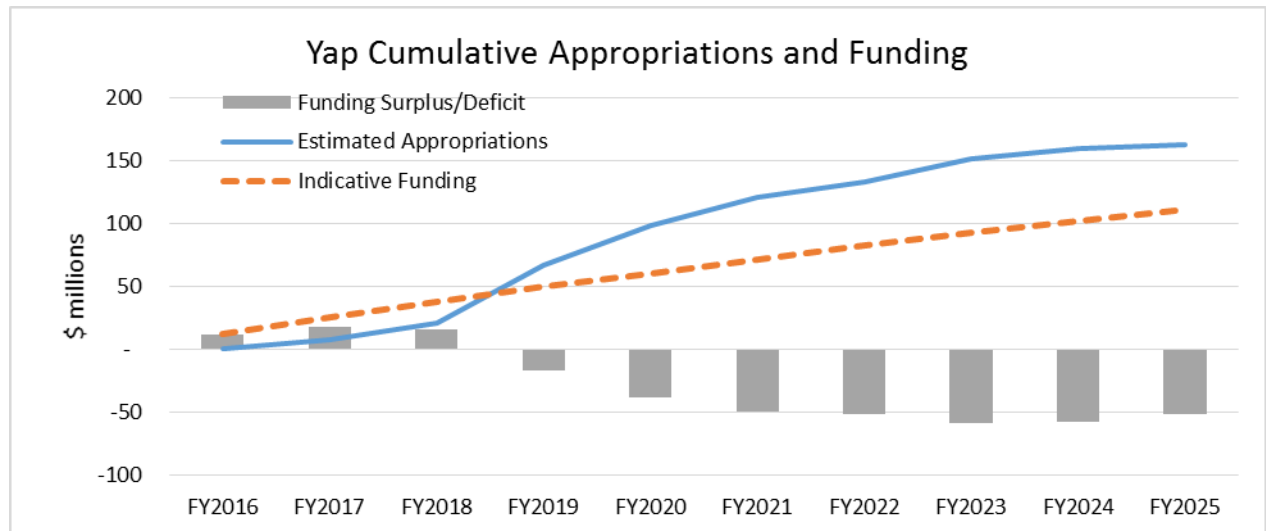
ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
MT/2	Colonia Port Channel & Anchorage Improvements	26,000,000	1/2	8.7
MT/3	Colonia Port Berthing Facilities Improvements	400,000	1	8.7
MT/4	Yap State Multi-Role Vessel	500,000	1	9.1
ED/1	Woleai High School - New buildings and Renovations	1,800,000	1	7.8
ED/2	Yap High School - Phase 2 Improvements	4,320,000	2	7.8
ED/3	Colonia Middle School Improvements - Phase 1	2,400,000	1	7.8
ED/4	Colonia Middle School Improvements - Phase 2	1,300,000	3	7.8
ED/5	Yap School Improvements	1,950,000	3	7.8
ED/6	Outer Island Early Childhood Education Improvements	2,174,000	1	7.8
ED/7	DOE Curriculum Building	1,430,000	1	6.9
ED/8	Outer Island School Toilet Facilities	180,000	1	7.8
ED/9	Euripik Community School Reconstruction	100,000	1	7.8
HE/1	Yap State Hospital - Rehabilitation & Nurses Facilities	800,000	1	8.0
HE/2	Yap State Hospital - General Improvements	855,000	1/2	8.0
GB/1	Yap Government Administration Complex	15,000,000	1	6.2
GB/2	Yap State Museum Extension	250,000	2/3	4.9
GB/3	Establish Central Market	100,000	2	8.0
GB/4	Colonia Small Business Center Renovation	500,000	1	7.3
GB/5	Colonia Community Center Renovation	500,000	1	6.0
GB/6	Yap Women's Association Multi-Purpose Building	500,000	1	8.7
Total Funding Required		162,444,000		
MTCE	Infrastructure Maintenance	16,350,000		

2.1.3 Project Funding Requirements

Based on the project priorities identified during development of the Yap IDP, a funding appropriation profile covering the 10 year period has been estimated. In summary, as shown in Figure Y 2, the Yap IDP priority projects exceed available funding by more than 45 percent.

As a result of the March 2012 JEMCO decision the gap in Amended Compact funding leads to a period of low demand for funds with planning and design the dominant activities. Appropriations for construction will be significant by FY2019. From this point on appropriations will likely exceed funding identified in the IDP. This implies additional funding needs to be identified and/or priorities reassessed. The planned review of the Yap IDP in FY2019 will provide the opportunity to undertake this reassessment.

Figure Y 2 – Yap IDP Available Funding and Estimated Appropriations



2.1.4 Infrastructure Maintenance

Yap State has a total of \$16.35 million of maintenance funding available from FY2016 to FY2025. This includes \$2.53 million required to match the available Amended Compact IMF funding.

2.2 Management and Implementation

2.2.1 State Governance

An effective State IPIC will provide the basis for strong governance of infrastructure delivery at the State program and project level once the coordinated control processes have been established.

Most importantly the intended upgraded role of the IPIC and establishment of the implementation framework outlined below will devolve the planning and implementation responsibilities to the States without compromising control, integrity and governance.

2.2.2 Implementation model

National program management

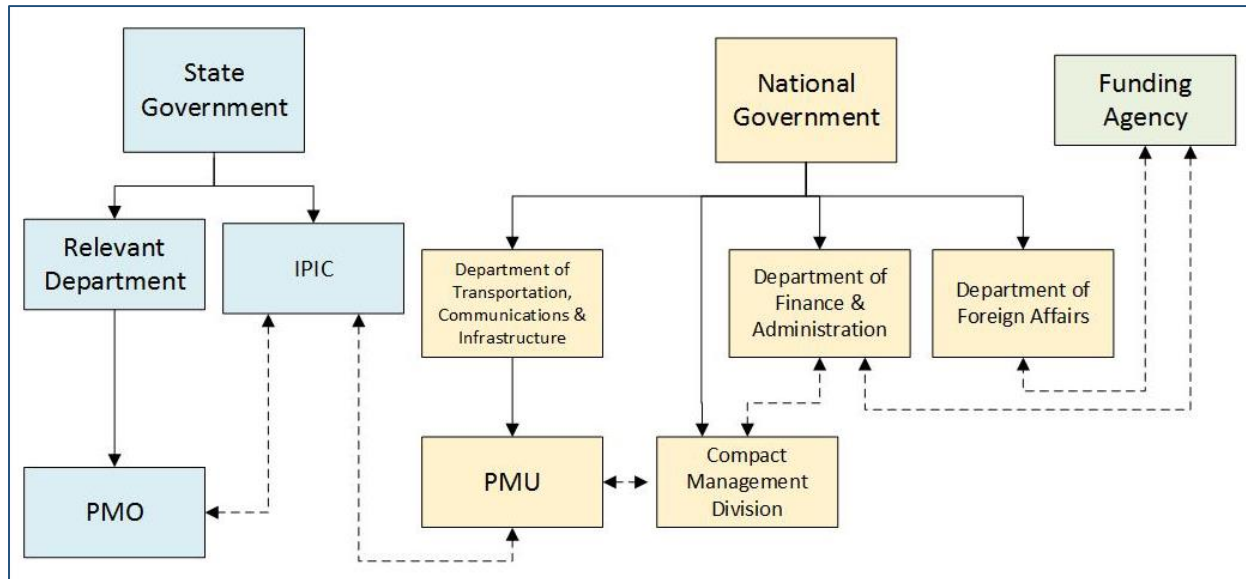
The implementation model retains the PMU within DTCl but restructures the unit to focus on **Program Management**. The PMU will provide ongoing support to the State to ensure standards are developed and shared, subsequent design and construction contracts are consistent with appropriate risk management and will provide peer review expertise as required.

State delivery accountabilities

The State will be accountable for **Project Management**, from initial planning, through design to construction completion. The State will form a Project Management Office (PMO). The PMO will undertake all the project management activities from initial design through to construction and completion.

The general structure of the implementation model is shown on Figure Y 3.

Figure Y 3 – Organization Chart of Infrastructure Delivery



The PMO will initially contract with the private sector (external party) to ensure project delivery capability is in place by Q3 2016. The contracted external party will be used across all four States within FSM to provide consistency of project management approaches, processes and methodologies.

State Project Management Offices

The State PMO will have the following resources:

- Project Manager(s)
- Contracting Officer(s)
- Resident Engineers and Inspectors
- Technical Specialists as required

General Considerations

The cost of the PMO is estimated to be between 5 and 7 percent of the State infrastructure development program which is within international benchmarks and internationally recognized as a legitimate program cost.

The IDP includes provision for the required funds for the PMO as part of the Amended Compact component of the State's infrastructure development program (noting that Amended Compact PMO funding is dedicated to the delivery of Amended Compact projects).

The external party providing the PMO services will be excluded from participating in any further contract for the design, construction or supervision on an IDP project for which it has project management responsibilities to ensure probity is maintained.

The external party will be contractually bound to build local project management capacity in the State and will have its capacity building plans and performance regularly reviewed by IPIC.

The roles and responsibilities for each party involved in planning, implementation and management of the IDP's Amended Compact component are documented in Annex A of the IDP.

2.2.3 Process enhancements

All infrastructure projects require defined project management processes from scope definition through funds release, design and construction to successful completion. Best practice processes incorporate key steps, hold points, client reviews and concise and complete documentation to support such processes.

