NIUE

National Transport Strategy and short term Action Plan

2017-2026

GOVERNMENT OF NIUE

APRIL 2018

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Preface

This report is published by the Pacific Region Infrastructure Facility (PRIF) under the auspices of the Government of Niue. PRIF is a multi-development partner coordination, research and technical assistance facility that supports infrastructure development in the Pacific. PRIF member agencies include the Asian Development Bank, Australian Department of Foreign Affairs and Trade, European Investment Bank, European Union, Japan International Cooperation Agency, New Zealand Ministry of Foreign Affairs and Trade, and the World Bank.

Endorsed by the Niue Cabinet in September 2017, this Strategy brings together the Niue National Transport Strategy for 2017 to 2026 and a short term Action Plan. This combination was chosen to provide an overall context for the stakeholders interested in investing in the country in the near future as well as clear indications of the investment priorities in transport.

Acknowledgements

The document was prepared by James Reeves, IMC Worldwide Ltd, with guidance from the Niue Ministry of Infrastructure, the PRIF Coordination Office, the PRIF committees and working groups and the editors.

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Photographs by James Reeves
Desktop published by Smudge Design
Printed version: April 2018

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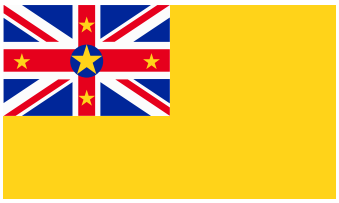

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Abbreviation List

$	NZD
AMMP	Asset Management and Maintenance Plan
GoN	Government of Niue
km	kilometre
m	metre
MCA	Multiple criteria Analysis
NNSP	Niue National Strategy Plan
NNTS	Niue National Transport Strategy (this document)

Currencies

All money values are in NZD

Part 1 Transport Strategy 2017-2026

1.1 Introduction

This is the Government of Niue's (GoN) first National Transport Strategy, which brings together into a single document GoN's policies on the aviation, maritime and land transport sectors, as well as relevant institutional, operational and investment activities. This strategy document provides guidance for the development of Niue's transport network and services from 2017 to 2026.

Overarching guidance for the National Transport Strategy originates from the Niue National Strategic Plan 2016–2026 (NNSP), which sets out the overall aims and objectives of the people of Niue and their government. Following the adoption of the NNSP, the Ministry of Infrastructure is actively pursuing improvements in the transport system, as reflected in the National Infrastructure Plan 2016 and its Asset Management and Maintenance Plan (AMMP), a document that sets the policy framework within which the transport strategy is established.

Transport contributes in many ways to the economic, social and environmental wellbeing of Niue. A transport system that is efficient and effective is crucial to the achievement of NNSP goals. The transport system incorporates some of Niue's most essential and valuable assets, such as the airport, wharf and road network. Together, not only must these modes of transport provide the gateway into this Pacific Island Country; they also should enable Niueans to access economic opportunities and social services, as well as maintain the fabric of family and community life.

Niue is one of the most vulnerable countries in the world in terms of the effects of climate change, including the impact of potential disasters. The focus of government strategies is to improve the resilience of Niue to such impacts. The transport strategy is no different and it intends to minimise the impact of transport sector operations on the environment and, in turn, contribute to the country's resilience.

A robust monitoring and evaluation framework has been developed to ensure a strong and sustainable transport strategy. It is essential that those who implement the strategy report on the progress of objectives, not only to identify project successes but also the failures, the latter of which should be carefully examined and understood. Setting SMART (i.e., specific, measurable, achievable, realistic, timed) targets for project deliverables and strategic outcomes is key to determining priorities and focusing resources.

It is essential that the transport sector is financially self-supporting and sustainable. The GoN is reviewing actively the costs associated with the operation of the transport sector in an attempt to ensure appropriate cost recovery by enshrining the "user pays" principle. The transport sector forms part of the budget framework and it is intended to ensure that it remains as debt-free as possible. Since considerable reliance will be placed on GoN's resources, as well as funding from its development partners, it is crucial that financing is sufficient to support the strategy.

This document (i) sets out the overall direction for the transport system and (ii) provides details of key actions in each subsector (i.e., aviation, maritime and roads). The prioritisation and critical nature of certain actions are also included.

1.2 Overarching Policy Environment

The NNSP sets out a number of ways in which infrastructure, in general—and transport, in particular—should contribute to the achievement of goals. One of the key National Development Pillars is

Sustainable use and management of key infrastructure that is climate-proof and resilient

Specific to the transport sector, the NNSP goals include:

- provision and maintenance of safe, secure and reliable transport infrastructure and services according to international standards and delivery of emergency preparedness response to potential national disasters and emergencies;
- sustainable growth in tourism, with the experience of cultural richness and community; and
- investment in key infrastructure and equipment, with well-planned and funded maintenance programmes to ensure continuing infrastructure development, as well as promotion of confidence and assurance to the public.

Building on this, Niue's AMMP sets the overall approach to infrastructure development and maintenance. It enshrines good planning and maintenance as the core of Niue's infrastructure strategy.

The AMMP identifies the key elements of the transport system as being its maintenance and upgrade, both of national importance. The wharf and airport, as well as the road links to the airport, wharf, hospital, power station and other key government buildings are especially vital (Box 1).

While the value of the transport system to Niue is considerable and should be measured in more than monetary terms, the AMMP estimates its replacement cost at approximately $45 million.

Box 1.1 Transport Strategy Principles

The key principles that underpin the transport strategy include:

- To provide effective planning and implementation of maintenance programmes for key assets;
- To ensure efficient budgeting for operational and maintenance activities;
- To ensure the transport system supports the objectives of the Niue National Strategic Plan 2016-2026;
- To incorporate climate change adaptation and disaster risk mitigation into plans;
- To ensure that transport infrastructure is able to meet the requirements of Niue's international treaties and statutory obligations; and
- To minimise the carbon footprint of the transport system and, wherever possible, integrate low carbon technologies.

1.3 National Transport Strategy

The focus of this National Transport Strategy is to set out the overall policy direction for transport in Niue. It builds upon the NNSP and AMMP and identifies the key areas for improvement. The strategy aims to deliver three key objectives: effectiveness, efficiency and resilience. These will be achieved by:

- ensuring that the transport system meets the needs of Niue and supports social and economic development programmes;
- improving the way in which services are planned and delivered;
- ensuring that revenue generated within the transport sector remains within this sector;
- making Niue's transport infrastructure resilient to the impacts of climate change and potential disasters;
- maximising reliability and minimising the losses of the transport system.

Niue's transport system has evolved over many years and, in many instances, it continues to rely on historic laws and statutes, aging infrastructure and obsolete practices. GoN intends to embark on programmes to modernise the sector, based on this strategy.

By necessity, much of the system is owned and operated by GoN, with little private sector involvement. The balance between public and private funding is regularly reviewed to ensure that the organisation best placed to deliver a service is responsible; however, it is possible that GoN will retain responsibility for the majority of activities for the foreseeable future, given that it is not cost effective for the private sector to invest in resources, equipment and infrastructure that are used only periodically and that are difficult to maintain and costly to replace.

It is important, therefore, that all interventions are taken into account to ensure that the highest priorities—as set out in the AMMP—receive the greatest attention and financial support. This may result in some interventions having to be delayed. It is also essential to ensure that resources are available for the maintenance and upgrade of critical infrastructure.

This strategy neither implies a significant change in policy direction nor does it provide sweeping changes to service deliveries. It simply aims to prioritise action plans to ensure that all segments of the transport system work together effectively, thus enabling Niue to respond to today's challenges and those of the future.

1.4 Aviation

1.4.1 Air Services

Niue is currently served by international flights to and from Auckland, New Zealand (operated by Air New Zealand). This service is of crucial importance as it is the only link for tourists, businessmen, officials and expatriate Niueans. GoN recently secured a five-year extension to the service.

GoN is investigating the feasibility of regional air services (e.g., to and from Tonga and Cook Islands, among others), with a view to attracting additional operators to the Niue market. GoN, however, is committed to maintaining the highest standards of airworthiness for aircraft operating in Niue airspace and it will reject applications from airlines that operate substandard aircraft or which currently lack international accreditation.

1.4.2 Aviation Infrastructure

To retain Niue's existing air services, it is of paramount importance that its aviation infrastructure is able to meet international air service requirements. This includes the runway, lights and markers, airport buildings, communications air traffic control and especially safety and emergency responses. A key focus of this strategy is to ensure that there is sufficient investment to ensure that requirements are met.

GoN has implemented a programme to renew and replace and upgrade fundamental aviation system components, one of which is the currently inadequate and aging airport fire-fighting equipment. It also aims to refurbish the fire trucks, refill equipment and accommodation.

1.4.3 Hanan International Airport

GoN is replacing or renovating key aspects of the international airport, of which the most essential is the resurfacing of the airport runway, to take place in 2019. At the same time, necessary repairs to and/or replacement of runway lighting and markers will be undertaken to bring these up to modern standards. A budget allocation of $17 million will be required for these projects, discussions for funding of which are under way.

The outdated control tower will be replaced in 2018 with GoN funding. This will allow for the installation of modern electrical protection equipment, new communications, location finding and air traffic control equipment, thus improving overall surroundings. The aim of these improvements is to ensure that the airport continues to meet international regulatory standards and is able to operate safely. GoN is considering the investment required to enable the airport to fulfil its role as an emergency airfield.

Substantial investments are under way to improve the passenger experience at the airport. GoN will continue these efforts, particularly with regard to the organisation and management of car parking and passenger pick-up and drop-off locations, as well as the improvement in the quality and variety of retail facilities.

1.5 Maritime

1.5.1 Maritime Services

Niue is served by a single container vessel that visits on a four-weekly cycle from Auckland, its only link for bulk cargo. The service is operated under contract to GoN.

1.5.2 Sir Robert's Wharf

Sir Robert's Wharf in Niue's capital, Alofi, is the only freight-handling facility. It is crucial to the wellbeing of the country and the future of its economy, since nearly every aspect of life in Niue relies upon the wharf. The fuel for electricity generation, transportation, cooking and aviation is imported through the wharf, as are many foodstuffs, equipment and vehicles, as well as most building materials. GoN recognises the essentiality of robust maintenance and operating plans for the wharf, so that it can continue a reliable operation.

Operation of the wharf is currently constrained by weather conditions, which can often cause significant unloading delays. During bad weather, the wharf is often damaged, requiring repair and further limiting operations. In 2011, the government received a report with options to extend the wharf so that it is strengthened and able to operate efficiently. It is now in the process of preparing an action plan, based on these recommendations, which also include the installation of a new sea wall and fenders. Implementation is expected in 2018-2019.

At the same time, the public sector is considering options to construct a larger, possibly floating, jetty that would extend significantly the wharf area to increase the efficiency of loading operations. Discussions continue with the Green Climate Fund to provide funding for the project with a view to securing funds for the wharf to last over the longer term.

1.5.3 Stevedoring and Wharf Operations

Stevedoring services are currently provided by the Outside Services Division under the Ministry of Infrastructure. These are considered to be adequate and efficient, given the constraints within which they operate.

All cargo is containerised and containers are moved from a moored ship via on-board cranes and an unpowered barge that requires propulsion from a government-owned workboat. This double handling is time consuming and inefficient. It also places considerable strain on the operation of the workboat.

To ensure continued operation of the tender, GoN is implementing a maintenance programme for the workboat. In late 2016, a detailed inspection was prepared and an accompanying repair and maintenance schedule is in the process of being completed.

1.5.4 Maritime Treaties

Niue is custodian of a large marine area in terms of management. Much international shipping passes through Niuean waters without calling into port, potentially damaging the Pacific Island Country's existing pristine marine and coastal environments. Niue is a signatory to various International Maritime Organization treaties that contribute opportunities, as well as responsibilities. GoN is seeking full membership of the International Maritime Organization to enable the country to access a range of technical and other support. To assist this process, GoN is implementing a programme of maritime institutional strengthening, designed to bring processes and procedures into line with best practices. A new Maritime Administrator has been recruited to improve regional cooperation and ensure that existing processes are being adhered to.

1.5.5 Search and Rescue

Niue's current search and rescue capability is rather limited, relying on the public sector workboat to respond to emergencies. The workboat, however, is often stored on dry land and is limited to three nautical miles from shore. There is also a danger that the workboat could suffer damage or require repair as a result of search and rescue operations, thus jeopardising the ship-loading process. GoN, therefore, has secured funding for a new search and rescue vessel, to be delivered by the end of 2017. This boat will be operated by experienced volunteers.

1.5.6 Marine Protection and Hydrography

In mid-2016, through the New Zealand Aid Programme, Niue received a report regarding the potential risks to shipping and the marine environment as a result of inadequate maps, charts and navigational aids. The proposal is to implement a viable investment programme to bring Niue into line with international best practices and to enable it to meet its international obligations. This includes replacing and extending existing markers and other navigational aids.

The report also recommends additional hydrography and mapping work, to be completed in the vicinity of Alofi and to cover a number of marine protected areas, including Beveridge Reef, Antiope Reef and Haran Reef. The first stage of the project is in process, based on GoN's plan and external technical assistance.

1.5.7 Ancillary Services

There is a range of activities associated with the operation of the wharf that requires consideration in terms of its expansion. It includes the facilities that are used by the fishing industry, customs warehouses, biosecurity and screening facilities and container storage. Arrangements for these activities need to take into account the exposed location of the wharf, in order to ensure that designs and layouts are significantly cyclone-proof. Government departments responsible for transport and agriculture are collaborating to identify options that are sufficiently sturdy.

1.6 Roads

1.6.1 Road Network

With a blend of coastal and cross-island routes, Niue's advantageous road network remains the backbone of the island's transport system. The network provides a dense web of roads that link the major settlements. The majority of the network is bitumen-sealed, providing good all-weather connectivity. The surface condition, however, is deteriorating, given that in most cases, it is more than 20 years since major maintenance was undertaken. With the support of ChinaAid, GoN will implement a programme, scheduled for 2018-19, to resurface the sealed roads.

In addition to linking settlements, Niue's road network plays a vital role in evacuation and emergency response situations. It is essential that, at short notice, Niueans are able to move inland in response to cyclone and tsunami warnings. While in most areas, evacuation routes are sealed roads, villages such as Makefu, Tuapa, Vaiea and Fao Fao rely on unsealed bicycle tracks. To ensure that efficient evacuation is feasible in all areas, GoN will ensure that signposted evacuation routes are accessible by car by 2020.