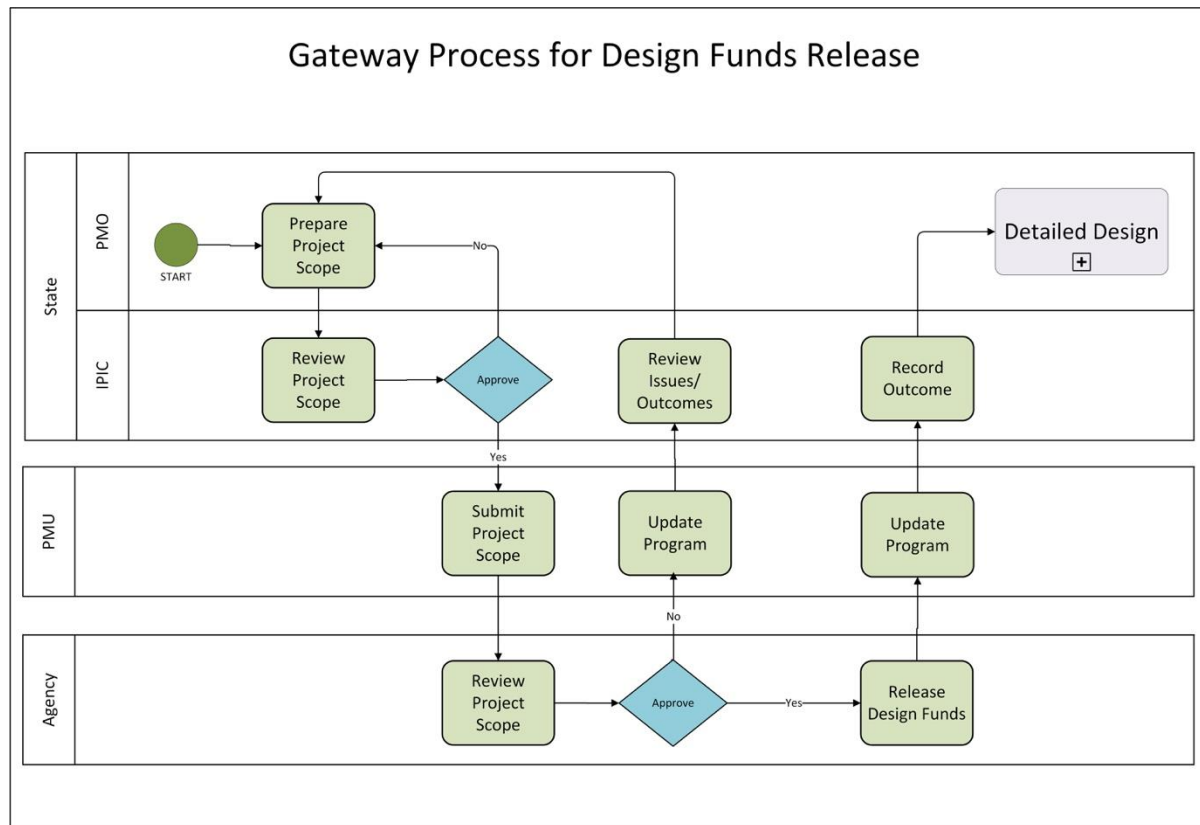
It is also good practice to release funds at two stages; initially to release funds to enable the full project design to be undertaken and then, prior to the construction procurement process commencing, the funding required for construction. This approach facilitates the orderly progress of the project while ensuring that after design there is a review of the project scope, time and cost and any changes are formally signed off before committing funds for construction.

Pre-Design and initial funds release

The PMO will fully document the project scope and formally agree this information with the IPIC.

The project will be submitted for the release of initial (generally design) funds once endorsed by the IPIC. For Amended Compact funded projects this submission is to the PMU and then onward to OIA. Figure Y 4 shows the process for this stage as an example of the processes that will be operated by the PMO and other bodies.

Figure Y 4 – Example Process Diagram



Once the initial funds have been appropriated, the PMO will conduct (if required) a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the design consultant.

Design and construction funds release

The PMO will formally review each project with the IPIC twice during design. The PMO will also hold regular client meetings with sector representatives.

The IPIC reviews will be held when the design is 30 percent complete and when it is 100 percent complete (but still subject to review). The 30 percent design review will ensure that designs remain on an agreed path before significant design costs are incurred.

Following a design being accepted as complete a second submission will be made to the funding agency for the appropriation of construction funds. For Amended Compact funded projects this submission is to the PMU and then onward to the OIA.

Construction procurement

Once construction funds have been appropriated, the PMO will conduct a competitive procurement process in accordance with the prevailing procurement process and regulations to identify and contract the construction contractor (and any required supervision consultant).

Variations

The PMO will process variations generally as follows:

- variations in scope require IPIC approval to ensure project outcomes remain fully agreed
- variations in scope or cost that require additional funding will be endorsed by IPIC before submission to Government and/or OIA (as required) for approval
- change orders to a contract will be processed in accordance with the PMU's planned contract management manual

Completion

The PMO will prepare a Project Completion Report for endorsement by the IPIC. This report will include analysis of the project on a time, cost and quality basis. PMU will prepare summary KPIs to compare performance for the four State PMOs and identify areas for improvement.

2.3 Institutional Projects

The IDP (Volume 1, section 6.4) contains a number of institutional projects that will have an impact on Yap State infrastructure:

- asset management policy, strategy and capacity in all States
- a FSM Building Code
- maritime and aviation safety and security capacity

Part 3 Infrastructure Development

3.1 Infrastructure Development to Date

The estimated Yap State infrastructure development funding in the period FY2004 to FY2015 is shown in Table Y 3 against the funding planned in the IDP 2004 over its whole 20 year period.

Table Y 3 – Planned and Estimated Infrastructure Development Funding

Sector	IDP 2004 Total Funds FY2004-FY2025 (\$)	Estimated Development Funding FY2004-FY2015 (\$)¹		
		Amended Compact Grants	Estimated Other Funding	Estimated Total Funding
Electric Power	6,658,000	1,431,000	13,953,000	15,384,000
Water/Wastewater Systems	11,515,000	2,470,000	2,271,000	4,741,000
Solid Waste Management	10,171,000	165,000	99,000	264,000
Roads and Pedestrian Facilities	15,071,000		5,104,000	5,104,000
Maritime Transportation	22,236,000		5,000,000	5,000,000
Air Transportation	16,211,000	815,000	36,244,000	37,059,000
Telecommunications				
Education	17,491,000	14,900,000		14,900,000
Health	4,724,000	8,449,000		8,449,000
Government Administrative Buildings	5,474,000	14,000		14,000
Total \$:	109,551,000	28,244,000	62,671,000	90,915,000

Notes: 1. Estimated funding does not include maintenance and some project management and design costs

3.2 Sector Outlines and Priority Projects

3.2.1 Electric Power

Electric power is provided by Yap State Public Service Corporation (YSPSC) with a focus on the main Yap island group although support is also provided to outer island electric power facilities.

A high percentage of customers have a metered supply and O&M costs are largely covered from tariff revenue. Improvements to and/or rehabilitation of generation and distribution assets and major network extensions, as well as the integration of renewable energy sources into the grid, are dependent on external financing.

Yap has a determined program to increase the proportion of electric power sourced from renewable sources as well as undertaking energy efficiency programs at a number of levels, all of which is contributing to a declining reliance on imported fuel oils for electric power generation.

The projects in the Yap IDP continue the program to develop renewable energy sources and extend the availability of electric power to outer island communities, as well as improve the reliability, sustainability and efficiency of the distribution network.

The electric power projects in the Yap IDP are listed in Table Y 4 and support the sector Goal to develop electric power infrastructure to ensure that all areas of the country are provided with electric power in an efficient and effective manner in accordance with demand such that:

1. households are provided with power for basic livelihood purposes
2. local manpower can realize production opportunities and potential
3. power is available for basic services such as schools, hospitals, water and wastewater systems
4. national targets for renewable energy are achieved

The priority projects are also aligned with the major 2020 targets in the National Energy Policy for renewable energy sources to be at least 30 percent of total energy production and for a 50 percent increase in electric power efficiency.

Further information on each project can be found in the Project Outlines in Part 4.

Table Y 4 –Electric Power Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
EP/1	Renewable Energy Extension - Phase 2	1,980,000	2	8.2
EP/2	Renewable Energy Extension - Phase 3	3,780,000	2/3	8.2
EP/3	Electric Power Network Improvements	160,000	1	7.8
EP/4	Electric Power Distribution Improvements	675,000	1	8.2
EP/5	Outer Island Micro Grid Expansion	500,000	3	7.3
Total Funding Required		7,095,000		

3.2.2 Water/Wastewater Systems

Water and wastewater systems around Colonia are also the responsibility of YSPSC, with the Southern Yap Water Authority and Gagil-Tomil Water Authority supplying water to other parts of the main Yap islands. Each has a mandate to deliver utility services on a self-funding basis. Similar to electric power, commercial operations are centered on the main Yap islands where there is broad metering of water supply and effective O&M of water and wastewater systems.

The projects included in the Yap IDP focus on improvements to existing water and wastewater facilities to improve their reliability, capacity and sustainability. Water projects will improve collection, treatment, storage and distribution in all utility areas. The current wastewater system in Colonia will be improved and the outfall reconstructed to improve the safe and effective discharge of effluent from the treatment plant. A community-based approach to wastewater collection outside of the current Colonia scheme will establish individual and community septic tank systems supported by a collection service and disposal at the Colonia wastewater treatment plant.

The water/wastewater projects in the Yap IDP listed in Table Y 5 support elements of the sector goal to provide water and wastewater infrastructure that:

1. meets the demand for water supply and wastewater infrastructure in an effective and efficient manner
2. improves existing water abstraction, treatment and distribution systems
3. evaluates and institutes technologically appropriate liquid waste management systems
4. improves and initiates wastewater facilities to increase coverage and contribute towards improvements in public health and environmental conditions

5. contributes towards the prevention of water borne diseases through the provision of potable water supplies

Further information on each project can be found in the Project Outlines in Part 4.

Table Y 5 – Water/Wastewater System Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
WW/1	Central Water - Refurbish Water Storage Tanks	1,500,000	1	9.6
WW/2	Central Water - Replace Water Treatment Plant	1,800,000	1	9.6
WW/3	Central Water - Water Main Rehabilitation Phase 1	500,000	1/2	9.6
WW/4	Central Water - Water Main Rehabilitation Phase 2	500,000	2/3	9.6
WW/5	Central Water - Water Well Renewal & Replacement	200,000	1	9.6
WW/6	Southern Water - Treatment Plant/Distribution Improvements	450,000	1	9.6
WW/7	Southern Water - Well Rehabilitation	870,000	1	9.6
WW/8	Southern Water - Water Storage	300,000	1	9.6
WW/9	Southern Water - Office & Storage Improvements	250,000	1	7.6
WW/10	Central Wastewater - Sewer Main Rehabilitation Phase 1	450,000	1/2	9.6
WW/11	Central Wastewater - Sewer Main Rehabilitation Phase 2	450,000	2/3	9.6
WW/12	Central Wastewater - Renew Treatment Plant Outfall	3,000,000	1	9.6
WW/13	Yap Septic Tank Program	6,500,000	3	9.6
Total Funding Required		16,770,000		

3.2.3 Solid Waste Management

Solid waste management at the central landfill site is the responsibility of the Department of Transportation and Public Works with the private sector involved in the collection and transport of solid waste. The site is licensed by Yap Environment Protection Agency and employs the Fukuoka Method common across the Pacific as an appropriate and cost-effective method for disposal and processing of solid waste. The landfill site has recently been refurbished but has limited capacity and improvements to the separation and storage of recyclable wastes are still required.

With the current landfill site only having capacity for the next few years, the EPA will undertake the planning and regulatory processes needed to secure the replacement site and begin its development in due course.

The solid waste management projects in the Yap IDP are listed in Table Y 6 and support the sector goal to provide solid waste management infrastructure that:

1. meets the demand for solid waste infrastructure in an effective and efficient manner
2. evaluates and institutes technologically appropriate solid waste management systems
3. reduces volume of solid waste for disposal by maximizing recycling and separation opportunities thereby minimizing the land area required
4. prevents solid waste having adverse effects on the terrestrial and marine environments

Further information on each project can be found in the Project Outlines in Part 4.

Table Y 6 – Solid Waste Management Priority Project

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
SW/1	Solid Waste Management Improvements - Short Term	700,000	1	8.9
SW/2	Solid Waste Management Improvements - Long Term	3,000,000	2/3	8.9
Total Funding Required		3,700,000		

3.2.4 Roads and Pedestrian Facilities

Road infrastructure in Yap is the responsibility of the Department of Transportation and Public Works and is really only developed on the main Yap islands where the primary roads are sealed, as are some of the secondary roads.

The projects included in the Yap IDP target road rehabilitation and proactive periodic resurfacing to preserve road condition and particularly to address the condition of four key bridges. Other road projects include the sealing of roads in Gagil and Tomil and around Colonia, including the roads to the High School and COM and Colonia Middle School and Early Childhood Education Center.

The road and pedestrian facilities projects included in the Yap IDP are listed in Table Y 7 and support the sector goal to provide road and pedestrian facilities infrastructure that:

1. enables transportation facilities to be adequate in terms of condition, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. meets the demand for road and pedestrian infrastructure in an effective and efficient manner, including concrete/asphalt paving of all primary road systems
3. incorporates pedestrian walkways in the design and construction of roads
4. extends cross-island and inner roads to facilitate agricultural and other development
5. is resilient to the impacts of climate change

A key component of the priority program is the establishment of an asphalt plant with asphalt laying equipment to support the road improvement program and later maintenance activities to improve the sustainability of road infrastructure.

Further information on each project can be found in the Project Outlines in Part 4.

Table Y 7 – Road and Pedestrian Facilities Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
RD/1	Replacement Bridges - Tagreng, Ganir, Donoch, Tagaaniyal	6,600,000	1	8.9
RD/2	Gagil-Tomil Road Improvements	5,500,000	1	8.7
RD/3	Maap Road Improvements	1,200,000	2	8.7
RD/4	Colonia Road Improvements	2,760,000	1/2	8.7
RD/5	Yap Loop Road Resurfacing	500,000	3	8.7
RD/6	Establish Asphalt Plant & Core Equipment	1,500,000	1	8.4
Total Funding Required		18,060,000		

3.2.5 Maritime Transportation

Yap’s maritime transportation infrastructure is managed by the Department of Transportation and Public Works. The State port in Colonia is utilized by both international shipping and local boats typically transferring passengers and goods to and from the outer islands.

The projects in the Yap IDP focus on the main port that will see improvements in the access channel, berthing, cargo handling and storage and safety and security. A multi-role vessel will also be provided to support government services and programs, including the shipment of equipment and materials for infrastructure projects on the outer islands, and provide a key disaster response and recovery resource.

The maritime transportation projects in the Yap IDP are listed in Table Y 8 and support elements of the sector goal to provide maritime transportation infrastructure that:

1. enables market opportunities to be realized for all areas of the country, including labor market opportunities, and to enhance the level of integration of state economies and the national economy
2. provides improved dock facilities to meet both fisheries and commercial shipping needs
3. facilitates modern, safe and efficient inter-state and inter-island passenger and cargo vessels
4. coordinates and facilitates the improvement of aids to navigation

Further information on each project can be found in the Project Outlines in Part 4.

Table Y 8 – Maritime Transportation Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
MT/1	Colonia Commercial Port Improvements	15,000,000	2/3	8.4
MT/2	Colonia Port Channel & Anchorage Improvements	26,000,000	1/2	8.7
MT/3	Colonia Port Berthing Facilities Improvements	400,000	1	8.7
MT/4	Yap State Multi-Role Vessel	500,000	1	9.1
Total Funding Required		41,900,000		

3.2.6 Air Transportation

Yap International Airport is managed by the Department of Transportation and Public Works and there is an Airport Master Plan³⁶. The airport improvement included in the Yap IDP will improve operational safety and security and address passenger accommodation and handling issues with the provision of a new terminal building.

Projects to improve safety and operations at the outer island airstrips on Fais and Ulithi are part of the overall program jointly prepared by DTCL the Department of Transportation and Public Works Work to bring the Woleai airstrip back into operation have already been funded by the FSM Congress.

The air transportation projects in the Yap IDP are listed Table Y 9 and support the sector goal to provide air transportation infrastructure that:

1. provides adequate air transportation facilities and services in terms of condition, frequency, capacity, reliability and safety to enable market opportunities to be realized for all areas of the country
2. enables air carrier airports to improve safety and eliminate payload restrictions

³⁶ (Leo A Daly, 2012c; Leo A Daly, 2012y) - Yap International Airport Final Master Plan

3. improves all domestic airports to the required standards of safety

Further information on each project can be found in the Project Outlines in Part 4.

Table Y 9 – Air Transportation Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
AT/1	Yap International Airport Runway Extension	17,500,000	2	8.7
AT/2	Yap International Airport New Terminal	11,000,000	1	9.1
AT/3	Yap International Airport Perimeter Road	3,000,000	1	5.1
AT/4	Fais Airstrip Improvements	1,235,000	2	7.8
AT/5	Ulithi Airstrip Improvements	35,000	2	7.8
Total Funding Required		32,770,000		

3.2.7 Education

The Department of Education is responsible for Yap’s public education infrastructure, excluding the College of Micronesia. The priority projects in the Yap IDP have been selected based on the Yap State School Facility Repair and Construction Master Plan³⁷, and include implementation of consolidation recommendations in the Master Plan. The projects focus on the Elementary, Middle and High Schools on the main Yap islands and Early Childhood Education Centers on the outer islands. Other projects involve Department facilities and sanitary facilities required for ongoing accreditation.

The education projects in the Yap IDP are listed in Table Y 10 and support elements of the sector goal to provide education infrastructure that:

1. ensures that the learning experience is enhanced and diversified
2. improves student and faculty interest and morale, and thereby improves the effectiveness of education and significantly increases the student retention rates through graduation from elementary or secondary schools
3. removes constraints on the availability of high school education for all graduates of elementary school, and to provide an array of post-secondary education opportunities for all high school graduates who seek further education
4. continues to assist and strengthen private educational institutions to the nation
5. is supported by facilities improvement programs that address the need for maintenance, renovation and construction of new facilities to support quality student instruction
6. is supported by equipment maintenance guidelines
7. is resilient to potential natural disasters and the impacts of climate change

Further information on each project can be found in the Project Outlines in Part 4.

³⁷ (Aloterre Consulting, 2012y) - Yap State School Facility Repair and Construction Master Plan

Table Y 10 – Education Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
ED/1	Woleai High School - New buildings and Renovations	1,800,000	1	7.8
ED/2	Yap High School - Phase 2 Improvements	4,320,000	2	7.8
ED/3	Colonia Middle School Improvements - Phase 1	2,400,000	1	7.8
ED/4	Colonia Middle School Improvements - Phase 2	1,300,000	3	7.8
ED/5	Yap School Improvements	1,950,000	3	7.8
ED/6	Outer Island Early Childhood Education Improvements	2,174,000	1	7.8
ED/7	DOE Curriculum Building	1,430,000	1	6.9
ED/8	Outer Island School Toilet Facilities	180,000	1	7.8
ED/9	Euripik Community School Reconstruction	100,000	1	7.8
Total Funding Required		15,654,000		

3.2.8 Health

Facilities at the Department of Health’s principal resource, the Yap State Hospital, will continue to be improved and the full 52 bed capacity reinstated.