Also critical is that in the case of an emergency, residents and officials are able to quickly access key facilities such as the hospital, power station and government depots. The 2016 AMMP highlights the need to ensure that roads to these facilities can be accessed in all weather conditions. The public sector, therefore, is sealing the access roads, ensuring that they are sufficiently wide to allow for goods vehicles to pass each other. These projects will be completed in 2019. In the meantime, discussions are taking place with the Green Climate Fund to provide up to $7 million to seal evacuation routes, as well as strategic roads surrounding the hospital.

The maintenance of roads is carried out by Civil & Quarry, the budget for which is allocated partly by the Department of Utilities and partly by the Treasury. Given that there is no public sector maintenance plan, it is currently the responsibility of Civil & Quarry to develop and implement its own programme, certified by the Department of Utilities. Since this structure is inefficient, the Ministry of Infrastructure has committed to develop a plan to ensure better management of the road network, with more effective maintenance. The Ministry of Infrastructure will establish a contractual relationship with Civil & Quarry.

Niue benefits from a network of sea tracks that connect many of the tourist attractions and cultural sites around the island. These tracks are usually maintained by the adjacent local community, with public sector support for materials and expertise. Many of them require regular repair due to weather damage, as well as maintenance. The government has committed to ensure the appropriate maintenance of sea tracks and is liaising with ChinaAid regarding those in the worst condition.

1.6.2 Vehicle Fleet

Given the many vehicles on the island of Niue that appear to be in a non-operational state, it is a challenge to gauge the exact size of its fleet, other than estimate 1,000 vehicles, most of which are privately owned cars, with a small fleet of goods vehicles. In addition, there is a small-scale government fleet and a large number of rental vehicles.

While the fleet is growing significantly as a result of growing imports, it is considered to be considerably out of date. This is exacerbated by the 12-year age limit placed on many of the vehicles that are imported. GoN proposes to lower the limit to five years in 2018, based on practices elsewhere in the Pacific. Such a move will soon reduce the average age of the fleet, thus not only improving safety conditions but also reducing fuel consumption and carbon emissions.

The provision of mechanical training will be essential to maintain the more modern vehicles. GoN proposes to work with importers to ensure that adequate training is provided.

1.6.3 Public Transport

Niue has no public transport system beyond a small fleet of privately owned minibuses which are used primarily for school transport. With the significantly high level of car ownership and a widely dispersed population, private cars potentially will remain the primary mode of transport.

To identify whether there is a need for public transport, GoN intends to undertake an assessment in 2018 to establish whether or not social immobility or deprivation among vulnerable groups is a result of a lack of car ownership. It will also distinguish groups or geographic areas where this may be a challenge and, if appropriate, it will develop a cost proposal to implement limited services to serve such groups.

In line with Niue's road safety action plan, an assessment will be carried out on whether or not limited public transport services, offered at pre-scheduled times, may reduce the dangers of driving under the influence of alcohol.

1.7 Major Plant

Niue relies heavily on a small fleet of government-owned equipment and vehicles to provide many of the ancillary services required to make the transport system effective. This is particularly true of the wharf and the monthly process of collecting and distributing containers and loading and unloading cargo ships. Various components of a major operation are relied on, for which there is no back up, including a 55 tonne crane, container forklift, truck and trailer, Hiab loader crane and workboat. Such equipment is also widely used elsewhere in Niue to support the water system, fuel deliveries, maritime search and rescues and house building, among others.

The AMMP identifies each of these equipment components as critical to the transport system and proposes inspection and maintenance procedures for each. The risk of a fatal breakdown of a number of items is relatively high, leading to significant operational risk of the transport system. It is essential that the public sector establish replacement procedures to ensure the availability of equipment.

A key issue is the short supply of trained operators for such equipment. GoN is in the process of identifying suitable candidates for such training, as well as operational and maintenance/repair staff.

In terms of the 55 tonne crane, deemed to be the most vital of equipment, it would be impossible to launch the workboat or lift containers in its absence. It therefore is essential that it is dependable when cargo ships are in port. In recognition of this, the government now has in place a robust maintenance procedure for the crane, with various replacement strategies in consideration.

The Freightliner truck and trailer is similarly significant, as combined, they are the only means to collect and distribute containers around the island. While for some goods, containers could simply be moved by the container stacker to a location close to the wharf, others require movement around the island. For example, fuel can be moved only by truck to a number of key locations. The Freighter truck is now reaching the end of its operational life and soon will need to be replaced, a process that will require special transport arrangements for which the public sector is seeking a solution.

GoN also is seeking to reform and streamline the management of equipment. A new asset management system has been adopted to allow for usage tracking of equipment and a supply and demand assessment is being undertaken. GoN also will consider cost-effective options for equipment maintenance, such as leasing, manufacturer maintenance guarantees and full ownership.

1.8 Road Safety

The low level of traffic, poor road conditions and age of vehicles implies that road safety is not a major issue in Niue, amounting to a significantly small number of crashes and casualties. Nevertheless, Niue should not ignore the issue, given that the resurfacing of roads and new restrictions on imported vehicles potentially will result in higher speeds across the road network and, in turn, increase the number of crashes and casualties/fatalities.

GoN thus will continue to work with stakeholders (i.e., drivers, teachers, engineers, police, mechanics, car hire operators) to develop and implement a wide-ranging road safety action plan, to be led by the Niue Police. This will focus on the five pillars of road safety (Box 2).

Key aspects of this plan will include:

- development of a road safety database that records road incidents, detailing the cause and responsibilities;
- provision of a ring-fenced budget for road safety activities;
- a review of road design standards and an inspection programme for existing roads;
- a treatment programme for crash black spots;
- implementation of new gateway treatments for all settlements, with communities to lead the design;
- provision of pedestrian crossings in village centres to assist children as they move around villages;
- a review of vehicle standards and legislation;
- increased vehicle roadworthiness inspections;
- provision of mechanical and other training for appropriate vehicle maintenance and roadworthiness;
- a review of driver testing and licensing, including new legislation;
- increased random testing of drivers for alcohol and drugs;
- an education programme across schools on road usage; and
- working with health professionals to improve first aid capability across the community.

Box 1.2 Five Pillars of Road Safety

- Effective Road Safety Management
- Safer Roads
- Safer Vehicles
- Safer Road Users
- Post-Crash Response

1.9 Sustainability and Resilience

1.9.1 Sustainability

Increasing the sustainability of Niue's transport system is a key element in this strategy, which attempts to prevent environmental damage and/or social issues, maximise the reduction of emissions and improve road safety. The AMMP identifies that transport is responsible for approximately 57% of greenhouse gas emissions in Niue. At the same time, the Niue Strategic Energy Road Map 2015-2025 commits Niue to significant reductions in the use of carbon-based fuel through its transport.

Sustainability includes environmental, social and economic factors and proposed interventions must be sustainable, not only over the long term, but also in terms of Niue's ability to manage and maintain assets and sustain policy interventions. These are key aspects within the AMMP and the Infrastructure Plan 2016 and are reflected in this strategy. Furthermore, GoN recently adopted new environmental impact assessment guidelines, which will be applied to construction projects.

While it is beyond the scope of a transport strategy, the disposal of transport sector waste, including scrap vehicles and equipment and waste oil, is of significant concern. As part of a wider waste management strategy, measures will be put in place to collect and export these.

To improve the sustainability of the transport system, GoN will implement various initiatives, including an asset management system that will cover transport assets, a review and update of legislation to ensure compatibility with modern standards and systems and an institutional capacity building incentive to ensure that the public sector has the necessary human resources to manage the transport network.

Key interventions will include:

- reducing the maximum age for imported vehicles, as well as providing road safety and environmental and financial benefits to Niue;
- implementing a road safety action plan to reduce the negative impacts of road traffic;
- improving the management of Niue's marine environment to reduce the risk of adverse impacts from international shipping;
- improving aviation infrastructure to remove the chance of abortive flights, as well as strengthening the efficiency of flight approaches;
- resurfacing the road network, so as to reduce dust and noise pollution in urban areas.

1.9.2 Resilience

Niue's transport network is in a position, in numerous ways, to contribute to the overall goal of improving resilience to climate change and potential disasters. The aim, where possible, must be to build a degree of redundancy within the transport network—one that is carefully balanced with economic efficiency—while taking a systematic approach to the provision of infrastructure as the key element in terms of an investment strategy.

In the context of Niue, it will not be possible always to provide alternative facilities, particularly with regard to its wharf and airport. It is, nevertheless, key to this strategy to ensure that those facilities and their operation are strengthened against bad weather in terms of investment. Specific investments to improve the resilience of the transport sector and thereby Niue as a whole, include:

- sealing existing unsealed roads that serve key installations and facilities to ensure they are passable;
- ensuring that emergency evacuation routes are accessible with all-weather surfacing;
- strengthening the existing wharf and extending infrastructure to better protect against bad weather;
- resurfacing the airport runway to make it more resilient to weather conditions;

- improving airport lighting and communications to enable it to operate according to international standards and in bad weather conditions;
- reducing fuel usage through the transport sector, particularly cars, so that Niue is able to reduce overall fuel usage, while also providing greater capacity for emergency stockpiles.

1.10 Institutional Development

As a small island nation, Niue operates under severe resource constraints, including human and financial resources. Key issues include attracting and retaining key personnel, meeting the training and personal development expectations of key staff, matching salaries paid elsewhere and finding sufficiently qualified individuals for vacancies across the public sector from within a significantly small pool of talent.

1.10.1 Government Institutions

There are a number of organisations and ministries involved in the transport sector. These include the Ministry of Infrastructure (Department of Transport and Department of Utilities), Ministry of Natural Resources (Department of Environment, Department of Agriculture, Fisheries and Forestry and Department of Meteorological Services), Ministry of Finance, Telecom (Niue) Ltd., Niue Police and Civil & Quarry. As part of the AMMP and other initiatives, GoN has been working to clarify and simplify the responsibilities of these organisations. There are a number of issues, however, that remain unresolved, particularly regarding the collection of revenue, ownership of complementary infrastructure and facilities and compatibility of maintenance allocations.

GoN is committed to establishing more effective revenue collection mechanisms. In most cases, such as airport taxes and wharf charges, GoN will rely on the service of an external collection agent. The public sector is committed to reforming the collection of wharf charges by transferring the responsibility to private sector freight agents. It is proposed that this should happen before the start of the 2018-2019 fiscal year.

Furthermore, GoN intends to provide effective road maintenance and resolve existing inconsistencies and confusion regarding responsibility for maintenance procedures and implementation. This includes putting in place clear, contractual relationships between the Ministry of Infrastructure and Civil & Quarry to enable the efficient planning, inspection and certification of road maintenance projects.

1.10.2 Human Resources

In the transport sector, the challenge to retain key personnel is particularly acute, since a large segment of staff possesses transferrable skills. To tackle this, the government has established a more structured staff training and development programme that aims to attract the best candidates and improve retention levels for as long as possible. The programme will be expanded to ensure that staff has clear roles and

Box 1.3 Development Agency Support

The Government of Niue has achieved the first level of accreditation from the Green Climate Fund and is now eligible to apply for funding for key projects. The first tranche of applications was recently presented to the Green Climate Fund.

The government will now work with its partner, the United Nations Development Programme, to develop these projects in more detail. The first phase will include the extension of Sir Robert's Wharf and the sealing of key parts of the road network.

responsibilities, job descriptions and that the training programmes are up to date. Staff training and development programmes will be closely linked to current roles, as well as fully funded. As far as possible, GoN will ensure that operational duties do not interfere with approved training programmes.

GoN is working with a range of partners to provide training opportunities. This includes development partners, particularly the New Zealand Aid Programme and regional organisations such as the Pacific Community.

Within operational units, in particular, GoN will address the issue of succession planning. Many staff members within these units have served Niue for a long time and are now approaching retirement age. It is important to ensure that the skills and institutional knowledge they have gained are not lost to Niue when they retire. As far as practicable, arrangements will be put in place for older staff to be shadowed by more junior colleagues, in order to ensure that skills are passed on.

1.10.3 Legal and Statutory System

Many of Niue's transport sector laws are now out of date. This is particularly the case for the road and traffic systems, where current law dates back to 1965. It is essential that these laws reflect modern technology and norms, as well as provide a solid basis for enforcement of traffic offences and vehicle standards. GoN, therefore, will review and replace Transport Act 1965.

To ensure, as far as possible, the full cost recovery of the transport sector, GoN is committed to periodically update existing fees and charges across the sector. This will commence with maritime charges in 2017, followed by aviation charges in 2018 and road charges in 2019.

1.11 Revenue Generation and Funding

1.11.1 Revenue Generation

Improving the ability of the transport sector to recover its costs is a key element of GoN's transport strategy and it incorporates the "user pays" principle. Currently, a number of fees and charges are levied on transport users across various sectors, including airport taxes, port charges and vehicle licenses. The sector, however, falls well short of collecting all that it could to cover its costs.

Given the nature of the sector, full cost recovery may be difficult to achieve. Nevertheless, GoN has committed to ensure that wherever possible, those receiving a particular service should pay the full cost of that service. To enable this, GoN currently is undertaking a costing exercise to fathom the value of each service. Once this is achieved, each individual fee or charge will be increased to a level that approaches full cost recovery. Where one-off increases may be excessive, these may be phased in on a graduating scale.

Another aspect of revenue generation is to ensure that fees and charges due are fully collected. GoN is committed to introducing new collection methods where necessary, with the intention of increasing collection rates. Initially, this process will apply to wharf charges. Responsibility for securing these will be transferred to existing freight agents by the end of the 2017-2018 fiscal year.

1.11.2 Potential Future Revenue

Under this strategy, GoN will investigate the imposition of a number of additional or increased fees and charges to transport users. Typically, these involve a fee for a service, such as completing an inspection, issuing a license, or providing a piece of infrastructure. Examples of new charges to be implemented are:

- increased wharf charges (to raise $600,000)
- a new road tax or increased fuel duty (to raise $100,000)
- planned increases to departure tax (to raise $200,000).

These new charges are expected to raise an additional $900,000 towards transport sector costs. It will increase revenue budgets such as to not only provide for equipment maintenance and minor repair work, but also to allow for ongoing contributions towards the capital replacement of the major plant.

1.11.3 Capital Funding Strategy

GoN has an overriding policy to ensure that the country remains debt free. This policy is reflected in this strategy, which relies only on GoN resources and grant funding. The latter currently originates from three main sources: New Zealand Aid Programme, ChinaAid and European Union. Additional resources are expected from the Green Climate Fund.

Key to the deliverability of the strategy and the many interventions within it is the clear identification of funding sources. In many cases, funding will come from within GoN resources, although larger interventions, such as the resurfacing of the runway or the upgrade of main roads, will inevitably rely on grant funding.

1.11.4 Operational and Maintenance Funding

Part of the remit of the AMMP was to estimate the levels of funding required for the operation and maintenance of the transport system. For 2017, the estimates of revenue funding required are as follows:

- Roads: $121,000
- Wharf: $29,000
- Airport: $451,000

In addition, the AMMP suggests that the public sector set aside approximately $700,000 per annum to cover the depreciation of transport system assets.

GoN has committed to provide additional funding of $900,000, as set out above, to the transport sector. This will make it possible to significantly increase transport sector budgets. GoN also has pledged to increase maintenance budgets across the transport system, particularly for the roads and maritime sectors.

1.12 Monitoring and Evaluation Framework

1.12.1 Monitoring

Monitoring the success of this National Transport Strategy is an important aspect to ensure adequate GoN and development partner funding and support. When seeking additional funding, the ability to point to previous achievements and successful investment outcomes is important to convince key decision makers.

A monitoring framework is therefore an essential element in any strategy. This framework should incorporate a series of SMART measures that can be used to measure progress. These should incorporate a number of levels, outcomes, outputs and inputs. The monitoring framework for this strategy is shown in Table 1.1. Key to this will be to establish the baseline situation for each target.

Table 1.1 Monitoring Framework for a Niue's Transport Strategy

Objective	Measure	Target
A transport system that is efficient, effective and resilient	Transport user costs	Transport user costs are no higher, in real terms, than in 2017
	System reliability	Zero flights are delayed due to unforeseen circumstances in Niue
		Delays at Sir Robert's Wharf are lower than in 2017
Infrastructure meets the requirements of international treaties and statutory obligations	Airport operation	Airport is able to legally operate in line with its license
	Maritime charts and navigational aids	Niue's charts and navigational aids are compliant with International Marine Organistion requirements
Transport system contributes to ensuring Niue is more sustainable	Environmental damage	Zero incidents of pollution or environmental damage caused by transport
	Reducing carbon emissions	Overall carbon emissions from transport in Niue are reduced by 10% from the 2017 level
Financial sustainability of the strategy is improved	Securing external funding	Government of Niue is successful in securing external funding identified in this transport strategy
	Revenue generation	Amount of revenue generated by the transport system increases by at least 25% per annum from 2017
Safety of the transport system for users and providers is improved	Road safety	Zero fatalities on Niue's roads
	Worker safety	Number of reportable incidents in the wharf, workshops and airport are zero
	Aviation safety	Zero passenger casualties resulting from aviation
Transport system is successfully supporting economic and social development	Tourism	Number of tourist visit nights increases by 10% per annum
	Agriculture	Export cost of agricultural commodities is less, in real terms, than in 2017
	Access to services	Every Niue resident is able to access health, education and social services, regardless of transport deficiencies
	Support of the private sector	Continued improvement, relative to 2017, of private sector perception in terms of the way transport contributes to their success

1.12.2 Evaluation

This transport strategy is intended to include a period of 10 years. To ensure that it remains appropriate and relevant, however, a review and update is proposed after five years. The review should include an in-depth evaluation of progress made and the contribution that the strategy has made to Niue's development goals. The key objectives of the update should be to assess the development of investment schemes, confirm longer-term funding, assess ongoing policy direction, amend the strategy to take into account unforeseen events and identify additional interventions that are necessary to ensure the success of the strategy.

Part 2 Short term Action Plan 2017-2019

2.1 Introduction

This National Transport Action Plan builds on Niue National Transport Strategy 2017–2026. It details the many interventions of the sector, including how these were identified, scoped and sorted in terms of priority. It highlights key actions by subsector and provides a summary of and cost estimate for each intervention.

This is a working document that aims to inform planning activities and funding decisions. It is essential that the Action Plan be frequently updated, at least every three years.

2.2 Prioritisation Framework

2.2.1 Prioritisation Process

The prioritisation process included three stages: identification of interventions; assessment, based on the predetermined measures; and ranking, applying a multicriteria methodology.

2.2.2 Stage 1 - Identification and Scoping of Interventions

The first stage took into consideration Niue's National Infrastructure Plan 2016. Discussions were held with relevant officials and stakeholders, including the consultants.

2.2.3 Stage 2 - Themes and Objectives

The second stage identified methodology by which the interventions were to be assessed, ensuring that this Niue National Transport Strategy (NNTS) and its accompanying Action Plan support the main goals of the NNSP. The NNSP includes a series of overall objectives, many of which the transport system can support. Table 2.1 summarises the objectives by priority under four broad themes.

Table 2.1 Overall Objectives, Based on the Niue National Strategic Plan 2016-2026

Theme	Objective	Description
Supporting the Niue National Strategic Plan		
	Improve access to quality transport network	The transport strategy enshrines this objective to enable Niueans to (i) access economic opportunities and social services and (ii) maintain their cultural heritage and family ties.
	Maintain key infrastructure	Niue's Asset Management and Maintenance Plan and the Niue National Transport Strategy (NNTS) emphasise maintenance. Among the many infrastructure demands, the NNTS places maintenance (e.g., resurfacing of runway and key roads, repair of wharf and replacement of key equipment) at the forefront.
Statutory Requirement		
	Comply with International Civil Aviation Organization requirements	Niue's international air service is vital to the continuing development of the country, not only in terms of tourism but also as the only link for the movement of its people. It is essential, therefore, that the airport complies with International Civil Aviation Organization requirements for safe operation.
	Comply with International Marine Organization requirements	Niue is custodian of a large maritime area. Environmental damage to this area can affect Niue's tourist industry to a high degree. As such, Niue is applying for full membership of the International Marine Organization. Compliance with relevant treaties is an essential part of this process.
Sustainability		
	Respond to climate change	Niue is constantly under threat of climate change. It is essential that transport system components are designed, operated and maintained in a way that makes them resilient to climate change. This includes strengthening infrastructure and improving transport system planning.
	Increase resilience to climate change	Government policies should aim to increase resilience to the impacts of climate change and potential disasters. The NNTS focuses on interventions that aim to strengthen infrastructure to withstand these effects. The NNTS also has, as its objectives, improvements to infrastructure to facilitate emergency response and evacuation services.
	Further Increase sustainability	To protect the environment, reduce carbon emissions, improve village life and enhance biodiversity conservation, it is essential that the sustainability of Niue's transport sector be strengthened. Where possible, the NNTS incorporates measures to do so.
Supporting Niue's Economy		
	Support tourism	Tourism is the key contributor to Niue's economy. It is essential, therefore, that each strategy take into account the tourism sector. Not only do tourists rely on the airport, they also need connecting roads to travel around the island, fuel for rental cars and food that is local.
	Support fisheries	While fisheries is a relatively small component of Niue's economy, it is considered important as it provides local food and export produce. The sector value chain requires support, from landing facilities to on-island transport and export modes.
	Support agriculture	The agriculture sector is integral to Niue's economy, providing local produce and export commodities. The sector relies on transport for the import of inputs, movement of produce and export of outputs. Transport, however, can impact negatively on agriculture by way of emissions and unreliable services, leading to land degradation and crop loss.

2.2.4 Stage 3 - Multicriteria Analysis

A shortlist of subproject candidates was subjected to a multiple criteria analysis (MCA) process. The MCA structure was based on the following assumptions:

- The MCA incorporates qualitative information and quantitative data;
- The MCA structure—specifically in terms of criteria—will follow the "Keep it Simple" principle, as well as minimise data requirements, for ease of use and data limitation;
- The basic structure will allow for subsequent refinement as better data becomes available;
- The MCA process follows a consistent scoring mechanism with transparent weights, so that it can be applied across modes;
- The MCA will minimise subjectivity as much as possible by scoring each criterion;
- The scoring mechanism will allow for sufficient objective variation to prevent discrimination and subproject bunching; and
- Government, development partners and stakeholders will agree on the criteria, response options, scoring mechanism and criteria weights.

It was evident that some criteria should carry more weight than others, based on their significance and impact. Therefore, criteria were weighed transparently, with the score mechanism remaining consistent across criteria. Based on various recommendations, the weights listed in Table 2.2 were applied to the various criteria. From the 10 criteria, none was awarded more than a 15% weight.

Where some criteria were irrelevant for a particular mode or type of expenditure (e.g., complying with International Civil Aviation Organization standards within the aviation sector), these were omitted and the weightings revised to reflect this. Alternative weights that were applied in these cases are shown in the table.

Table 2.2. Multicriteria Analysis

Criteria	Aviation (in percent)	Maritime (in percent)	Roads (in percent)	Plant (in percent)
Improve access to quality transport network	10	10	10	10
Maintain key infrastructure	10	10	15	10
Comply with International Civil Aviation Organization standards	10			5
Comply with International Marine Organization standards		10		5
Respond to climate change	15	15	15	15
Increase resilience	15	15	15	15
Further Increase sustainability	10	10	15	10
Support tourism	15	15	15	15
Support fisheries	5	5	5	5
Support agriculture	10	10	10	10

2.2.5 Scoring Results

The overall scoring results are indicated in Table 2.3. These identify the projects in order of highest priority. It should be noted that these results do not reflect a finite ranking for projects; rather, they identify the most essential projects as a group (i.e., Intervention 3 is not necessarily more important than Intervention 4), considered to be equally important in broad terms.

Table 2.3. Prioritisation Framework: Scoring Results

Name	Sector	Rank
Airport runway resurfacing	Aviation	1
New sea wall construction	Maritime	2
Resurfacing of main roads	Roads	3
Basin harbour wharf expansion	Maritime	4
Replacement of 55 tonne crane	Plant	4
Refurbishment of rescue 2 fire truck	Aviation	6
Refurbishment of rescue 3 fire truck	Aviation	6
Surfacing of hospital roads	Roads	8
Replacement of wharf fenders and repair its side wall	Maritime	8
Replacement of control tower cab	Aviation	10
New search and rescue vessel	Maritime	11
Surfacing evacuation routes	Roads	12
Enhancements of maritime communications	Maritime	12
Replacement of freightliner truck and trailer	Plant	14
Replacement of swing lift	Plant	14
Improved charts and navigational aids	Maritime	16
Creation of road safety plan	Roads	16
Installation of wharf lights	Maritime	18
Building a container storage area	Maritime	19
Provision of new mooring systems	Maritime	20
Reorganising airport parking	Aviation	21
Undertaking of a study of public transport	Roads	22

The detailed scoring results for each of the above interventions are shown in Appendix B.

2.3 Aviation Action Plan

2.3.1 Current Situation

The key aviation asset in Niue is Hanan International Airport - the only passenger gateway into Niue and crucial to the island's economy. Niue has two scheduled flights (Airbus 320) to and from Auckland that are operated by Air New Zealand. The aircraft are expected to be replaced by a new model, Airbus 321, in 2019, increasing the number of seats. The service is operated under contract with the Government of Niue (GoN) and has been extended recently for a further five years. The airport also is used by a number of Medivac emergency charter flights, as well as by the New Zealand defence force. While Hanan International Airport had been licensed for day and night operation, it is now licensed only for day flights.

The airport runway was constructed in 1971 and extended in 1995 to accommodate larger aircraft. At present, it is measures 2,335 metres (m) long by 45 m wide, sufficient for a fully loaded Airbus 320 or Boeing 737-300 to land and take off. Since the resurfacing of 1995, it has an 80 millimetre asphalt concrete surface. While the runway remains in operational condition, there now is significant surface material loss.

Airport buildings have been progressively upgraded and expanded to allow for a greater number of passengers. At present, however, there are minimal passenger facilities, including catering and retail, the latter of which is offered under temporary shelter. Parking at the airport is informal on a partially gravel surface with some grass.

The airport usually has three fire trucks on site for emergency response. Rescue 1 fire truck is in the process of being reconditioned, with reconditioning of the other two (Rescue 2 and Rescue 3) due in 2022 and 2020, respectively. The state of the three fire trucks is adequate for licensing purposes.

The control tower was part of the original airport construction and is in poor condition. In addition to housing air traffic control equipment and personnel, the tower accommodates a range of electrical control equipment, including constant current regulators, lighting control panels and the main airport switchboard.

Passengers pay, in cash, a departure tax of $34 to cover the cost of immigration, customs and passenger handling. GoN intends to increase this charge in July 2017, integrating an environmental levy and passenger security fee, 20% of which will be allocated to the transport sector. The fee will be collected electronically by Air New Zealand as part of the overall airfare price.

2.3.2 Recent Surveys

Two major surveys of the airport were carried out in recent years to establish the condition of various aspects and to recommend remedial measures. These include:

- Niue Airfield Lighting Condition Assessment and Upgrading: Airways Corporation of New Zealand, March 2017
- Hanan International Airport Runway Inspection: Beca International Consultants, April 2015.

2.3.3 Current Needs

Recent surveys highlight the deteriorating condition of the runway. The current surface is more than 20 years old and is reaching the end of its life cycle, with signs of significant material loss. Previous inspections identified cracks along the paver joints, which were repaired using GoN funds in 2015. Resurfacing the runway with asphalt concrete overlay will ensure another 30 years of life and will also assure the continued operation of the airport. Estimated cost: $17 million.

The lighting associated with the runway and taxi ways is considered substandard and in need of substantial replacement. This includes most of the wiring circuits that partially run under the runway, as well as the light fittings that either will be destroyed by project work or will call for repositioning. Estimated cost: $1 million, depending on which option is selected.

The control tower cab is in urgent need of replacement. It is not weather proof, risking the operation of key equipment housed in the building. It is proposed to replace the cab, while fortifying the building upon which the cab sits. The concept stage for this has been completed and procurement for a suitable contractor is in progress. Estimated cost: $400,000.

While improvements have been made to the airport fire station and equipment have been upgraded, it is evident that a number of areas call for minor improvements. These include the sealing of access areas of the fire station for the fire trucks and the upgrade of filling equipment.