The health projects in the Yap IDP are listed in Table Y 11 and support elements of the sector goal to provide health infrastructure that:

1. provides modern and efficient hospital facilities to meet the health needs of the nation
2. facilitates an upgraded the curative health system to minimize the needs for referrals to foreign medical facilities
3. provides health care facilities within reasonable access of all citizens
4. has facilities improvement programs that address the need for maintenance, renovation and construction of new facilities
5. has adequate funds for maintenance to prevent rapid deterioration of facilities
6. is resilient to potential natural disasters and the impacts of climate change

Further information on each project can be found in the Project Outlines in Part 4.

Table Y 11 – Health Priority Projects

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
HE/1	Yap State Hospital - Rehabilitation & Nurses Facilities	800,000	1	8.0
HE/2	Yap State Hospital - General Improvements	855,000	1/2	8.0
Total Funding Required		1,655,000		

3.2.9 Government Administrative Buildings

The Department of Transportation and Public Works will undertake a program to improve Yap’s government administrative buildings in Colonia.

The Yap IDP includes a new Government Administrative Complex to consolidate. Other projects are targeted specifically at supporting private sector, agricultural, cultural and community causes.

The government administrative buildings projects in the Yap IDP are listed in Table Y 12 and support elements of the sector goal to provide government administrative building infrastructure that:

1. provides modern and efficient facilities required for government personnel to effectively undertake their functions
2. provides an environment that enables equipment used by government personnel to be adequately maintained
3. encourages a high morale and work ethic amongst government employees by providing a suitable work environment
4. provides elected officials with suitable office space and chambers in which to conduct their responsibilities

Further information on each project can be found in the Project Outlines in Part 4.

Table Y 12 – Government Administrative Buildings Priority Project

ID	Project Title	Required Funding (\$)	Target Period	Strategic Rating
GB/1	Yap Government Administration Complex	15,000,000	1	6.2
GB/2	Yap State Museum Extension	250,000	2/3	4.9
GB/3	Establish Central Market	100,000	2	8.0
GB/4	Colonia Small Business Center Renovation	500,000	1	7.3
GB/5	Colonia Community Center Renovation	500,000	1	6.0
GB/6	Yap Women’s Association Multi-Purpose Building	500,000	1	8.7
Total Funding Required		16,850,000		

3.3 Whole of Life Costs

The costs associated with new infrastructure do not end with purchase or construction. It is one step in the life cycle of an asset that begins with the initial identification of needs through to the disposal of the asset at the end of its useful life. When all these costs are combined, the total may be more than double the cost of the initial purchase/construction price.

The provision of adequate funding for preventative maintenance as part of a whole of life approach to asset management is a key institutional issue for FSM, like other Pacific Island countries.

Estimates of the Yap IDP priority project maintenance costs by sector over a 20 year period are included in Table Y 13. Although some assets have a life other than 20 years, this period has been chosen to provide an indication of the maintenance funding required on an annual basis.

The annual percentage maintenance cost and the asset life factors can be found in Table 14 in Volume 1, Part 6, section 6.2 of the IDP.

Table Y 13 – Yap IDP 20 Year Maintenance Costs

Sector	20 Year Costs (\$)		B / A	Annual Maintenance Cost (\$)
	Construction (A)	Maintenance (B)		
Electric Power	6,757,000	3,975,000	59%	199,000
Water/Wastewater Systems	15,593,000	7,103,000	46%	355,000
Solid Waste Management	2,974,000	1,190,000	40%	60,000
Road and Pedestrian Facilities	17,000,000	16,250,000	96%	813,000
Maritime Transportation	39,290,000	25,274,000	64%	1,264,000
Air Transportation	30,036,000	50,944,000	170%	2,547,000
Education	14,422,000	7,341,000	51%	367,000
Health	1,542,000	1,233,000	80%	62,000
Government Administrative Buildings	15,377,000	9,226,000	60%	461,000
Total	142,991,000	122,536,000	86%	6,128,000

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4.1 Climate Change Adaptation

Project Y 1 – Upgrade Critical Infrastructure for Climate Change Resilience (CC/1)

Project Title:	Upgrade Critical Infrastructure for Climate Change Resilience		Sector:	Cross-sector					
Project Description/Scope:	Upgrade critical infrastructure including roads, water, utilities, telecom and government buildings, to withstand disasters and climate change								
		Design	Construction						
	Assess and upgrade critical infrastructure (roads, water, utilities, telecom) to withstand disasters and climate change	19,292	2,526,127						
	Consider options for relocation of infrastructure, utilities and improvement of access roads etc.			Unpriced. Assume included in general roads upgrading works budgets					
	Ensure schools and other structures identified as shelters are certified and upgraded as needed (for typhoon)	39,076	503,150						
	Develop and implement an Operation and Maintenance Plan for Yap State public infrastructure			\$15,462 in JNAP for "Develop O&M Plan going forward": not included					
	Retrofit existing public infrastructure and housing to be disaster and climate risk-proof	40,184	500,200						
	Total	98,552	3,529,477						
	Contingencies 10% as Table 10 of JSAP	9,855	352,948						
	Grand Total	108,000	3,882,000						
Agencies Responsible:	Office of Environment and Emergency Management in conjunction with Yap sector agencies								
Project Objectives/Outcomes:	Reduce the risk to communities from climate related impacts on infrastructure								
Project Justification:	In accordance with Joint State Action Plan for Disaster Risk Management and Climate Change, 2015, Objective 6.3								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve natural disaster and climate change resilience	Improve access to/delivery of education	Improve capacity of government infrastructure agencies	Improve environmental outcomes/conditions	Improve financial sustainability of infrastructure	Total Rating (out of 10)
									N/A
Project Status:	Concept								
Inclusions:	See project description								
Exclusions:	Relocation, and upgrading of access roads								
Risks & Dependencies:	To be assessed as part of scope definition Climate adaptation and DRM need to be mainstreamed into the IDP projects								
Estimated Planning & Design Costs \$:	108,000		Estimated Construction Costs \$:	3,882,000					

4.2 Electric Power Projects

Project Y 2– Renewable Energy Extension - Phase 2 (EP/1)

Project Title:	Renewable Energy Extension - Phase 2					Sector:	Electric Power		
Project Description/Scope:	Increase the contribution of renewable energy to Yap’s electric power needs by developing two additional wind turbines (2 x 275kW - 550kW total)								
Agencies Responsible:	Yap State Public Service Corporation								
Project Objectives/Outcomes:	Reduce Yap’s reliance on imported fuel for electric power generation								
Project Justification:	Yap Energy Master Plan target of 75 percent electric power from renewable sources by 2020 (currently 17 percent)								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	4	4	4	4	5	2	4	5	8.2
Project Status:	Concept								
Inclusions:	Wind turbine installation and connection to the Yap grid								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition Suitable sites for locating wind turbine installations								
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	1,880,000			

Project Y 3– Renewable Energy Extension - Phase 3 (EP/2)

Project Title:	Renewable Energy Extension - Phase 3					Sector:	Electric Power		
Project Description/Scope:	Increase the contribution of renewable energy to Yap’s electric power needs by developing solar photo-voltaic electric power generation and associated storage (500kW total)								
Agencies Responsible:	Yap State Public Service Corporation								
Project Objectives/Outcomes:	Reduce Yap’s reliance on imported fuel for electric power generation								
Project Justification:	Yap Energy Master Plan target of 75 percent electric power from renewable sources by 2020 (currently 17 percent)								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	4	4	4	4	5	2	4	5	8.2
Project Status:	Concept								
Inclusions:	Solar PV generation with energy storage and connection to the Yap grid								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition Suitable sites for locating Solar PV installations								
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	3,680,000			

Project Y 4– Electric Power Network Improvements (EP/3)

Project Title:	Electric Power Network Improvements						Sector:	Electric Power		
Project Description/Scope:	Improve Yap’s electric power network reliability, security and efficiency by improving substation condition and efficiency									
Agencies Responsible:	Yap State Public Service Corporation									
Project Objectives/Outcomes:	Improve the reliability, security and cost-effectiveness of electric power in Yap									
Project Justification:	Current electric power needs to be more reliable, secure and cost-effective									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	4	4	4	2	4	4	4	7.8	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	60,000 (consultant study)				Estimated Construction Costs \$:	100,000 (equipment upgrades)				

Project Y 5– Electric Power Distribution Improvements (EP/4)

Project Title:	Electric Power Distribution Improvements						Sector:	Electric Power		
Project Description/Scope:	Improve Yap’s electric power distribution reliability, security and efficiency by: <ul style="list-style-type: none"> • Replacing current transformers that are over-sized and inefficient • Replacing poles and cross-arms that have deteriorated and threaten the reliability of the distribution network • Replacing all high pressure sodium (HPS) streetlights with efficient light emitting diode (LED) lights 									
Agencies Responsible:	Yap State Public Service Corporation									
Project Objectives/Outcomes:	Improve the reliability, security and cost-effectiveness of electric power in Yap									
Project Justification:	Current electric power needs to be more reliable, secure and cost-effective									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	4	4	4	4	4	4	4	4	8.2	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	675,000				

Project Y 6– Outer Island Micro Grid Expansion (EP/5)

Project Title:	Outer Island Micro Grid Expansion					Sector:	Electric Power			
Project Description/Scope:	Make electric power available to communities on outer islands by establishing micro grids that utilize a combination of solar PV and fuel-powered generation									
Agencies Responsible:	Yap State Public Service Corporation									
Project Objectives/Outcomes:	To provide electric power to outer island communities									
Project Justification:	Outer island communities do not have access to electric power									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
4	4	5	3	4	3	4	4	2	7.3	
Project Status:	Concept									
Inclusions:	Electric power generation facility and connection to community, business and private premises									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition Community does not take responsibility for micro grid operation and/or receives no technical support									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	500,000				