To improve the passenger experience, it is proposed not only to improve the parking area, but also to provide catering and shopping facilities. The largest and most significant of these two projects is the surfacing and arrangement of the car park. Estimated cost: $1 million.

In addition, improvements to the airport buildings and passenger facilities are proposed, as well as the installation of a baggage carousel. These aim to not only ensure the health and safety of passengers and personnel, but also security around the airport. Estimated cost: $700,000.

A range of smaller projects are required to ensure the continued safe operation of the airport. These are not only identified in the Infrastructure Plan; they are listed below and are considered as operational rather than capital items. Hence, they have are not included in the list of priority interventions.

- Security fencing: Estimated at $40,000 per annum
- Security screening equipment: $10,000 every five years
- X-ray units, Uninterupted Power Supply and cameras: $10,000 in 2023
- Distance measuring equipment: $10,000 in 2017
- Signalling lamp: $5,000 in 2017
- Power supply generator: $10,000 in 2020.

GoN is applying to the Pacific Aviation Security Programme for funding to strengthen the airport security fencing and relevant equipment.

2.3.4 Priorities

Based on the prioritisation methodology described in Section 2, the following four items are considered among the top 10 projects within the Niue transport system.

Resurfacing of airport runway (planned for 2018): Since the airport is a key contributor to many aspects of Niue's activities and the condition of the runway is crucial to retaining international air services, this is assessed as the highest priority in the sector in terms of investment. A number of surveys have been undertaken and the concept stage has been completed. Procurement will proceed as soon as funding is available. Estimated cost: $17 million.

Replacement of g control tower cab (planned for 2017-2018): This is a continuing investment. In addition to air traffic control facilities, the building houses critical electrical control equipment. The concept has been completed and procurement is underway. Estimated cost: $400,000.

Refurbishing rescue 2 fire truck (planned for 2022): A high priority for GoN is to provide adequate emergency services at the airport—a key requirement of the International Civil Aviation Organization. While this does not fall within the three-year horizon of this action plan, it is will be an item for inclusion in the subsequent three-year action plan. Estimated cost: $220,000.

Refurbishing rescue 3 fire truck (planned for 2020): A high priority for GoN is to provide adequate emergency services at the airport—a key requirement of the International Civil Aviation Organization. While this does not fall within the three-year horizon of this action plan, it is will be an item for inclusion in the subsequent three-year action plan. The concept stage for this should begin in 2019 to ensure effective work coordination. Estimated cost: $220,000.

2.4 Maritime Action Plan

2.4.1 Current Situation

Niue is served by a single, four-weekly container service from Auckland, operated by Matson under contract to the GoN. For loading and unloading purposes, the ship moors offshore with transfers to/from the wharf being made by the GoN workboat and barge.

The main maritime sector asset in Niue is Sir Robert's Wharf, located in the capital of Alofi. The wharf was constructed in the 1930s and has undergone a number of reparations and extensions, the most recent of which took effect in 1996 as a partial repair to damage caused by channel blasting in late 1995. The wharf consists of a concrete breastwork, approximately 65 m by 35 m. It is served by a shipping channel on the south side of the wharf, approximately 20 m wide and 5 m deep, allowing smaller vessels to access the wharf directly. This channel is periodically dredged to maintain its depth and width, with a further dredging exercise now required.

The wharf is provided with a derrick crane that is owned by the Department of Agriculture, Forestry and Fisheries. The crane is operated by a range of people, including fishermen, yachtsmen and the general public, as well as the Department of Transport. It was refurbished in 2017 with funding from the New Zealand Aid Programme.

In addition to Sir Robert's Wharf, there are slipways at the villages of Avatele and Namukulu, suitable for small vessels. Avatele is equipped with a small winch, suitable for launching and landing small fishing vessels.

The loading and unloading of containers require the GoN workboat and barge, operated by the GoN's Outside Services Division. The activity relies on a number of GoN plant, including the 55 tonne crane, container truck and trailer, swing lift, Hiab loader crane and CAT 980 wheel loader. Despite the fact that the equipment continues to operate, it is in need of reparation or replacement.

The wharf also is reliant on the GoN workboat and barge, which were purchased in 2010, together with the accessory trailers that enable them to be moved to and from their storage area. The workboat is crucial to the container loading and unloading process as the only means for transfer. The workboat is also Niue's designated search and rescue vessel, placing additional strain on it, as well as on the crane that launches this craft.

GoN collects port dues from container traffic at a rate of $75 per cargo tonne. At present, however, the rate is relatively low, at approximately 40%. GoN is committed to establishing a new mechanism to increase the collection rate. GoN also is reviewing port dues to ensure costs are recovered where possible. The $75 charge does not cover the cost of loading and unloading and, therefore, should be raised. Changes will be brought forward to Cabinet before the end of 2017.

Niue's search and rescue capability relies on the GoN workboat, which is not designed for this purpose and is difficult to launch quickly, since it relies on the crane and other equipment. To resolve this challenge, a new search and rescue vessel will be delivered in September 2017, funded by the New Zealand Aid Programme and will include a training and maintenance component.

2.4.2 Recent Surveys

A number of recent surveys and studies have been completed, as follows:

- Report relating to Niue Island Port and Transport Equipment: Northern Forklifts April 2017
- Report relating to Sir Robert's Wharf: The Consulting Group 2006 Ltd., August 2014
- Niue Port Study: SMEC, March 2011
- Launch Survey Report: Dunsford Marine, April 2016.

2.4.3 Current Needs

As indicated in a number of reports, it is essential for Niue to ensure that the wharf undergo urgent work so that it is in optimum condition for the long term. Most critical is the installation of a new sea wall to protect the end of the wharf from further damage. The concept stage has been completed and the procurement of a contractor is in process. Estimated cost: $1 million.

The wharf's side wall also requires reparation, with new fenders to be provided following the initial damage caused by reef fishing vessels and worsened by vessels tying up against already damaged fenders. The project is at the concept stage. Estimated cost: Between $1 million and $7 million.

The wharf channel is due for dredging to facilitate use, particularly for ship loading and unloading. A long arm extension and bucket need to be purchased and fitted to the existing excavator. Given that the excavator is critical to other operations, it will be a challenge to use this equipment for this project. An alternative solution is being sought. Estimated cost: $100,000.

To reduce wharf congestion, it is proposed to redevelop the area currently occupied by the damaged fuel tanks. This will call for the removal of damaged tanks, addressing of contaminated land, strengthening of downside banking, provision of vehicular access, surfacing of the area and installation of secure fencing. Estimated cost: Between $200,000 and $400,000.

In addition to these major works a number of less important projects are required to ensure the continued maintenance and operation of the wharf. They are considered as operational rather than capital items and, hence, are not included in the list of priority actions, other than in the National Infrastructure Plan 2016. Two of them are the Reattachment of wharf access ladder and the Fixing of the derrick winch.

Cracks will also need to be filled on the wharf and joints between bollards will require sealing. A number of other wharf issues relating to equipment and large plant are addressed in Section 6. Estimated cost: $15,000 (excluding other wharf issues).

2.4.4 Longer-Term Plan

In the longer term, the wharf will need extending and strengthening to provide for additional activities and make the wharf resilient to the long-term effects of climate change. At present, the wharf is regularly overtopped by the sea, even in relatively mild conditions. It also is vulnerable to the ingress of water that damages the concrete and harms machinery and electrical items, as well as to the destructive currents this creates.

The 2011 Port Strategy highlights this issue and the Basin Harbour Development project is being created to construct a new breakwater to the north of the existing wharf, thus creating a protected mooring area. The project, which is at the concept stage, also aims to extend cargo handling area and protect key parts of the wharf. Hydrological, hydrographic and geotechnical surveys relating to ground and sea bed conditions are necessary and details of the currents in the area need to be established. These surveys should be followed by feasibility studies to assess development options, including the potential for extendable or demountable wharf sections.

An alternative concept is being developed by GoN in conjunction with the Green Climate Fund. This involves a larger-scale development proposal for the wharf, taking Niue into the 21st century by extending it and constructing a fixed platform to enable container ships to tie up alongside. This would simplify unloading procedures, increase efficiency and make the wharf more resilient to the effects of climate change. Funding is being sought from the Green Climate Fund. Estimated cost: $60 million.

2.4.5 Priorities

Based on the prioritisation methodology described in Section 2, the following three items are considered to be among the top 10 projects within Niue's transport system.

Construction of new outer sea wall (planned for 2018): As this asset will contribute directly to increasing the resilience of the wharf to the impacts of climate change and disasters, it is ranked as one of the highest priorities. The project aims to strengthen the outer wall of the wharf and fill structural gaps. Procurement has been completed and contractor mobilisation is expected in early 2018. This project will be funded by the New Zealand Aid Programme. Estimated cost: $1 million.

Basin Harbour Wharf Expansion (Development project planned for 2021-2023): Although this project falls beyond the time frame of this action plan, it will be necessary to complete a series of studies in advance of the contract procurement process. The first stage will be to secure funding for the studies, including a vigorous feasibility analysis. Discussions are in process with the Green Climate Fund with the expectation that funding will be granted to cover the broader aspects of the project.

Replacement of fenders and repair of side wall (planned for 2018): This project aims to repair damage to the wharf and its fenders, making it easier for boats to tie up alongside the wharf. The reparations will include filling gaps in the wharf structure and replacing ancillary equipment. The concept stage has been completed and the procurement process has commenced. The project will be funded by the New Zealand Aid Programme. Estimated cost: Between $1 million and $7 million.

2.5 Roads Action Plan

2.5.1 Current Situation

Niue enjoys a dense road network that provides access to its villages under any weather condition. In addition to a coastal ring road, there are various cross-island roads that provide direct links to Alofi, the capital. The roads generally are passable and are sealed with the exception of a few in the vicinity of Alofi's new hospital and between the high school, power station and airport. It has been many years since most of the network was resurfaced and their condition has deteriorated. There are extensive potholes and some buckling.

The total length of the main road network is 117 kilometres (km), of which 91% is sealed. These roads vary in standard, with typical road widths between 3.5 m and 5 m outside urban areas. Within Alofi, the principal roads are usually between 6 m and 8 m wide. Niue does not have gazetted road design standards, except for the main roads on which traffic levels are relatively low. Alofi's busiest road sections are traversed by less than 1,000 vehicles a day.

There is a number of unsealed roads that provide access to inland agricultural areas. Some of these are signed as bicycle tracks, forming part of Niue's tourist offer. Others act as emergency evacuation routes for coastal communities to access higher inland areas. The total length of these is deemed to be 80 km. None of these roads is maintained and the majority are little more than grass tracks that have been cleared of vegetation over time.

Road maintenance is the responsibility of Civil & Quarry, with budgets managed by Niue's Department of Utilities and the Treasury. There is significant confusion, however, regarding the responsibilities of planning and management in terms of road maintenance activities.

Road traffic signage is the responsibility of the Niue Police, although this is restricted mainly to speed limit signs and a small number of warning signs (e.g., sharp bends). Direction and other signage are the responsibility of the Department of Tourism.

Niue recently adopted New Zealand's road safety framework, with a view to developing its own road safety action plan. Road safety is the responsibility of the Niue Police. To date, due to a lack of resources, only a small amount of equipment has been purchased, limited to four movable message signs and one or two hand-held speed guns. Police activity with respect to road safety is limited to spot checks for licenses and some enforcement of speed limits, drink driving and other offences.

Niue benefits from a network of sea tracks that connect to many of the island's tourist attractions and cultural sites. These tracks are typically maintained by the adjacent local community, with GoN contributing materials and expertise, as necessary. Many of the tracks require regular reparation due to weather damage to ensure they are in usable condition. Some of the sea tracks were severely damaged by Cyclone Heta and have been rebuilt, with some suffering further damage in recent years. GoN proposes to include reparations to these sea tracks within the programme that is being negotiated with ChinaAid. This would allow for reparations and some upgrading of the sea tracks that are in worst condition.

Pedestrians are usually few in number and, as such, there only are grass verges beyond Alofi's main commercial centre. Within Alofi, itself, there is a short stretch of 85 m of concrete footpath.

Street lighting, managed by Niue Power as part of the overall power network, is provided in a number of areas, mainly around Alofi. There also are a few solar-powered street lights in the city.

Car ownership in Niue is generally high, with every household owning at least one vehicle and most having more than one. As such, almost all travel is by car, the only exception being school transport, which is provided by a small fleet of privately owned minibuses. The vehicle fleet, however, is relatively old, thus prone to safety issues and increasing emission and fuel usage levels. To support its commitment to the 2015 United Nations Climate Change Conference (COP21) and to the Niue Strategic Energy Road Map 2015-2025, Niue aims to reduce its carbon emissions from road transport. As part of this, as well as its intent to decrease its fuel usage, GoN is proposing to reduce the maximum age of imported cars to five years, thus decreasing the overall age of the island's vehicle fleet. In line with the Niue Strategic Energy Road Map 2015-2025, the viability of electric or hybrid vehicles will be explored.

Niue does not offer public transport, despite various previous attempts to do so and with the exception of an occasional tourist shuttle service along the west coast of the island.

2.5.2 Recent Surveys

Regular surveys of the road network are undertaken by the Department of Utilities.

2.5.3 Current Needs

The condition of the main road network is considered critical. Despite the roads being passable, many segments have deteriorated to an advanced degree. The effects of minor as well as major wet weather conditions are visible and without resurfacing, sections will potentially become difficult to pass on. A resurfacing programme is being considered, which will call for paved sections to be re-asphalted in such a way as to last a minimum of 20 years. Estimated cost: Between $30 million and $50 million.

There is urgent need to surface the remaining unsealed sections of road around the hospital, high school, power station and airport. These roads represent some of the most essential links on the island, especially in emergency situations. The total length of road to be treated is approximately 10 km. Every road requires a strong foundation, overlaid with asphalt concrete. Estimated cost: $5 million.

To improve access to agricultural areas and to provide for efficient and speedy evacuation, it is proposed to seal the first kilometre of each of the evacuation routes, particularly those that serve Makefu, Vaiea, Fao Fao and Tuapa. This is sufficient to provide an all-weather drivable track for occasional use. Estimated cost: $2 million.

A number of sea tracks are in poor condition and require reparation and upgrade. This includes the paths at the villages of Avatele, Uluvehi, Tautu, Toi, Vaiea, Lakepa and Tamakautoga. Reparations to these tracks is a priority and forms part of the request for support from ChinaAid.

It is anticipated that the resurfacing of Niue's main roads and importation of "younger" cars to the island will lead to higher speeds and therefore increase safety risks. Niue must establish an effective road safety strategy to prevent the number of crash and casualty/fatality incidences from rising. The first step is to determine a multistakeholder approach to develop a road safety action plan that will include the purchase of equipment and provision of training for the Niue Police. Estimated cost: $50,000.

2.5.4 Priorities

Based on the prioritisation methodology described in Section 2, the following two items are considered to be among the 10 priority projects within Niue's transport system.

Main road resurfacing (planned for 2018-2019): This project will include the reparation and upgrade of the majority of Niue's main road network, essential to support a range of economic and social activities across the island. The quality of the network is expected to be high, with a life cycle in excess of 20 years. The project, expected to be supported by ChinaAid in its entirety, is at the concept stage. Estimated cost: Between $30 million and $50 million.

Hospital road surfacing (planned for 2019): This project is highlighted in Infrastructure Plan 2016 and involves the surfacing of the remaining unsealed sections of the main road network. The project, pending a funding agreement with the Green Climate Fund, relates to the roads that link key public facilities, including the hospital, power station, government depot and airport. Estimated cost: $5 million.

2.6 Major Plant

2.6.1 Current Situation

Much of Niue's transport system relies heavily on a small fleet of GoN equipment. This includes the workboat and barge, crane, container truck, CAT 980 wheel loader, swing loader and associated trailers.

The workboat and barge were purchased in 2010 and provide the only means by which to load and unload containers. The workboat also is used as Niue's search and rescue vessel. The workboat and barge have purpose-built road trailers that are used to transport them from the wharf to their storage area. In the past 18 months, the workboat has suffered a number of mechanical issues and requires major maintenance. While operations continue, they nevertheless have been affected as a result.

The 55 tonne crane is crucial to Niue. Constructed in 2002 and purchased in 2004, it is the only means by which to load and unload containers from the barge and it is also used at various locations around the island. It also has a role in the transport system, whereby it is used as the main hoisting method in Niue. The crane is used for water bore reparations during major breakdowns and when the piping systems need to be lifted out of the bore sites.

The Freightliner container truck was constructed in 2007 and purchased in 2014. The truck is used mainly to transport containers to and from the wharf. This requires five or six days of intensive operation each month, alternating with downtime. The tractor is in operational condition, although due to its maintenance complexity, it is often not available or efficient. The trailer of the container truck is old and of substandard quality.

The CAT 980 wheel loader is essential for port operations, since it has the capacity to haul the workboat and barge to and from the wharf, as well as tow the swing loader and fully loaded containers. Its engine has been overhauled recently and, overall, it is in reasonable condition.

The swing lift is used around Niue to offload containers in locations without facilities or where crane access is difficult. It was constructed in 1992 and purchased in 2006. The unit is now in very poor condition and requires substantial maintenance or replacement. In any event, since Niue now accepts an increased volume of 40-foot containers, the swing lift has become obsolete, since its limit is a single 20-foot container.

Maintenance of the above equipment relies solely on the GoN's workshop which is staffed by a mechanic who is provided with a range of suitable tools. Succession plans for the long-serving workshop manager has become a challenge, given that there is a lack of skills in Niue to maintain more modern and complex equipment.

2.6.2 Recent Surveys

Recent surveys of the major plant fleet include:

- Report on Niue Island Port and Transport Equipment: Northern Forklifts Ltd., April 2017
- Launch Survey Report: Dunsford Marine, April 2016.

2.6.3 Current Needs

Current demands for the plant fleet are considerable and urgent, as well as long overdue. Work continues to resolve the workboat issues, including the fitting of missing safety equipment. Repairs to damage in September 2017 have been completed, with more scheduled maintenance due soon.

Of particular concern is the condition of the trailer for the barge, which is in poor condition and needs replacing.

The 55 tonne crane has a number of issues relating to reparation and maintenance, some of which will require external assistance. In any case, the crane is approaching the end of its useful life as the front-line machine for Niue. It is also too small and should be replaced by a crane with greater hoisting capacity. Estimated cost: $1.5 million.

The Freightliner container truck is generally unsuitable for Niue, as it is complex and difficult to maintain. It is also underpowered for its role and insufficiently manoeuvrable. It is proposed to replace it with a more standard truck that is easier to maintain. Estimated cost: $250,000.

The swing lift is in poor condition and is considered to be unsafe, based on its last inspection. It is recommended that this be replaced with a model that is able to carry 40-foot, as well as two 20-foot containers. Estimated cost: $250,000.

2.6.4 Priorities

Based on the prioritisation methodology described in Section 2, the following item is considered to be among the top 10 projects within Niue's transport system.

Replacement of the 55 tonne crane (planned for 2021): While this asset has the potential to fall beyond the time frame of this action plan, it is import that the concept stage begin during the planning period. Replacing the crane will involve a complex procurement exercise, with an equally intricate shipping process. Specifications will need to be completed by mid-2019 to ensure delivery in early 2021. This project is pending a funding decision. Estimated cost: $1.5 million.

2.7 Institutional Development

2.7.1 Current Situation

2.7.1.1 Institutional Structure

At present, the GoN is structured so that the Department of Transport, under the Ministry of Infrastructure, is tasked with transport-related activities. The Department is responsible for overall transport policy and strategy and for operational issues relating to the maritime and aviation sectors, fire services, stevedoring and other external services, as well as management of the plant fleet.

Operational activities in the roads sector are the responsibility of the Department of Utilities, which also takes care of road maintenance. A number of other organisations have roles within the transport sector, including:

- Department of Agriculture, Forestry and Fisheries, which owns the winches at Alofi and Avatele;
- Department, responsible for collecting wharf charges;
- Niue Police, accountable for road safety and for collecting vehicle and driver licence fees;
- Niue Bulk Fuel, charged with the delivery and sale of fuels, as well as the collection of fuel duty; and
- Civil & Quarry, responsible for road maintenance.

The institutional structure for the transport sector is relatively nascent and still evolving. One of its fundamental challenges is the lack of separation between the functions of planning and policymaking, as well as between those of operational and regulatory activities. This is particularly the case in the maritime and aviation sectors, where day-to-day operations often divert resources away from planning activities.

Budget allocations for planning, maintenance management and operations fall into one category. Furthermore, the Department of Utilities acts as the regulator for a number of sectors at the same time as it manages the road maintenance budget. The cross between responsibilities creates confusion, particularly in the roads sector and in terms of resource allocations that should be directed to the implementation of projects.

Another anomaly in the roads sector is the role of Civil & Quarry. Based on recent public sector reforms, this entity was established as a state-owned enterprise, retaining the responsibility for operation of the quarry and, more importantly, road maintenance. There is, however, no mechanism in place to plan, inspect, or certify road projects, despite it doing so, at the exclusion of the Department of Transport or Department of Utilities.

2.7.1.2 Human Resources

A key challenge for Niue relates to human resources, both in terms of absolute numbers and retaining sufficiently skilled staff within the public sector. It is a challenge for the transport sector to attract qualified staff to work in the GoN workshop and in the Outside Services Division, able to maintain and operate complex machinery. In many instances, there only is one or two staff remaining in key functions. GoN is implementing a variety of strategies to tackle the issue, with limited success.

2.7.1.3 Statutory Changes and Legal Developments

Much of Niue's transport sector laws date back to the period prior to its Independence, particularly Transport Act 1965, which deals with all aspects of road transport, including vehicles, drivers, roads, signage and offences. The Act has been updated twice in recent years with Driver's Licensing Regulations 2011 and Transport (Fees) Regulations 2009.

The aviation sector is governed mainly by Civil Aviation Act 1999, which sets the regulatory framework for civil aviation management, aircraft operation and licensing, airport operations and safety regulations. In addition, Aviation Crimes Act 1973 (amended in 2006), Carriage by Air Act 1992 and Departure Tax Regulations 2007 pertain to specific aspects of civil aviation. These Acts are in the process of being reviewed and updated, with a new Act to be presented to Parliament in 2019.

The main maritime legislation is the Merchant Shipping Act 2012, which regulates the maritime sector and enacts many of Niue's commitments to treaties under the International Marine Organization. This is complemented by the Marine Insurance Act 1908, Wreck and Salvage Act 1968 and Merchant Shipping Fees Regulations 2012. Work is in process to develop a new maritime policy and legislative framework in association with the New Zealand Aid Programme/Maritime New Zealand, the Pacific Community and Secretariat of the Pacific Regional Environmental Programme.

While this represents a largely complete set of legislation for the sector, in many areas it is relatively out of date. This is particularly the case in the roads sector, where vehicle and driver's licensing requirements are ruled by legislation dating back to 1965. As part of a review of the overall operation of the sector, GoN will review and replace Transport Act 1965 to reflect modern design standards and vehicle technologies and to provide a stronger basis for the enforcement of traffic laws.

2.7.2 Recent Surveys

No recent assessment of Niue's institutional structures has been undertaken.

2.7.3 Current Needs

It is important that GoN establish clear lines of responsibility, defining the activities of planning, implementation and regulation. This will be achieved by combining the engineering and asset management capacities of the road, maritime, aviation and major plant teams into a single team, responsible for implementation and the management of maintenance and capital works. This team would also take charge of the major plant. The Department of Transport should have, as its role, planning and strategy, while the Department of Utilities should focus solely on regulatory activities.

In parallel, the management of Niue's road network planning should be made clear. Responsibility for strategy should fall to the Department of Transport, rather than the Department of Utilities. A new department should be established, to be tasked with identifying and managing road maintenance works, as well as agreeing project plans with Civil & Quarry.

GoN should identify ways in which to provide more time to senior staff within the Department of Transport to handle planning and policy activities, such as project implementation, monitoring of this transport strategy and action plan, contributing to relevant regional programmes and workshops, developing applications for funding from nongovernment organisations; and managing consultants and advisors.

GoN should continue to seek ways to provide a more sustainable succession plan for key staff. As is the case with some plant maintenance, GoN should investigate whether or not there are ways whereby the private sector (international and domestic) is able to assist in maintenance projects, repairs, inspections and refurbishment of the plant fleet.

There is an urgent call for the replacement of Transport Act 1965. The Act should focus on roads and road transport, provide an up-to-date basis for road network projects, include traffic enforcement activities and ensure the roadworthiness of the vehicle fleet.

2.7.4 Priorities

Institutional strengthening of the public sector and the building of technical and management capacities are key essential. While they are not capital items, they form part of the prioritisation process.

2.8 Revenue Generation and Funding

2.8.1 Revenue Generation

Improving the ability of the transport sector to cover its costs and integrating the "user pays" principle is a key to GoN's transport strategy. At present, a number of fees and charges are levied on transport users across various sectors, including airport taxes, wharf charges and vehicle licences. Nevertheless, the sector falls short of collecting all that it could to cover its costs.

Given the nature of the sector, it is anticipated that full cost recovery will be difficult to achieve, although GoN is committed to ensure that where possible, those receiving a particular service should pay the full cost of that service. To enable this, GoN is undertaking a costing exercise to understand the value of each service and increase fees to a level that approaches full cost recovery. Where one-off increases are potentially excessive, they will be phased in on a graduating scale.

Revenue generation depends on the collection of fees and charges, GoN has committed to introduce new mechanisms to raise the rate of collection, beginning with wharf charges. This activity will be transferred to existing freight agents before the start of the 2018-2019 fiscal year.

2.8.2 Existing Revenue

Table 2.4 summarises, in 2016 dollars, the revenue collected from transport users in 2016.

Table 2.4. Revenue Collected from Transport Users in 2016: Niue

Charge	Collector	Amount Received (in $ thousands)
Upper air space charges	Airways New Zealand	$330
Airport departure tax	Customs Department	$350[1]
Aircraft landing charges	Department of Transport	$140
Port charges and related fees	Customs Department	$430
Driver and vehicle license fees	Niue Police	$90
Fuel Levy	Niue Bulk Fuel	$100
Total (estimate)		$1,100

[1] Not all for transport.

2.8.3 Potential Future Revenue

Under this strategy, GoN will examine the imposition of a number of additional or increased fees and charges to transport users. Typically, these will involve a fee for a service, such as completing an inspection, issuing a licence, or providing a piece of infrastructure. Examples of new charges to be imposed are:

- increased wharf charges (to raise $600,000)
- a new road tax or increased fuel duty (to raise $100,000)
- planned increases to departure tax (to raise $200,000).

These new charges are expected to raise an additional $900,000 in transport sector revenue. This will provide not only for items such as equipment maintenance and minor repair work, but also for ongoing contributions to capital replacement of the major plant.

2.8.4 Capital Funding Strategy

GoN has an overriding policy to ensure that the country remain debt free. This policy is reflected in this strategy, which relies only on GoN resources and grant funding. The latter originates from three main sources: New Zealand Aid Programme, ChinaAid and European Union. Additional resources are expected from the Green Climate Fund.

Key to the delivery of strategy interventions is the concrete identification of funding sources. In many cases, GoN will provide the support, although larger projects, such as the resurfacing of the runway or the main road upgrades, will inevitably be contingent on grant funding. Table 2.5 highlights the 10 most sizeable capital cost interventions and their respective potential funding source.

Table 2.5. Ten Most Sizeable Capital Cost Interventions: Niue

Intervention	Year	Size (in millions of $)	Source
Extension of wharf	2021-2023	$40-60	Green Climate Fund
Resealing of main roads	2018-2019	$30	ChinaAid
Resealing of airport runway	2018-2019	$17	Pending
Surfacing of hospital roads	2018-2019	$5	Green Climate Fund
Surfacing of evacuation routes	2019/20	$2	Green Climate Fund
Replacement of 55 tonne crane	2020	$1.5	Government of Niue
Village gateway road treatments	2019	$1.2	Government of Niue
Construction of new outer sea wall	2017-2018	$1	New Zealand Aid Programme
Reconstruction of wharf side wall and fenders	2018-2019	$1-7	TBC
Resurfacing of parking areas	2019	$1	ChinaAid

2.8.5 Operational and Maintenance Funding

Part of the remit of the Asset Management and Maintenance Plan is to estimate the levels of funding required for operation and maintenance of the transport system. For 2017, the estimates of revenue funding are as follows:

- Roads: $121,000
- Wharf: $29,000
- Airport: $451,000.