4.3 Water/Wastewater System Projects

Project Y 7– Central Water - Refurbish Water Storage Tanks (WW/1)

Project Title:	Central Water - Refurbish Water Storage Tanks	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Refurbish Central Water System water storage tanks (2 x 1 million gallon, 1 x 40,000 gallon) as recommended by recent engineering assessment								
Agencies Responsible:	Yap State Public Service Corporation								
Project Objectives/Outcomes:	Provide safe and reliable water storage to meet the needs of the Central Water System								
Project Justification:	Current tanks have had a recent engineering assessment recommending that they be refurbished								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	3	5	5	5	5	9.6
Project Status:	Scoped: Engineering assessment and estimate								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	1,500,000			

Project Y 8– Central Water - Replace Water Treatment System (WW/2)

Project Title:	Central Water - Replace Water Treatment System	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Replace the existing water treatment system with a new system of sufficient size and function to meet the needs of the Central Water System								
Agencies Responsible:	Yap State Public Service Corporation								
Project Objectives/Outcomes:	Provide safe, reliable water supply within the Central Water System								
Project Justification:	Recent engineering assessment that the existing water treatment system needs to be replaced								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	3	5	5	5	5	9.6
Project Status:	Scoped								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage								
Estimated Planning & Design Costs \$:	90,000				Estimated Construction Costs \$:	1,710,000			

Project Y 9– Central Water - Water Main Rehabilitation Phase 1 (WW/3)

Project Title:	Central Water - Water Main Rehabilitation Phase 1	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Rehabilitate approximately 25 percent of water mains in the Central Water System based on risk factors of age, type, excessive maintenance, water loss, ground water intrusion and network criticality								
Agencies Responsible:	Yap State Public Service Corporation								
Project Objectives/Outcomes:	Effectively manage risks associated with the Central Water System water mains to maintain safe and reliable water supply								
Project Justification:	Risk factors associated with the current Central Waster System suggest that approximately 25 percent of the network should be proactively renewed in the short term								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	3	5	5	5	5	9.6
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs	Estimated Construction Costs \$:	500,000						

Project Y 10– Central Water - Water Main Rehabilitation Phase 2 (WW/4)

Project Title:	Central Water - Water Main Rehabilitation Phase 2	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Rehabilitate approximately a further 25 percent of water mains in the Central Water System based on risk factors of age, type, excessive maintenance, water loss, ground water intrusion and network criticality								
Agencies Responsible:	Yap State Public Service Corporation								
Project Objectives/Outcomes:	Effectively manage risks associated with the Central Water System water mains to maintain safe and reliable water supply								
Project Justification:	Risk factors associated with the current Central Waster System suggest that approximately 25 percent of the network should be proactively renewed in the medium term								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	3	5	5	5	5	9.6
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs	Estimated Construction Costs \$:	500,000						

Project Y 11– Central Water - Water Well Renewal & Replacement (WW/5)

Project Title:	Central Water System - Water Well Renewal & Replacement	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Replace existing well that is no longer producing water at the required rate								
Agencies Responsible:	Yap State Public Service Corporation								
Project Objectives/Outcomes:	Produce sufficient water to meet the needs of the Central Water System								
Project Justification:	Existing well is no long producing water at the required rate, reducing the security and reliability of water supplied by the Central Water System								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	3	5	5	5	5	9.6
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs	Estimated Construction Costs \$:	200,000						

Project Y 12– Southern Water – Treatment Plant/Distribution Improvements (WW/6)

Project Title:	Southern Water– Treatment Plant/Distribution Improvements	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Improve the reliability and quality of water supply by: <ul style="list-style-type: none"> Renovating the current water treatment plant Replacing gate valves and other distribution components that are currently limiting the reliability and availability water supplied to customers 								
Agencies Responsible:	Southern Yap Water Authority								
Project Objectives/Outcomes:	Provide reliable and safe water to customers of the Southern Water System								
Project Justification:	Ineffective water treatment and inappropriate valves and other components impact on the quality reliability and availability of water supply								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	3	5	5	5	5	9.6
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs	Estimated Construction Costs \$:	450,000						

Project Y 13– Southern Water - Well Rehabilitation (WW/7)

Project Title:	Southern Water - Well Rehabilitation						Sector:	Water/Wastewater Systems		
Project Description/Scope:	Rehabilitate existing wells to ensure a minimum production of 15 gpm									
Agencies Responsible:	Southern Yap Water Authority									
Project Objectives/Outcomes:	Produce sufficient water to meet the needs of the Southern Water System									
Project Justification:	8 out of 10 wells are not producing water at the design rate, impacting on the security and reliability of water supply in the Southern Water System									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	5	5	5	5	9.6	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	870,000				

Project Y 14– Southern Water/ Water Storage (WW/8)

Project Title:	Southern Water/Water Storage						Sector:	Water/Wastewater Systems		
Project Description/Scope:	Increase the storage capacity of the Southern Water System by adding an additional 55,000 gallon storage tank									
Agencies Responsible:	Southern Yap Water Authority									
Project Objectives/Outcomes:	Provide sufficient water storage capacity to meet the needs of the Southern Water System									
Project Justification:	The existing 100,000 gallons of storage in the Southern Water System is no longer adequate to ensure the security and reliability of water supply									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	5	5	5	5	9.6	
Project Status:	Scoped									
Inclusions:	To be developed in the design/procurement stage									
Exclusions:	To be developed in the design/procurement stage									
Risks & Dependencies:	To be developed in the design/procurement stage									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	300,000				

Project Y 15– Southern Water - Office and Storage Improvements (WW/9)

Project Title:	Southern Water – Office and Storage Improvements					Sector:	Water/Wastewater Systems			
Project Description/Scope:	Provide improved office and storage facilities (approx. 400 ft ²) for use by the Southern Yap Water Authority									
Agencies Responsible:	Southern Yap Water Authority									
Project Objectives/Outcomes:	Provide adequate and resilient office and storage facilities to support the Southern Water System									
Project Justification:	Existing building does not meet the needs for the Authority’s administration and storage needs and is susceptible to natural disasters, impacting on the security of water supply									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	3	3	4	2	3	4	5	5	7.6	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	250,000				

Project Y 16– Central Wastewater - Sewer Main Rehabilitation Phase 1 (WW/10)

Project Title:	Central Wastewater - Sewer Main Rehabilitation Phase 1					Sector:	Water/Wastewater Systems			
Project Description/Scope:	Rehabilitate approximately 4,500’ of sewer mains in the Colonia Sewerage System based on risk factors of age, type, excessive maintenance, water intrusion and network criticality as indicated in the Sewer Master Plan									
Agencies Responsible:	Yap State Public Service Corporation									
Project Objectives/Outcomes:	Effectively manage risks associated with the Colonia Sewerage System sewer mains to maintain safe and reliable transfer of sewerage									
Project Justification:	Sewer Master Plans proposes that a portion of the current Colonia Sewerage System sewer mains are renewed on an ongoing basis, totally around 4,500’ in the short term (1 – 5 years)									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	5	5	5	5	9.6	
Project Status:	Concept: Proposed in Sewer Master Plan									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:					Estimated Construction Costs \$:	450,000				

Project Y 17– Central Wastewater - Sewer Main Rehabilitation Phase 2 (WW/11)

Project Title:	Central Wastewater - Sewer Main Rehabilitation Phase 2	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Rehabilitate approximately 4,500’ of sewer mains in the Colonia Sewerage System based on risk factors of age, type, excessive maintenance, water intrusion and network criticality as indicated in the Sewer Master Plan								
Agencies Responsible:	Yap State Public Service Corporation								
Project Objectives/Outcomes:	Effectively manage risks associated with the Colonia Sewerage System sewer mains to maintain safe and reliable transfer of sewerage								
Project Justification:	Sewer Master Plans proposes that a portion of the current Colonia Sewerage System sewer mains are renewed on an ongoing basis, totally around 4,500’ in the medium term (6-10 years)								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	3	5	5	5	5	9.6
Project Status:	Concept: Proposed in Sewer Master Plan								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	450,000			

Project Y 18– Central Wastewater - Renew Treatment Plant Outfall (WW/12)

Project Title:	Central Wastewater - Renew Treatment Plant Outfall	Sector:	Water/Wastewater Systems						
Project Description/Scope:	Replace the 3,000’ sewerage treatment outfall pipe and diffuser system (investigation during the preparation of the Sewer Master Plan failed to find the current diffuser array)								
Agencies Responsible:	Yap State Public Service Corporation								
Project Objectives/Outcomes:	Provide an effective and reliable outfall and diffuser system for the sewerage treatment plant								
Project Justification:	Investigation during the preparation of the Sewer Master Plan failed to find the current diffuser array, raising concerns for the effective and reliable release of sewerage treatment plant effluent at the designated outfall location								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	3	5	5	5	5	9.6
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	150,000				Estimated Construction Costs \$:	2,850,000			

Project Y 19– Yap Septic Tank Program (WW/13)

Project Title:	Yap Septic Tank Program					Sector:	Water/Wastewater Systems			
Project Description/Scope:	Implement a community/residential/commercial based septic tank program as a cost effective approach to improving the management of effluent in unsewered areas of Yap by: <ul style="list-style-type: none"> • Establishing standards and regulations for community/residential/commercial septic tanks • Installing up to 1,500 septic tanks and ensuring that they have suitable access for sewerage disposal vehicles • Providing additional vehicles (2) for a reliable, responsive sewerage disposal service • Disposing all collected sewerage at the existing sewerage treatment plant 									
Agencies Responsible:	Yap State Public Service Corporation									
Project Objectives/Outcomes:	Improve the health and environment of communities, particularly in shoreline and other sensitive areas									
Project Justification:	Only some parts of Colonia are covered by the Colonia Sewerage System and outside of that area there is no standardized or managed approach to the disposal of commercial, community and residential effluent The provision of community/residential/commercial septic tanks and a reliable collection service will achieve many of the benefits of a sewerage system at a fraction of the capital and recurrent cost									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	5	5	5	5	3	5	5	5	5	9.6
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition Program is not adequately regulated/managed and/or not accepted by the community									
Estimated Planning & Design Costs \$:	160,000					Estimated Construction Costs \$:	6,340,000			