In addition, this Plan suggests that GoN should set aside approximately $700,000 per annum to cover the depreciation of transport system assets.

The additional funding of $900,000 should increase the transport sector budget. GoN has committed to increase maintenance budgets across the sector, particularly the roads and maritime allocations, as shown in Table 2.6.

Table 2.6. Increase of Maintenance Budget across Transport Sector: Niue

Sector	Item	Amount (in thousands of $)
Roads	Current Organisation and Management (O&M)	121
	Additional maintenance[1]	79
	Total	**200**
Wharf	Current O&M	29
	Minor backlog maintenance[2]	31
	Total	**60**
Airport	**Current O&M**	**451**
External services	Current O&M	333
	Salary restructuring, health and safety[3]	117
	Total	**450**
Major plant	Current O&M	262
	Maintenance[4]	88
	Replacements[5]	250
	Total	**600**

*1 Would allow increased maintenance of verges, routine maintenance of evacuation routes and would provide some funding towards road signage and road safety.

*2 There is a long list of minor items such as crack sealing, bollard reparation and fenders that should be covered.

*3 This would fund salary restructuring, as well as provide the budget for health and safety equipment.

*4 This would fund additional maintenance support (international).

*5 This would allow smaller items of major plant to be replaced and would contribute towards the replacement of larger items.

2.9 Implementation Programme

Table 2.7 indicates the proposed implementation programme for the action plan. This highlights key milestones and dates, including design processes, funding decisions, procurement, mobilisation and construction.

Table 2.7. Implementation Programme for the Action Plan: Niue

Intervention	Stage	Target date	Status	Activity									
				Q3 17	Q4 17	Q1 18	Q2 18	Q3 18	Q4 18	Q1 19	Q2 19	Q3 19	Q4 19
Airport runway resurfacing	Design	Oct-17			★								
	Funding	Nov-17											
	Procurement	Feb-18											
	Mobilisation	Mar-18											
	Construction	Oct-18											
New sea wall construction	Design		Complete										
	Funding		Complete										
	Procurement		Complete										
	Mobilisation	Mar-18											
	Construction	Oct-18											
Resurfacing of main roads	Design	Dec-17											
	Funding	Dec-17				★							
	Procurement	Apr-18											
	Mobilisation	Jun-18											
	Construction	Nov-18											
Basin harbour wharf expansion	Funding	Oct-17			★								
	Procurement	Jan-18											
	Feasibility	Oct-18											
	Decision	Dec-19											★
Replacement of crane	Specification	Jun-19											
	Funding	Oct-19											★
	Procurement	Dec-19											
Refurbishment of rescue 2 fire truck	Specification	post 2019											
Refurbishment of rescue 3 fire truck	Specification	Sep-19											
	Funding	Dec-19											★
Surfacing hospital area roads	Design	Jun-18											
	Funding	Sep-18						★					
	Procurement	Dec-18											
	Mobilisation	Mar-19											
	Construction	Oct-19											
Repairs and strengthening of side wall and new fendering	Design		Complete										
	Funding		Complete										
	Procurement		Complete										
	Mobilisation	Mar-18											
	Construction	Oct-18											
Replacement of control tower cab	Design		Complete										
	Funding		Complete										
	Procurement	Feb-18											
	Mobilisation	May-18											
	Construction	Oct-18											

Appendix A Major Projects

Name of Project		Airport runway resurfacing	
Sector	Aviation	**Lead Agency**	Department of Transport
Timing	2018-2019	**Status**	Surveys and assessments completed 2015 Design stage; options being considered Funding discussions in progress
Description		Hanan International Airport is the only international passenger gateway into Niue. The runway was originally laid in 1971, with the most recent overlay applied in 1995. While it remains in operational condition, it is close to the end of its life cycle. Significant surface material loss is now visible and it requires maintenance. It is proposed to recondition the runway pavement to extend its life for a further 30 years. In addition, runway and apron lighting will need replacing after destruction during resurfacing. The project includes replacement of the electrical wiring and ducting that partially run below the runway. The absence of a well-planned concept could lead to significant maintenance efforts and the runway becoming unworthy for use by 2020. Project will include the following: ▪ Seal cracks on current surface and overlay with asphalt concrete to extend life cycle by 30 years ▪ Replace and upgrade runway and apron lighting ▪ Replace electrical wiring, install ducting and replace control equipment.	
Policy Focus		▪ Improve access to quality transport network ▪ Reduce long-term maintenance requirements ▪ Build resilience to climate change and disasters ▪ Comply with licence requirements according to International Civil Aviation Organization ▪ Support tourism	
Estimated Cost	$17 million	**Funding Status**	Not secured. Discussions in progress with New Zealand Ministry of Foreign Affairs and Trade

Name of Project		Replacement of control tower cab	
Sector	Aviation	**Lead Agency**	Department of Transport Civil Aviation Authority (New Zealand)
Timing	2017-2018	**Status**	Design stage completed 2015 Procurement phase underway
Description		Hanan International Airport is the only international gateway for passengers into Niue. The control tower was constructed at the same time as the main airport buildings and provides accommodation for air traffic control staff, as well as lighting control boards and electrical control equipment. The control tower cab is not weatherproof, which is detrimental to air traffic control instruments and the essential equipment housed in the building below. Having been assessed various times, the design has been selected to replace the existing cab with a new structure. This will be constructed to a Category 5 cyclone standard and will provide additional protection for operators and equipment. It will also contribute to ensuring that the airport is able to operate in worse weather conditions than at present. Project to include the following: ▪ Remove existing cab ▪ Waterproof elements of building ▪ Construct a new cab ▪ Replace air traffic control equipment and lighting control equipment	
Policy Focus		▪ Reduce long-term maintenance requirements ▪ Build resilience to climate change and disasters ▪ Comply with licence requirements of International Civil Aviation Organization ▪ Support tourism	
Estimated Cost	$400,000	**Funding Status**	Government of Niue allocation confirmed

Name of Project		Refurbish rescue 2 fire truck	
Sector	Aviation	**Lead Agency**	Department of Transport Civil Aviation Authority (New Zealand)
Timing	2022	**Status**	Project planning completed
Description		Rescue 2 is the second, purpose-built airport fire truck. As it ages, it will require refurbishment to ensure reliability, so that Niue complies with International Civil Aviation Organization standards. The project, to be undertaken in 2022 in New Zealand, requires substantial planning to minimise the absence of the truck. The work should take place between cyclone seasons to ensure that the truck is available in Niue in the event of severe weather conditions. Project to include the following: ▪ Overhaul and repair engine ▪ Renew wiring and control systems ▪ Replace valves and pipes ▪ Repair corrosion	
Policy Focus		▪ Improve access to quality transport network ▪ Reduce long-term maintenance requirements ▪ Comply with licence requirements of International Civil Aviation Organization ▪ Support tourism	
Estimated Cost	$150,000	**Funding Status**	Government of Niue

Name of Project		Refurbish rescue 3 fire truck	
Sector	Aviation	**Lead Agency**	Department of Transport Civil Aviation Authority (New Zealand)
Timing	2020	**Status**	Project planning completed
Description		Rescue 3 is the third airport fire truck. While it was not designed initially for aviation use, it has been modified to fulfil a support role at the airport. The truck also is used to respond to domestic fire incidents across Niue. As it further ages, it will require refurbishment to ensure its reliability, in compliance with International Civil Aviation Organization standards. The project, to be undertaken in 2022 in New Zealand, requires substantial planning to minimise the absence of the truck. The work should take place between cyclone seasons to ensure that the truck is available in Niue in the event of severe weather conditions. Project to include the following: ▪ Overhaul and repair engine ▪ Renew wiring and control systems ▪ Replace valves and pipes ▪ Repair corrosion	
Policy Focus		▪ Improve access to quality transport network ▪ Reducing Reduce long-term maintenance requirements ▪ Comply with license requirements of International Civil Aviation Organization ▪ Support tourism	
Estimated Cost	$150,000	**Funding Status**	Government of Niue

Name of Project		Airport parking reorganization	
Sector	Aviation	**Lead Agency**	Department of Transport
Timing	2019	**Status**	Concept stage in progress
Description	The existing areas of the car park, hire car pickup and drop off and passenger retail facilities are considered poor. Car parking is provided largely on an informal grassed area in front of the airport terminal. Between this and the terminal is a disorganised gravel area that is used for hire car pickup and drop off activities. The only passenger retail facility at the airport is an informal tented area to the west of the passenger check in and waiting area. The proposal is to reorganise and surface car park and car hire areas and construct new roads to reduce pedestrians and traffic congestion. A covered area for retail purposes should also be created to improve the passenger experience. Project to include the following: ▪ Construct new roadways ▪ Surface car park and car hire areas ▪ Create retail facility		
Policy Focus	▪ Improve access to quality transport network ▪ Reduce long- term maintenance requirements ▪ Respond to climate change and disasters ▪ Support tourism		
Estimated Cost	$1 million	**Funding Status**	Funding decision pending

Name of Project		Airport buildings expansion	
Sector	Aviation	**Lead Agency**	Department of Transport
Timing	2018	**Status**	Concept stage in progress
Description		Although airport buildings have been upgraded progressively in recent years, further improvement is required, particularly to accommodate larger aircraft. Current facilities are adequate for the number of passengers, although they will be stretched to accommodate an additional 30 to 40 passengers per flight. Baggage handling arrangements should be improved to ensure security and improve health and safety. Key elements of the work include the following: ▪ Convert extended area of building for passenger use ▪ Expand check in, security and immigration facilities ▪ Install baggage carousel ▪ Install sealed ramp for use by baggage tractor and trolley	
Policy Focus		▪ Improve access to quality transport network ▪ Reduce long-term maintenance requirements ▪ Respond to climate change and disasters ▪ Support tourism	
Estimated Cost	$700,000	**Funding Status**	Funding decision pending

<table>
<tr><th colspan="2">Name of Project</th><th colspan="3">New sea wall construction</th></tr>
<tr><td>Sector</td><td colspan="2">Maritime</td><td>Lead Agency</td><td>Department of Transport</td></tr>
<tr><td>Timing</td><td>2017-2018</td><td>Status</td><td colspan="2">Design stage completed 2016
Funding agreed
Procurement of contractors completed
Implementation expected early 2018</td></tr>
<tr><td colspan="2">Description</td><td colspan="3">Since its construction, the wharf has undergone various reparations, the last of which was in 1996, when it was damaged during channel blasting operations and the sea wall was reattached to the wharf structure. Since then, the wharf frequently has been overtopped by heavy seas and suffered wear and tear due to a series of cyclones. The damage caused is particularly extreme along the front sea wall, which bears the brunt of harsh marine conditions. In addition, the outer wall of the wharf needs repairs. Surveys in 2014 and 2015 highlight that there are large cavities under the wharf structure, resulting from constant inrush of and erosion from sea water.

To protect the existing wharf structure and ensure that operations continue, a new 1 metre sea wall will be constructed beyond the existing wall. This will be piled into seabed and tied back into the wharf to provide medium-term protection and strengthen the structure.

Project to include the following:
▪ Construct piles for new sea wall
▪ Construct new sea wall
▪ Fill cavities under wharf structure and replace corroded structural components
▪ Strengthen wharf structure by tying in new wall</td></tr>
<tr><td colspan="2">Policy Focus</td><td colspan="3">▪ Reduce long-term maintenance requirements
▪ Respond to climate change conditions
▪ Build resilience to climate change and disasters
▪ Support agriculture and fishing</td></tr>
<tr><td>Estimated Cost</td><td colspan="2">$1 million</td><td>Funding Status</td><td>New Zealand Aid Programme
Funding agreed</td></tr>
</table>

Name of Project		New mooring systems	
Sector	Maritime	**Lead Agency**	Department of Transport
Timing	2019	**Status**	Specifications in development
Description		New mooring systems need to be installed to accommodate tourist boats and minimise the risk of environmental damage. Quick-release hooks need to be added, as well as a double hook to accommodate twin ropes for a capacity of 70 tonnes.	
Policy Focus		▪ Comply with International Marine Organization standards ▪ Improve sustainability of transport system ▪ Support tourism	
Estimated Cost	$30,000	**Funding Status**	Funding decision pending

Name of Project		Wharf lighting	
Sector	Maritime	**Lead Agency**	Department of Transport
Timing	2018	**Status**	First stage completed Second stage pending funding
Description		Adequate lighting over the entire wharf is essential to enable work during night hours. At present, ship unloading operations cease at sunset, significantly lengthening the overall time it takes to unload. Unloading during darkness without adequate lighting also is a health and safety hazard. The time it takes to unload, furthermore, makes the process more prone to the effects of climate change, in particular bad weather. Due to poor lighting at night, it is dangerous for fishermen and yacht owners. Project to include the following: ▪ Complete installation of lighting on Tomb Point ▪ Complete installation of lighting along full length of wharf ▪ Install lighting main road and access to this area	
Policy Focus		▪ Improve access to quality transport network ▪ Comply with International Marine Organization treaty ▪ Build resilience to climate change and disasters ▪ Support tourism and fishing	
Estimated Cost	$20,000	**Funding Status**	Funding decision pending

Name of Project		Basin harbour wharf extension	
Sector	Maritime	**Lead Agency**	Department of Transport
Timing	2021 - 2023	**Status**	Concept design completed 2016 Funding application in progress
Description		In 2011, the Niue Port Study proposed an expansion of the wharf, including construction of a breakwater to the north of the wharf to create a protected harbour for use by fishing and tourist vessels. This also will increase significantly the area for ship unloading and would prevent the use of the wharf to other traffic during operations. Nevertheless, to resolve the current challenges of unloading activities that are time consuming, dangerous and inefficient, it is further proposed that a feasibility study be executed in consideration of a structure that stretches to the point where the sea is sufficiently deep for container ships to berth. This would not only benefit the handling of containers; it also would secure the ship, making unloading far easier and safer. Furthermore, such structure would attract more frequent cruise ship visits and, thus, significantly boost Niue's tourism economy. The concept stage of this proposed additional project has yet to be completed, pending an in-depth feasibility study that includes extensive surveys, as well as an assessment of market demand. Once the concept stage is completed, a design-build procurement exercise may be the most appropriate to harness innovative technologies and solutions. Project to include the following: ▪ Strengthen existing wharf ▪ Extend wharf deck to the north to provide greater space ▪ Construct wharf extension to a point where ships are able to tie up ▪ Integrate renewable energy sources ▪ Provide additional lighting to allow 24-hour loading operations	
Policy Focus		▪ Improve access to quality transport network ▪ Reduce long-term maintenance requirements ▪ Build resilience to climate change and disasters ▪ Support tourism, fishing and agriculture	
Estimated Cost	$40 million to $60 million	**Funding Status**	Application to Green Climate Fund pending consideration

Name of Project		New search and rescue vessel	
Sector	Maritime	**Lead Agency**	Department of Transport
Timing	2018	**Status**	Procurement stage completed Vessel being constructed for delivery in 2018
Description		Niue lacks an effective marine search and rescue capability. It currently relies on a government workboat to fulfil this activity. Given the workboats primary activities, this is not a viable solution for the medium term. Furthermore, the workboat is restricted to coastal waters up to 3 nautical miles from shore. A new search and rescue vessel will be delivered in early 2018. It will be put into service once the volunteer crew have been trained. The new vessel will be smaller than the workboat and can be launched by winch rather than by crane, which will be easier.	
Policy Focus		▪ Comply with International Marine Organization standards ▪ Build resilience to climate change and disasters ▪ Support tourism and fishing	
Estimated Cost	$350,000	**Funding Status**	New Zealand Aid Programme funding confirmed

Name of Project		Improved charts and navigation aids	
Sector	Maritime	**Lead Agency**	Department of Transport
Timing	2018	**Status**	Specifications completed Update of charts in progress
Description		The Niue Hydrographic Risk Assessment completed in 2016, highlights a range of inadequacies in Niue's maritime charts and navigational aids. Inshore charts are out of date and incomplete and navigational aids to assist sailors entering the Port of Alofi are lacking, as are charts for various dangerous areas in Niue's outer waters. Consideration to replace, upgrade and augment the navigational aids at the Port of Alofi is at the development stage. Bathymetry surveys of key outer reefs also will be required to define marine-protected areas and inform Niuean and international shipping to divert from these areas.	
Policy Focus		▪ Comply with International Marine Organization requirements ▪ Build resilience to climate change and disasters ▪ Increase sustainability of the transport system ▪ Support tourism and fishing	
Estimated Cost	$150,000	**Funding Status**	Funding decision pending. Initial work supported by New Zealand Aid Programme

Name of Project		Enhancement of maritime communications	
Sector	Maritime	**Lead Agency**	Niue Telecom Department of Transport
Timing	2018	**Status**	Negotiations ongoing with Niue Telecom
Description		The eastern side of Niue has no communications coverage. This places inshore shipping at risk. Niue Telecom is undertaking to increase mobile coverage across the entire island, which will allow for very high frequency (VHF) coverage on ships along the east coast.	
Policy Focus		▪ Comply with International Marine Organization requirements ▪ Build resilience to climate change and disasters ▪ Increase sustainability of transport system ▪ Support tourism and fishing	
Estimated Cost	Not known	**Funding Status**	Government of Niue

<table>
<tr><th colspan="2">Name of Project</th><th colspan="2">Repairs and strengthening of side wall and new fendering</th></tr>
<tr><td>Sector</td><td colspan="2">Maritime</td><td>Lead Agency</td><td>Department of Transport</td></tr>
<tr><td>Timing</td><td>2018</td><td>Status</td><td colspan="2">Design work completed 2016
Funding agreed
Procurement in progress</td></tr>
<tr><td colspan="2">Description</td><td colspan="3">Small boats that tie up alongside the wharf within the deeper channel have access to the landing steps and winch. Over the years, however, the high traffic on this side—especially as a result of Auckland-based Reef Group fishing operations—has damaged the wharf structure. In the meantime, in order to minimise further deterioration, some wood protection has been fitted to the wharf as a temporary measure. Existing fenders also should be replaced and fitted, with some additional ones.

Extensive reparation is required of the wharf, including the filling of cavities behind the wall. Metalwork is needed to fit the new fenders allow the placement of the replacements and additional ones.

Project to include the following:
▪ Repair side wall of wharf
▪ Fill cavities within existing wharf structure
▪ Repair wharf structure to enable new fender placement
▪ Fit new fenders</td></tr>
<tr><td colspan="2">Policy Focus</td><td colspan="3">▪ Reduce long-term maintenance requirements
▪ Respond to climate change conditions
▪ Build resilience to climate change and disasters
▪ Support agriculture and fishing</td></tr>
<tr><td>Estimated Cost</td><td colspan="2">$1 million</td><td>Funding Status</td><td>Funding secured through New Zealand Aid Programme funding confirmed</td></tr>
</table>

Name of Project		Development of container storage at wharf	
Sector	Maritime	**Lead Agency**	Department of Transport
Timing	2018	**Status**	Concept stage in progress
Description		Incoming and outgoing container ships and wharf equipment add to the congestion of the wharf area. It is proposed, therefore, to distribute loaded containers to various locations around the Port of Alofi. This, however, will impact operational efficiencies due to extensive handling activities. The commercial centre of Alofi, including Swanson's supermarket and others, are affected as a result of containers being stored in these areas. Furthermore, various stakeholders are concerned that container handling activities could damage surrounding buildings. The proposal, therefore, is to convert the area adjacent to the wharf that is presently occupied by damaged fuel tanks into a container storage zone. The fuel tanks will need to be removed, with access provided by a new road from the inland northern edge of the wharf. The storage warehouse can then be erected on the concrete that is left. The size of the area is approximately 60 metres by 25 metres which, when stacked, would provide space for approximately 35 containers. Project to include the following: ▪ Remove damaged fuel tanks ▪ Construct new vehicular access to site, including a small bridge or culvert ▪ Remove fuel tank foundations and associated equipment ▪ Resurface area	
Policy Focus		▪ Reduce long-term maintenance requirements ▪ Improve sustainability of transport system ▪ Build resilience to climate change and disasters	
Estimated Cost	$200,000	**Funding Status**	Funding decision pending

Name of Project		Resurfacing of main roads	
Sector	Roads	**Lead Agency**	Department of Transport
Timing	2018 - 2019	**Status**	Design work in progress Funding discussions in progress
Description		The state of Niue's road network is vital to the island. Main roads are currently passable in all weather conditions; however, the surface is deteriorating to the extent that some sections make passing a challenge. These roads will require repair and resurfacing to extend the life cycle to a minimum of 20 years. Potholes and other damage should be addressed and an overlay of asphalt concrete should be applied. The project should encompass the entire main road network, to be undertaken in stages. Project to include the following: ▪ Repair potholes ▪ Refashion drainage ditches ▪ Repair damage caused by pipe laying ▪ Apply asphalt concrete overlay	
Policy Focus		▪ Improve access to quality transport network ▪ Reduce long-term maintenance requirements ▪ Improve sustainability of transport system ▪ Build resilience to climate change and disasters	
Estimated Cost	$30 – 50 million	**Funding Status**	Discussions with ChinaAid in progress

Name of Project		Surfacing of evacuation routes	
Sector	Roads	**Lead Agency**	Department of Transport
Timing	2019	**Status**	Concept stage in progress
Description		Niue has various cross-island tracks that are little used or cared for. In many cases, these are signposted as bicycle tracks with no indication of their alternative use as tsunami evacuation routes. They are relatively difficult to pass on, especially during wet periods. Since these tracks are also to be used as alternative evacuation routes, it is proposed that the first kilometre of some tracks be surfaced with all-weather material to enable emergency evacuation. Project to include the following: ▪ Remove loose material ▪ Form a base course ▪ Construct drainage ditches where necessary ▪ Provide all-weather surface	
Policy Focus		▪ Improve access to quality transport network ▪ Respond to climate change ▪ Build resilience to climate change and disasters ▪ Support tourism and agriculture	
Estimated Cost	$2 million	**Funding Status**	Funding decision based on application to Green Climate Fund

Name of Project		Surfacing of hospital area roads	
Sector	Roads	**Lead Agency**	Department of Transport
Timing	2019	**Status**	Concept stage in progress
Description		Pursuant to the construction of the new hospital, high school and power station following Cyclone Heta, a network of unsealed roads was built to link them. Approximately 10 kilometres of this road remains unsealed, the condition of which is gradually deteriorating. Not only do the roads link these facilities, as well as the proposed Emergency Operations Centre; they also connect to the government depot, main administration building and airport. As such, the roads become part of the most essential roads in Niue, particularly in the event of emergency. It is proposed to upgrade these roads to complete the entire sealing of Niue's network of roads and to improve key facility linkages. Project to include the following: ▪ Widen roads to ensure that two heavy vehicles are able to pass each other ▪ Construct quality drainage ditches ▪ Form an adequate base course ▪ Seal roads with an asphalt concrete overlay	
Policy Focus		▪ Improve access to quality transport network ▪ Respond to climate change ▪ Build resilience to climate change and disasters ▪ Improve sustainability of transport system	
Estimated Cost	$5 million	**Funding Status**	Funding decision pending application to Green Climate

Name of Project		Road safety action plan	
Sector	Roads	**Lead Agency**	Niue Police
Timing	2018	**Status**	Concept stage in progress
Description		The risk of road casualties/fatalities may increase as a result of the rising speed of vehicles on Niue's resurfaced main roads. To prevent this, Niue must implement a road safety action plan. The proposal is to create a multi-agency working group to develop and implement an action plan, led by Niue Police. The action plan should follow Niue's five pillars of road safety and include a blend of engineering solutions, strengthen safety enforcement and introduce education programmes, as well as improve vehicle and driver licensing.	
Policy Focus		▪ Improve access to quality transport network ▪ Reduce long-term maintenance requirements ▪ Improve sustainability of transport system ▪ Support tourism	
Estimated Cost	$50,000	**Funding Status**	Funding decision pending

Name of Project		Public transport study	
Sector	Roads	**Lead Agency**	Department of Transport
Timing	2019	**Status**	Concept stage in progress
Description		Niue continues without a public transport service. After establishing a service for tourists from Matavai Resort following various attempts, the service is not extensive and fails to cover demand. While it is believed that every household in Niue owns a car, there is no evidence in the data. The absence of data does not establish whether or not the failure to do so leads to social exclusion and/or lack of economic opportunities. Studies should identify the segments of the community that are unable to access a car and whether or not this leads to social issues. Based It is proposed to establish a public transport service network, based on conclusions, to relieve potential social issues.	
Policy Focus		▪ Improve access to quality transport network ▪ Build resilience to climate change and disasters ▪ Improve sustainability of transport system	
Estimated Cost	$20,000	**Funding Status**	Funding decision pending

Name of Project	Refurbishment and upgrade of sea tracks		
Sector	Roads	**Lead Agency**	Department of Transport
Timing	2019	**Status**	Concept stage in progress
Description	Niue has a number of sea tracks that provides local access to major tourist and cultural sites. In many cases, these are little more than grass tracks, although some are classified as secondary roads with partial sealing. Since these tracks are close to the sea and often reach the coast, they tend often to be steep and winding, with few areas to pass on. In addition, many sea tracks are impacted during storms. The project should aim to tackle the most badly damaged sea tracks, while improving those that are most essential and vulnerable, paving steep sections, reconstructing the drainage system and widening roads where necessary.		
Policy Focus	▪ Improve access to quality transport network ▪ Build resilience to climate change and disasters ▪ Improve sustainability of transport system ▪ Support tourism		
Estimated Cost	$500,000	**Funding Status**	Funding decision pending

Name of Project	Replacement of 55 tonne crane		
Sector	Major Plant	**Lead Agency**	Department of Transport
Timing	2020	**Status**	Specification development in progress
Description	Niue's 55 tonne crane is the only hoisting capability able to lift more than 10 tonne. Its use is critical in a variety of activities, including the unloading of vessels, movement of heavy loads and maintenance of various infrastructures. Since it has reached the end of its useful life cycle, it requires major maintenance work to ensure operation continuity and reliability until its replacement. This project should aim to procure a larger crane, so that the existing crane can be used as a backup. Additional maintenance requirements are also necessary.		
Policy Focus	▪ Improve access to quality transport network ▪ Reduce long-term maintenance requirements ▪ Build resilience to climate change and disasters ▪ Improve sustainability of transport system		
Estimated Cost	$1.5 million	**Funding Status**	Funding decision pending

Name of Project	Freightliner truck and trailer replacement		
Sector	Major Plant	**Lead Agency**	Department of Transport
Timing	2020	**Status**	Specification development in progress
Description	Niue's Freightliner truck was purchased in 2014 and is, at present, in relatively poor condition. The truck is essential for a number of activities, including ship unloading and the movement of containers and other larger loads around the island. The Freightliner truck is unsuitable for use in Niue, given the lack of expertise to maintain its complex control system, as well the challenge to manoeuvre it on the island's roads and its lack of power. It is proposed to replace the truck as soon as practicable.		
Policy Focus	▪ Improve access to quality transport network ▪ Reduce long-term maintenance requirements ▪ Build resilience to climate change and disasters ▪ Improve sustainability of transport system		
Estimated Cost	$250,000	**Funding Status**	Funding decision pending

Name of Project	Replacement of swing lift		
Sector	Major Plant	**Lead Agency**	Department of Transport
Timing	2018	**Status**	Specification development in progress
Description	The swing lift is an essential piece of equipment used to unload ships, as well as to distribute containers to facilities where other hoisting equipment is unavailable. The project should aim to replace the lift, given it is unsafe to use and is in poor condition. A more modern vehicle should be procured, able to carry two 20-foot containers or one 40-foot container.		
Policy Focus	▪ Reduce long-term maintenance requirements ▪ Build resilience to climate change and disasters ▪ Improve sustainability of transport system ▪ Support fisheries and agriculture		
Estimated Cost	$250,000	**Funding Status**	Funding decision pending