4.4 Solid Waste Management Projects

Project Y 20– Solid Waste Management Improvements – Short Term (SW/1)

Project Title:	Solid Waste Management Improvements – Short Term	Sector:	Solid Waste Management						
Project Description/Scope:	Improve the operation of the current solid waste management center by: <ul style="list-style-type: none"> • Providing solid waste management and collection equipment, including a bulldozer and dump trucks • Improving the capacity/operation of the leachate ponds • Providing covered storage areas for recyclables and other separated waste 								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Improve the collection, storage and disposal of solid waste Maximize the amount of Yap’s solid waste disposed of at the central site and the separation of recyclables								
Project Justification:	Equipment is needed to improve the operation of the central site and collection system needs to be extended to maximize the utilization of the central site Important facility improvements were excluded from the most recent upgrading works								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	5	5	5	3	5	4	5	4	8.9
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	700,000			

Project Y 21– Solid Waste Management Improvements – Long Term (SW/2)

Project Title:	Solid Waste Management Improvements – Long Term	Sector:	Solid Waste Management						
Project Description/Scope:	Develop a new solid waste management center to replace the current site within 5–10 years								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Establish a long term solid waste management center to replace the current center, compliant with relevant standards and regulations and minimizing the solid waste going to landfill								
Project Justification:	The current solid waste management center has a life of between 5–10 years and a long term replacement center is needed								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	5	5	5	3	5	4	5	4	8.9
Project Status:	Concept – preferred site on private land has been identified								
Inclusions:	Solid waste management center that is compliant with all environmental regulations & standards and minimizes the amount of solid waste going to landfill								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition Replacement site is not able to be set aside for the long term solid waste management center								
Estimated Planning & Design Costs \$:	300,000				Estimated Construction Costs \$:	2,700,000			

4.5 Road and Pedestrian Facilities Projects

Project Y 22– Replacement Bridges - Tagreng, Ganir, Donoch, Tagaaniyal (RD/1)

Project Title:	Replacement Bridges - Tagreng, Ganir, Donoch, Tagaaniyal	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Reconstruct the Tagaaniyal, Ganir and Donoch bridges in Colonia and the Tagreng Bridge linking Colonia with Gagil, Tomil and Maap								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Reconstruct bridges to ensure access to Colonia and key services and facilities particularly for Gagil, Tomil & Maap Improve environmental conditions in Chamorro Bay								
Project Justification:	Assessment of bridges confirms they are in very poor condition and should preferably be closed for safety of the public Tagaaniyal Bridge only operating one-lane and is only access to Colonia and State hospital and high school								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	4	2	4	5	8.9
Project Status:	Concept: Initial Engineering Investigation & Planning								
Inclusions:	Bridge reconstruction and approach realignment as appropriate Utility services Improvement of environmental conditions in Chamorro Bay Provision of adequate access for vessels								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	600,000				Estimated Construction Costs \$:	6,000,000			

Project Y 23– Gagil – Tomil Road Improvements (RD/2)

Project Title:	Gagil – Tomil Road Improvements	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	On the roads between Tagaaniyal Bridge and Gagil and Tomil Schools: <ul style="list-style-type: none"> Rehabilitate the existing sealed sections of road (approximately 1.5 miles in total) Reconstruct the existing unsealed sections (approximately 4 miles in total) 								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Provide an improved sealed road standard road between the Gagil and Tomil areas and the existing road at Tagaaniyal Bridge								
Project Justification:	Sealed section of road is in poor condition and approximately 4 miles is unsealed								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	3	2	5	4	8.7
Project Status:	Concept								
Inclusions:	Improve road and associated drainage and facilities to sealed road standard								
Exclusions:	Utility services								
Risks & Dependencies:	To be assessed as part of scope definition Rehabilitation of Tagaaniyal Bridge								
Estimated Planning & Design Costs \$:	500,000	Estimated Construction Costs \$:	5,000,000						

Project Y 24– Maap Road Improvements (RD/3)

Project Title:	Maap Road Improvements	Sector:	Road & Pedestrian Facilities						
Project Description/Scope:	Improve approximately 6 miles of road from the junction leading to Maap and the roads around Maap								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Provide road to and around Maap to current sealed road standard								
Project Justification:	Current roads require resurfacing and improvements to achieve current standard								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	3	2	5	4	8.7
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	Utility services								
Risks & Dependencies:	To be assessed as part of scope definition Gagil – Tomil Road Improvements to Maap Road junction & Tagaaniyal Bridge replacement								
Estimated Planning & Design Costs \$:		Estimated Construction Costs \$:	1,200,000						

Project Y 25– Colonia Road Improvements (RD/4)

Project Title:	Colonia Road Improvements						Sector:	Road & Pedestrian Facilities		
Project Description/Scope:	Improve the roads around Colonia and to the Yap International Airport by: <ul style="list-style-type: none"> • Strengthening and resurfacing approximately 5 miles of existing sealed roads • Reconstructing approximately 2 miles existing unsealed roads to sealed road standard, including: <ul style="list-style-type: none"> • Roads in the government housing area • Access roads to COM/YHS, CMS/Central ECE and Gaanelay Community School • Providing improved facilities for the safe and accessible use of pedestrians and cyclists 									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide roads in Colonia to sealed road standard with improved strength and surfacing and with safe and accessible pedestrian and cyclist facilities									
Project Justification:	Colonia roads in need of strengthening and resurfacing and construction to sealed standard, and provision of safe and accessible pedestrian and cyclist facilities									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	3	2	5	4	8.7	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	160,000				Estimated Construction Costs \$:	2,600,000				

Project Y 26– Yap Loop Road Rehabilitation (RD/5)

Project Title:	Yap Loop Road Rehabilitation						Sector:	Road & Pedestrian Facilities		
Project Description/Scope:	Patch and resurface the West Yap Loop Road (approximately 9 miles)									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide improve road conditions on the West Yap Loop Road									
Project Justification:	Road conditions are poor									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	3	2	5	4	8.7	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	500,000				

Project Y 27 – Establish Asphalt Plant and Core Equipment (RD/6)

Project Title:	Establish Asphalt Plant and Core Equipment	Sector:	Road and Pedestrian Facilities						
Project Description/Scope:	Establish an asphalt plant appropriate to Yap’s road development and maintenance needs								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Establish a core capability to produce and lay asphalt for road development projects, avoiding the need for contractors to import asphalt plant and equipment or each project, and undertaking road maintenance as and when required								
Project Justification:	Yap’s sealed roads have chip and asphalt surfacing in need of asphalt patching and resurfacing and road development projects require contractors to import asphalt plant and equipment on a project-by-project basis								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	5	5	2	2	5	4	8.4
Project Status:	Concept								
Inclusions:	Establishment of asphalt plant and asphalt laying equipment, including a stock of spares and consumables, training of local staff and design of standard asphalt mixes appropriate to Yap’s needs and locally available and imported materials								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition Sustainability of local capacity to operate asphalt plant and equipment								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	1,500,000			

4.6 Maritime Transportation Projects

Project Y 28– Colonia Commercial Port Improvements (MT/1)

Project Title:	Colonia Commercial Port Improvements						Sector:	Maritime Transportation		
Project Description/Scope:	Improve Colonia’s commercial port by: <ul style="list-style-type: none"> • Extending the dock space available for visiting vessels from the current commercial dock around to the fisheries dock for a total of 2,500’ • Extending and improving the area available for container storage, including demolition of the refrigerated warehouse • Providing facilities for passengers travelling to and from outer islands • Ensuring that the Port Area meets the security IMO security standards 									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide a port that is adequate for Yap’s needs and is efficient and secure in the processing and transshipment of cargo and passengers									
Project Justification:	Current port is inefficient and has insufficient space/facilities for handling cargo and passengers									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	3	3	3	4	5	5	8.4	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	1,500,000				Estimated Construction Costs \$:	13,500,000				

Project Y 29 – Colonia Port Channel & Anchorage Improvements (MT/2)

Project Title:	Colonia Port Channel & Anchorage Improvements						Sector:	Maritime Transportation		
Project Description/Scope:	Improve the safety and accessibility of Colonia Port for visiting vessels, including: <ul style="list-style-type: none"> • Widening the mouth of the channel entrance • Maintaining a minimum depth along the length of the channel • Providing an adequate turning basin • Providing appropriate navigational aids and charts • Clearing the channel and port area of obstructions, derelict vessels, etc. • Stockpile dredged sand/coral material that is suitable for construction materials 									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide a port channel and anchorage that provide appropriate levels of safety and accessibility									
Project Justification:	Port channel and anchorage have limitations that affect safety and accessibility									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	3	3	4	4	5	5	8.7	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition Sustainability of dredging and widening from ongoing sediment buildup									
Estimated Planning & Design Costs \$:	1,300,000				Estimated Construction Costs \$:	24,700,000				

Project Y 30– Colonia Port Berthing Facilities Improvements (MT/3)

Project Title:	Colonia Port Berthing Facilities Improvements						Sector:	Maritime Transportation		
Project Description/Scope:	Replace the dockside buffers									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Protect vessels at Colonia Port from damage when berthing or docked									
Project Justification:	Current dockside buffers are in need of replacement									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	3	3	4	4	5	5	8.7	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	400,000				

Project Y 31– Yap State Multi-Role Vessel (MT/4)

Project Title:	Yap State Multi-Role Vessel						Sector:	Maritime Transportation		
Project Description/Scope:	Provide a suitable vessel that is able to undertake a number of roles including: <ul style="list-style-type: none"> • Transporting commercial passengers and goods to, from and between the outer islands • Transporting equipment and machinery to the outer islands in support of government and community development and maintenance projects and disaster recovery • Providing “first response” in the event of a natural disaster or other event impacting on community health or safety • Providing reliable and accessible transport for government agencies to deliver improved services to the outer islands 									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Reduce the issues associated with communities living on small and widely spread islands and lacking in safe, reliable external transportation									
Project Justification:	Needs of communities and government are not being met by currently available maritime transportation options									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	3	5	5	3	9.1	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition State cannot meet the operational costs of the vessel									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	500,000				

4.7 Air Transportation Projects

Project Y 32– Yap International Airport Runway Extension (AT/2)

Project Title:	Yap International Airport Runway Extension					Sector:	Air Transportation			
Project Description/Scope:	Extend the runway 500’ to the west to provide a total length of 6,500’ runway consistent with the Airport Master Plan Increase safety areas to 1,000’ long by 500’ wide to provide FAA/ICAO mandated safety areas again consistent with the Airport Master Plan, given that the airport is not “terrain restricted”									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Increase safety margins and payload flexibility for 737-800 and smaller aircraft Conform with FAA/ICAO runway safety area requirements									
Project Justification:	Safety margins and payload flexibility for the “FSM standard” 737-800 aircraft are limited by current 6,000’ runway length Runway safety areas do not conform to FAA/ICAO requirements									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	3	2	5	4	8.7	
Project Status:	Scoped: Project layout and estimate included in Airport Master Plan									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	1,750,000				Estimated Construction Costs \$:	15,750,000				

Project Y 33– Yap International Airport New Terminal (AT/2)

Project Title:	Yap International Airport New Terminal					Sector:	Air Transportation			
Project Description/Scope:	Construct a new airport terminal with improved passenger, baggage/cargo and airline services and security and quarantine									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide a terminal that is efficient in processing passengers and baggage/cargo and provides an improved level of passenger and airline services and security and quarantine									
Project Justification:	Limited options to resolve operational passenger and baggage/cargo processing and security/quarantine problems within the current terminal									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	5	3	4	5	4	9.1	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	1,000,000				Estimated Construction Costs \$:	10,000,000				

Project Y 34– Yap International Airport Perimeter Road (AT/3)

Project Title:	Yap International Airport Perimeter Road					Sector:	Air Transportation			
Project Description/Scope:	Provide road access around the Airport perimeter for improved patrolling, response, inspection and maintenance									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Improve Airport perimeter security									
Project Justification:	Poor accessibility to the Airport perimeter security fencing for patrolling, inspection and maintenance									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
2	3	2	2	2	2	2	4	4	5.1	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition Provision for extension of runway and runway safety areas									
Estimated Planning & Design Costs \$:	150,000				Estimated Construction Costs \$:	2,850,000				

Project Y 35– Fais Airstrip Improvements (AT/4)

Project Title:	Fais Airstrip Improvements						Sector:	Air Transportation		
Project Description/Scope:	Improve condition of airstrip by rehabilitating cracked areas and resurfacing									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Improve the condition of the airstrip to reduce safety risks for visiting aircraft									
Project Justification:	Current condition of airstrip reduces operational safety – chip seal is in poor condition with severe cracks and loose debris									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	2	3	3	4	7.8	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	60,000				Estimated Construction Costs \$:	1,175,000				

Project Y 36– Ulithi Airstrip Improvements (AT/5)

Project Title:	Ulithi Airstrip Improvements						Sector:	Air Transportation		
Project Description/Scope:	Undertake minor improvements to airstrip surfacing									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Remove all defects from airstrip surface									
Project Justification:	Minor defects compromise operational safety									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	5	3	2	3	3	4	7.8	
Project Status:	Scoped									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	35,000				

4.8 Education Projects

Project Y 37– Woleai High School – New Buildings and Renovation (ED/1)

Project Title:	Woleai High School– New Buildings and Renovation	Sector:	Education						
Project Description/Scope:	Demolish and replace Building 1 (2,600 ft ² , four classrooms) Renovate: <ul style="list-style-type: none"> • Building 2 (4,440 ft², two story building with library and computer lab) • Building 3 (2,525 ft², four classrooms) • Building 4 (1,275 ft², two classrooms) • Building 5 (2,700 ft², two story Vocational Education Building) • Construct new toilet facility, with a septic tank and leaching field • Provide a potable water catchment system, solar electrical system and a perimeter fence 								
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Improve facilities and services to a standard appropriate to the effective schooling of students								
Project Justification:	All existing buildings are in need of renovation or replacement and school facilities and services need to be improved								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	4	5	3	5	2	4	4	4	7.8
Project Status:	Scoped: Detailed assessment in Yap State School Facility Repair and Construction Master Plan								
Inclusions:	To be developed in the design stage								
Exclusions:	To be developed in the design stage								
Risks & Dependencies:	To be developed in the design stage Parallel scheduling with Woleai Airstrip Rehabilitation Project (currently funded and not included in the IDP) to share cost of shipping materials and equipment to Woleai								
Estimated Planning & Design Costs \$:	180,000				Estimated Construction Costs \$:	1,620,000			

Project Y 38– Yap High School – Phase 2 Improvements (ED/2)

Project Title:	Yap High School – Phase 2 Improvements					Sector:	Education			
Project Description/Scope:	Undertake Phase 2 of the Yap High School Master Plan, including: <ul style="list-style-type: none"> • Demolition of the Home Economics and Science Buildings • Construction of three additional buildings - replacement Home Economics Building with 2 classrooms upstairs and two classroom buildings • Renovation of Building 1, and Buildings 7 through 17 									
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes									
Project Justification:	As detailed in Yap High School Master Plan									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
4	4	5	3	5	2	4	4	4	7.8	
Project Status:	Scoped: Master Plan									
Inclusions:	To be developed in the design stage									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage									
Estimated Planning & Design Costs \$:	360,000				Estimated Construction Costs \$:	3,600,000 (construction) 360,000 (furniture/fittings, etc.)				

Project Y 39– Colonia Middle School Improvements – Phase 1 (ED/3)

Project Title:	Colonia Middle School Improvements					Sector:	Education		
Project Description/Scope:	Improve the Colonia Middle School facilities by: <ul style="list-style-type: none"> • Constructing 2 eight-classroom buildings with built-in toilet facilities, offices and storage rooms • Demolishing Buildings 1 and 2 that are no longer adequate or safe 								
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes								
Project Justification:	Buildings 1 and 2 are no longer safe and require replacement								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	4	5	3	5	2	4	4	4	7.8
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition Renovation of Building 3 pending a decision on consolidation of Gaanelay Community School, in which case a new 8 classroom block should be constructed under the next schools project and Building 3 demolished								
Risks & Dependencies:									
Estimated Planning & Design Costs \$:	200,000				Estimated Construction Costs \$:	2,000,000 (construction) 200,000 (furniture/fittings, etc.)			

Project Y 40– Colonia Middle School Improvements – Phase 2 (ED/4)

Project Title:	Colonia Middle School Improvements – Phase 2					Sector:	Education			
Project Description/Scope:	Improve Colonia Middle School facilities by constructing an additional 8 classroom building to accommodate the consolidation of Gaanelay Community School and demolishing Building 3									
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes									
Project Justification:	Colonia Middle School requires additional classrooms to accommodate the consolidation of Gaanelay Community School as set out in the Yap Schools Master Plan									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	4	4	5	3	5	2	4	4	4	7.8
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	100,000					Estimated Construction Costs \$:	1,000,000 (construction) 100,000 (demolition, landscaping, etc.) 100,000 (furniture/fittings, etc.)			

Project Y 41– Yap Schools Improvements (ED/5)

Project Title:	Yap Schools Improvements	Sector:	Education						
Project Description/Scope:	Improve Yap Schools facilities in accordance with the Yap Schools Master Plan by: <ul style="list-style-type: none"> • Dalipebinaw Community School – upgrading the water and electrical systems and installing a perimeter fence – no further works are required to provide for the consolidation of Bael, Fanif and North Fanif Community Schools into the school • Gilman Community School – renovating all 3 buildings and installing a perimeter fence – no further works are required to provide for the consolidation of Kanifay Community School into the school • Maap Community School – renovating Buildings 1 and 2 and demolishing and replacing the nursery and toilet facility– no further works are required to provide for the consolidation of Rumung Community School into the school • Gagil Community School – renovating all 3 buildings and installing a perimeter fence • Tomilang Community School – renovating Buildings 1 and 2 and constructing a new toilet facility with a renovated septic tank and leaching field 								
Agencies Responsible:	Department of Education								
Project Objectives/Outcomes:	Provide improved teaching and learning facilities and environment that facilitates improved education outcomes								
Project Justification:	Improvements as set out in the Yap Schools Master Plan – no additional works required to accommodate students from schools identified for consolidation to these schools								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
4	4	5	3	5	2	4	4	4	7.8
Project Status:	Concept								
Inclusions:	Renovations in accordance with the Yap Schools Master Plan and accommodation for students from other schools – no additional facilities required								
Exclusions:	Furniture, fittings, etc.								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	100,000				Estimated Construction Costs \$:	1,850,000			

Project Y 42– Outer Island Early Childhood Education Center Improvements (ED/6)

Project Title:	Outer Island Early Childhood Education Center Improvements					Sector:	Education			
Project Description/Scope:	Improve the following Early Childhood Education Centers in the Outer Islands by demolishing the current center and constructing a new one with toilet facility, septic tank and leaching field, water catchment and storage system, solar electrical system and perimeter fence: <ul style="list-style-type: none"> • Fadraii ECE Center • Mogmog ECE Center • Euripik ECE Center • Piig ECE Center • Wottegai ECE Center • Elato ECE Center 									
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide improved early childhood teaching and learning facilities and environment that facilitates improved education outcomes									
Project Justification:	The ECE Centers are generally inadequate and unsafe in their present condition (detailed in Yap Schools Master Plan)									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
4	4	5	3	5	2	4	4	4	7.8	
Project Status:	Concept: Yap Schools Master Plan									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	Centers are not used due to lack of students or teachers									
Estimated Planning & Design Costs \$:	95,000				Estimated Construction Costs \$:	1,890,000 (construction) 189,000 (furniture, fittings, etc.)				

Project Y 43– DOE Curriculum Building (ED/7)

Project Title:	DOE Curriculum Building						Sector:	Education		
Project Description/Scope:	Replace the current DOE Curriculum Building with a new two-story concrete structure with a built-in toilet facility									
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide a suitable building to facilitate efficient and effective DOE curriculum related functions									
Project Justification:	Building is over 50 years old, structurally inadequate for its current purpose and not safe for occupation									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	3	2	5	1	4	5	5	6.9	
Project Status:	Concept: Yap Schools Master Plan									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	Furniture, office equipment									
Risks & Dependencies:	To be assessed as part of scope definition DOE moves to new Government Administrative Complex before it gets value from the new building									
Estimated Planning & Design Costs \$:	140,000				Estimated Construction Costs \$:	1,290,000				

Project Y 44– Outer Island School Toilet Facilities (ED/8)

Project Title:	Outer Island School Toilet Facilities						Sector:	Education		
Project Description/Scope:	Provide toilet facilities at 9 Outer Island schools that are currently without such facilities (Satuwal, Lamotrek, Elato, Ifalik, Falalop Woleai, Tagailop, Seliap, and Wattegai community schools and Woleai High schools) comprising 10' x 11' building with separate rooms for boys and girls water tank, septic tank and leaching field									
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Provide safe, sanitary toilet facilities for students and teachers									
Project Justification:	No suitable toilet facilities at these schools									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	5	5	5	5	3	3	3	7.8	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	180,000				

Project Y 45– Euripik Community School Reconstruction (ED/9)

Project Title:	Euripik Community School Reconstruction						Sector:	Education		
Project Description/Scope:	Rebuild the school building (24’-6” x 73’-6”) after it was destroyed during Typhoon Haiyan									
Agencies Responsible:	Department of Education									
Project Objectives/Outcomes:	Restore previously destroyed teaching and learning facilities									
Project Justification:	School building destroyed by Typhoon Haiyan									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	4	4	5	3	5	2	4	4	4	7.8
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs					Estimated Construction Costs \$:	100,000			

4.9 Health Projects

Project Y 46– Yap State Hospital - Rehabilitation & Nurses Facilities (HE/1)

Project Title:	Yap State Hospital - Rehabilitation & Nurses Facilities		Sector:	Health					
Project Description/Scope:	Develop a 2,000 square foot building adjacent to the current CHC Office to provide rehabilitation services and a nurses administration and training facility with storage space in a lower level								
Agencies Responsible:	Department of Health								
Project Objectives/Outcomes:	Return the hospital to the design 52 bed capacity by relocating non-ward facilities Provide rehabilitation services to meet the needs of the Yap community								
Project Justification:	Nurses administration and training facilities occupy space intended for ward use Limited rehabilitation services are currently available								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
3	3	4	5	5	3	5	4	4	8.0
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	70,000				Estimated Construction Costs \$:	730,000			

Project Y 47– Yap State Hospital - General Improvements (HE/2)

Project Title:	Yap State Hospital - General Improvements					Sector:	Health			
Project Description/Scope:	Undertake a number of general improvements to the Yap State hospital, including: <ul style="list-style-type: none"> • Improving the training center adjacent to the pier (\$150,000) • Providing extra storage space for supplies (\$60,000) • Moving the incinerator to overcome overheating of plumbing and odors entering adjacent areas of the hospital (\$50,000) • Improving Hospital security fencing (\$100,000) • Improving the walk way to make the pier accessible by wheel chair patients (\$95,000) • Adding a second floor to the dormitory to provide additional accommodation (\$350,000) 									
Agencies Responsible:	Department of Health									
Project Objectives/Outcomes:	Improve the operation, safety and security of the State Hospital to facilitate improved health services and outcomes									
Project Justification:	Each subproject addresses a current operational/safety/security issue									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	3	4	5	5	3	5	4	4	8.0	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	50,000				Estimated Construction Costs \$:	805,000				

4.10 Government Administrative Building Projects

Project Y 48– Yap Government Administration Complex (GB/1)

Project Title:	Yap Government Administration Complex					Sector:	Government Administrative Buildings			
Project Description/Scope:	Construct a new complex to house the Government’s legislative, executive, administrative and judicial branches on a new site									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Consolidate and improve the facilities for Yap’s governmental functions									
Project Justification:	Government branches and functions are located in separate facilities that are generally in need of improvement in terms of condition and space, impacting on the efficiency and effectiveness of functions and services									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	3	3	3	2	2	1	4	5	5	6.2
Project Status:	Scoped: Design prepared for a privately owned site – would need to be revised to suit the preferred government-owned site									
Inclusions:	Building fit out with new furniture and fittings									
Exclusions:	To be developed in the design stage									
Risks & Dependencies:	To be developed in the design stage Adequacy of government-owned site									
Estimated Planning & Design Costs \$:	1,000,000					Estimated Construction Costs \$:	14,000,000			

Project Y 49– Yap State Museum Extension (GB/2)

Project Title:	Yap State Museum Extension						Sector:	Government Administrative Buildings		
Project Description/Scope:	Renovate the State Courts Building to extend the capacity of the Museum to document and display Yap history and culture and to establish permanent archives									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide the community and visitors with increased knowledge of Yap history and culture									
Project Justification:	Museum does not have a building for archives and permanent displays of Yap history and culture									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	3	3	3	2	2	1	2	3	3	4.9
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition Relocation of the Judicial function to the proposed Government Administration Complex									
Estimated Planning & Design Costs \$:	included in construction costs					Estimated Construction Costs \$:	250,000			

Project Y 50– Establish Central Market (GB/3)

Project Title:	Establish Central Market	Sector:	Government Administrative Buildings						
Project Description/Scope:	Refit the planned Micronesian Games Gymnasium building to provide a central market facility for the sale of produce and handicrafts								
Agencies Responsible:	Department of Public Works & Transportation								
Project Objectives/Outcomes:	Provide a facility for: <ul style="list-style-type: none"> • Farmers and handicraft artisans to sell their produce/products • Residents to obtain fresh produce • Visitors to purchase local handicrafts and produce 								
Project Justification:	Currently no formal market for the sale of fresh produce and limited facilities for sale of handicrafts to visitors								
Strategic Alignment									
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
5	5	5	4	5	2	4	2	4	8.0
Project Status:	Concept								
Inclusions:	To be assessed as part of scope definition								
Exclusions:	To be assessed as part of scope definition								
Risks & Dependencies:	To be assessed as part of scope definition								
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	100,000			

Project Y 51– Colonia Small Business Center Renovation (GB/4)

Project Title:	Colonia Small Business Center Renovation						Sector:	Government Administrative Buildings		
Project Description/Scope:	Renovate the Colonia Small Business Center to provide an improved facility for current and intending small businesses to find information, advice and opportunities to network on planning and building their businesses									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide a facility that facilitates the planning and development of small businesses									
Project Justification:	Current small business center not properly equipped to meet the needs of current and intending small businesses									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
5	5	5	3	5	2	2	2	4	7.3	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	included in construction costs				Estimated Construction Costs \$:	500,000				

Project Y 52– Colonia Community Center Renovation (GB/5)

Project Title:	Colonia Community Center Renovation						Sector:	Government Administrative Buildings		
Project Description/Scope:	Renovate the Colonia Community Center to provide a safe and supportive activity facility for the community in general and youths in particular									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide a safe and support facility for the community and particularly youths to participate in activities and sports									
Project Justification:	Current community center not meeting the needs of the community and youths in particular									
Strategic Alignment										
Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)	
3	4	4	4	4	2	2	2	2	6.0	
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	50,000				Estimated Construction Costs \$:	450,000				

Project Y 53– Yap Women’s Association Multi-Purpose Building (GB/6)

Project Title:	Yap Women’s Association Multi-Purpose Building					Sector:	Government Administrative Buildings			
Project Description/Scope:	Establish a multi-purpose facility specific to the needs of Yap’s women, including health and social services and meeting and conference facilities									
Agencies Responsible:	Department of Public Works & Transportation									
Project Objectives/Outcomes:	Provide facility that provides Yap’s women with a safe and supportive environment in which to engage and further their needs and interests									
Project Justification:	Previous efforts to establish a center for Yap’s women have been unsuccessful									
Strategic Alignment										
	Support investment and economic growth	Improve private sector capacity and/or increase employment	Improve living conditions and/or income generation	Improve access to/delivery of public health services	Improve access to/delivery of education	Improve environmental outcomes/ conditions	Improve natural disaster and climate change resilience	Improve capacity of government infrastructure agencies	Improve financial sustainability of infrastructure	Strategic Rating (out of 10)
	5	5	5	5	5	3	3	3	5	8.7
Project Status:	Concept									
Inclusions:	To be assessed as part of scope definition									
Exclusions:	To be assessed as part of scope definition									
Risks & Dependencies:	To be assessed as part of scope definition									
Estimated Planning & Design Costs \$:	50,000					Estimated Construction Costs \$:	450,000			

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