Appendix B Prioritisation Scoring

Niue Transport Strategy - Aviation Sector Action Plan

Name	Airport runway resurfacing	
Description	Resurfacing the existing Hanan international airport runway to provide a further 30 year life	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	The airport runway plays a key role in providing a high quality transport system. Resurfacing will improve the reliability of air services, whilst also enabling additional services	Very Positive
Maintenance of key infrastructure	The new surfacing will be easier to maintain. The works will reduce maintenance requirements in the medium term	Very Positive
Meet ICAO requirements	This intervention is fundamental to ensuring the airport meets ICAO requirements	Very Positive
Meet IMO treaty requirements	not relevant	No Effect
Respond to climate change	Improving the airport runway will provide a greatly improved surface for take off and landing. The works will also improve drainage and lighting	Positive
Provide increased resilience	Ensuring that the runway is in excellent condition and has good qualities in terms of drainage and friction, will ensure that air services can operate in poorer weather conditions than at present	Very Positive
Further sustainability	The works should improve the reliability of air services, minimising abortive take offs and landings, thereby reducing fuel usage. However, this is expect to have minimal effect	No Effect
Support tourism	Ensuring the continuation of reliable international air services is fundamental to the success of the tourist industry	Very Positive
Support fisheries	Some high value fisheries products are exported by scheduled air services	Positive
Support agriculture	Few agricultural products are exported via air services	No Effect

Niue Transport Strategy - Aviation Sector Action Plan

Name	Replacement of control tower cab	
Description	Replacement of the control tower cab to provide more resilient and modern ATC facilities	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	The replacement of the control tower cab will have only a very limited impact on access to good quality transport, as it only impacts upon the reliability of air services	No Effect
Maintenance of key infrastructure	The new control tower cab will require significantly less maintenance, particularly with regard to water ingress and protection from the weather	Positive
Meet ICAO requirements	Replacement of the control tower cab will enable the installation of more modern ATC equipment, whilst also providing protection to control gear and electrical installations across the airport	Positive
Meet IMO treaty requirements	not relevant	No Effect
Respond to climate change	The new control tower cab will be more resilient to the impacts of climate change as it will be more weatherproof and able to withstand higher winds	Positive
Provide increased resilience	The new control tower cab will be constructed to a much higher standard with respect to resilience to weather. This should reduce the likelihood of damage and increase the operating window	Very Positive
Further sustainability	The works should improve the reliability of air services, minimising abortive take offs and landings, thereby reducing fuel usage. However, this is expect to have minimal effect	No Effect
Support tourism	Ensuring the continuation of reliable international air services is fundamental to the success of the tourist industry	Positive
Support fisheries	Some high value fisheries products are exported by scheduled air services	Positive
Support agriculture	Few agricultural products are exported via air services	No Effect

Niue Transport Strategy - Aviation Sector Action Plan

Name	Rescue 2 fire truck refurbishment	
Description	Refurbishment and upgrade of rescue 2 fire engine	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Providing sufficient emergency response at the airport is crucial to being able to retain the existing international air services	Very Positive
Maintenance of key infrastructure	The refurbishment works should ensure that the fire engine is in maintainable condition for the foreseeable future	Positive
Meet ICAO requirements	Sufficient emergency response is a key ICAO requirement	Very Positive
Meet IMO treaty requirements	not relevant	No Effect
Respond to climate change	The work will have only a minimal impact on the ability to respond to climate change	No Effect
Provide increased resilience	The fire engines also have a civil defence role, which is important in the case of emergencies. This would be enhanced by the refurbishment	Positive
Further sustainability	The refurbishment will have only a minimal impact on sustainability in Niue	No Effect
Support tourism	The maintenance of international air services is crucial to the survival of the tourism industry. Having sufficient emergency response capability is one of the key elements to this	Very Positive
Support fisheries	Some high value fisheries products are exported by scheduled air services	Positive
Support agriculture	Few agricultural products are exported via air services	No Effect

Niue Transport Strategy - Aviation Sector Action Plan

Name	Rescue 3 fire truck refurbishment	
Description	Refurbishment and upgrade of Rescue 3 fire engine	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Providing sufficient emergency response at the airport is crucial to being able to retain the existing international air services	Very Positive
Maintenance of key infrastructure	The refurbishment works should ensure that the fire engine is in maintainable condition for the foreseeable future	Positive
Meet ICAO requirements	Sufficient emergency response is a key ICAO requirement	Very Positive
Meet IMO treaty requirements	not relevant	No Effect
Respond to climate change	The work will have only a minimal impact on the ability to respond to climate change	No Effect
Provide increased resilience	The fire engines also have a civil defence role, which is important in the case of emergencies. This would be enhanced by the refurbishment	Positive
Further sustainability	The refurbishment will have only a minimal impact on sustainability in Niue	No Effect
Support tourism	The maintenance of international air services is crucial to the survival of the tourism industry. Having sufficient emergency response capability is one of the key elements to this	Very Positive
Support fisheries	Some high value fisheries products are exported by scheduled air services	Positive
Support agriculture	Few agricultural products are exported via air services	No Effect

Niue Transport Strategy - Aviation Sector Action Plan

Name	Airport parking reorganisation	
Description	Reorganisation and surfacing of the airport parking areas	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Reorganisation and surfacing of the airport parking areas will help to provide a better passenger experience on arrival and departure.	Positive
Maintenance of key infrastructure	Surfacing the parking areas will reduce maintenance requirements in the medium term	Positive
Meet ICAO requirements	Although related to the operation of the airport this does not affect ICAO requirements	No Effect
Meet IMO treaty requirements	not relevant	No Effect
Respond to climate change	The works would contribute to making the operation of the airport easier during bad weather	Positive
Provide increased resilience	The work would have minimal impact on overall resilience	No Effect
Further sustainability	The work would have minimal impact on sustainability	No Effect
Support tourism	The parking area is the first experience of Niue many have. Improving the management and quality of this area will improve the passenger experience	Positive
Support fisheries	not relevant	No Effect
Support agriculture	not relevant	No Effect

Niue Transport Strategy - Aviation Sector Action Plan

Name	Airport buildings expansion	
Description	Expansion of the existing airport buildings and provision of a new baggage carousel	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Expanding the airport buildings to accommodate more passengers and further im[proving facilities will improve the overall experience of using the airport and improve operations	Very positive
Maintenance of key infrastructure	Provision of additional facilities and improving aspects such as baggage collection will reduce short term maintenance requirements	Positive
Meet ICAO requirements	Although related to the operation of the airport this does not affect ICAO requirements	No Effect
Meet IMO treaty requirements	not relevant	No Effect
Respond to climate change	The works would have minimal impact on the ability to respond to climate change	No Effect
Provide increased resilience	The work would have minimal impact on overall resilience	No Effect
Further sustainability	The works would have a small effect on health and safety around the airport and will provide the opportunity to install further energy efficiency measures	Positive
Support tourism	The additional facilities will improve the passenger experience	Very positive
Support fisheries	not relevant	No Effect
Support agriculture	not relevant	No Effect

Niue Transport Strategy - Maritime Sector Action Plan

Name	New sea wall construction	
Description	Construction of a new sea wall and provision of new fenders	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	By protecting the integrity of the wharf the works will improve access to good quality transport	Positive
Maintenance of key infrastructure	The works are an essential part of the maintenance of the wharf and will have a significant impact on future maintenance requirements, extending the life of the wharf substantially	Very Positive
Meet ICAO requirements	not relevant	No Effect
Meet IMO treaty requirements	Whilst the works are fundamental to the operation of the wharf they are not directly related to IMO treaties	No Effect
Respond to climate change	The works are an essential part of the maintenance of the wharf and will have a significant impact on the life of the wharf and its ability to withstand the already evident impacts of climate change	Very Positive
Provide increased resilience	Without the proposed works, the ability of the wharf to withstand further severe weather will be compromised. The works will reduce the likelihood of damage to the wharf	Very Positive
Further sustainability	The works will have a small effect on the need for future maintenance thereby slightly improving the sustainability of the transport system	Positive
Support tourism	The works would only indirectly support tourism	No Effect
Support fisheries	The fisheries sector is a key user of the wharf, although few products are exported via this route	Positive
Support agriculture	Some agricultural products are exported by ship and the works will support this by protecting the integrity of the wharf	Positive

Niue Transport Strategy - Maritime Sector Action Plan

Name	New mooring systems	
Description	Implementation of new mooring systems for small vessels around the wharf at Alofi	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	The mooring systems will make it easier for small vessels to tie up. This will lead to more reliable facilities	Positive
Maintenance of key infrastructure	Whilst helpful overall, these facilities are not considered to be key infrastructure	No Effect
Meet ICAO requirements	not relevant	No Effect
Meet IMO treaty requirements	The new moorings would help reduce the risks of environmental damage from badly tied up vessels. This will have a small contribution to meeting IMO treaty requirements	Positive
Respond to climate change	These facilities will provide better mooring for vessels during bad weather and will therefore have a small positive impact on the ability to respond to climate change	Positive
Provide increased resilience	The new moorings would have only a minimal impact on resilience	No Effect
Further sustainability	The new moorings will reduce the risk of environmental damage from tied up vessels	Positive
Support tourism	The majority of vessels using the moorings will be small tourist vessels visiting Niue. They will provide significant support to the tourism industry	Positive
Support fisheries	not relevant	No Effect
Support agriculture	not relevant	No Effect

Niue Transport Strategy - Maritime Sector Action Plan

Name	Wharf lighting	
Description	Installation of new wharf lights to enable operation during hours of darkness	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	The new lights will enable the wharf to operate at all times and will therefore have a small positive impact on access to good transport services	Positive
Maintenance of key infrastructure	The new lights will have minimal impact on maintenance	No Effect
Meet ICAO requirements	not relevant	No Effect
Meet IMO treaty requirements	The new lights will assist with search and rescue exercises by allowing the workboat to be launched at night if necessary	Positive
Respond to climate change	The new lights will have minimal impact on the response to climate change	No Effect
Provide increased resilience	The new lights will enable the wharf to operate during worse weather than currently, so improving resilience	Positive
Further sustainability	By enabling unloading and loading of vessels at night the lights will improve the overall sustainability of Niue by reducing the total time taken for ship loading	Positive
Support tourism	The lights would enable tourists using the adjacent moorings to use the wharf at night, so improving their experience	Positive
Support fisheries	The lights will enable fishing vessels to use the wharf at night, so improving their operations	Positive
Support agriculture	The lights will have only an indirect impact on the agricultural industry	No Effect

Niue Transport Strategy - Maritime Sector Action Plan

Name	Basin harbour wharf extension	
Description	Extension of the wharf and landing areas to provide all weather operation	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Extending the wharf to incorporate new handling areas and a jetty able to be reached by ocean going vessels would create a number of new opportunities for transport services	Very Positive
Maintenance of key infrastructure	The new wharf extension would reduce maintenance of the existing by providing additional protection, but will also create additional maintenance requirements	No Effect
Meet ICAO requirements	not relevant	No Effect
Meet IMO treaty requirements	The new wharf extension would not significantly assist Niue's efforts to be compliant with IMO treaty requirements	No Effect
Respond to climate change	The new wharf would assist in mitigating the effects of climate change by providing more robust facilities for ship offloading and cargo handling	Positive
Provide increased resilience	The new wharf would protect the existing wharf, but would also enable ship operations to take place in a wider set of weather conditions, making offloading more resilient	Very Positive
Further sustainability	The new wharf would improve the sustainability of the transport system by reducing the reliance upon highly carbon intensive ship offloading methods	Positive
Support tourism	The new wharf extension would provide a more appropriate means by which to offload passengers from cruise ships, so providing additional tourists for Niue	Positive
Support fisheries	The new wharf would support fisheeies by providing space for landing and processing facilities	Positive
Support agriculture	Some agricultural products are exported by ship and the works will support this by extending the wharf and protecting its integrity	Positive

Niue Transport Strategy - Maritime Sector Action Plan

Name	New search and rescue vessel	
Description	Purchase of a new search and rescue vessel to relieve the workboat of these duties	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	A new search and rescue vessel would have minimal impact on access to good transport	No Effect
Maintenance of key infrastructure	The new vessel would take pressure off the workboat and reduce the risk of damage to the workboat that would require urgent major repairs	Positive
Meet ICAO requirements	not relevant	No Effect
Meet IMO treaty requirements	Having an effective search and rescue capability is a key aspect of a number of IMO treaties	Very Positive
Respond to climate change	A new search and rescue vessel would have little effect in terms of responding to climate change	No Effect
Provide increased resilience	The new vessel would increase Niue's ability to respond to disasters and bad weather events, by providing additional seaborne response	Very Positive
Further sustainability	The new vessel will have little effect on the sustainability of the transport sector	No Effect
Support tourism	The new vessel will have a small positive effect on the tourist industry as it will primarily support yachting activities	Positive
Support fisheries	The new vessel will have a small positive effect on fisheries as it will be able to respond to fishermen in difficulty more quickly	Positive
Support agriculture	There will be no effect on the agricultural industry	No Effect

Niue Transport Strategy - Maritime Sector Action Plan

Name	Improved charts and navigation aids	
Description	Development of updated marine charts and installation of modern marine navigation aids	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	New charts and navigatin aids will improve the overall quality of the maritime transport infrastructure	Positive
Maintenance of key infrastructure	The proposed works will have minimal effect on maintenance requirements	No Effect
Meet ICAO requirements	not relevant	No Effect
Meet IMO treaty requirements	Updated charts and navigation aids are key elements in Niue's IMO treaties and statutory obligations	Very Positive
Respond to climate change	Updated charts and navigation aids will help Niue respond to climate change by assisting shipping to operate in bad weather	Positive
Provide increased resilience	The proposals will have only a very small impact on increasing resilience in Niue	No Effect
Further sustainability	New charts and navigation aids will improve the sustainability of the transport sector by reducing the likelihood of environmental damage	Positive
Support tourism	The proposals will a small positive impact as they will make it easier for tourism boats to move in Niue waters	Positive
Support fisheries	There will be minimal impact on the fishing industry	No Effect
Support agriculture	There will be no effect on agriculture	No Effect

Niue Transport Strategy - Maritime Sector Action Plan

Name	Enhancement of maritime communications	
Description	Extension of the VHF network to cover the whole of the island and inshore waters	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	This will have little impact on the transport network being more directed at fishing and yachting activities	No Effect
Maintenance of key infrastructure	VHF coverage will have only limited impact on maintenance requirements	No Effect
Meet ICAO requirements	not relevant	No Effect
Meet IMO treaty requirements	Having full VHF coverage is an important aspect of IMO treaties as it greatly assists search and rescue activities	Very positive
Respond to climate change	Better radio coverage will assist in responding to climate change as it will allow better real time reporting of weather and sea conditions	Positive
Provide increased resilience	Improving overall coverage will also improve resilience as it will create some redundancy within the communications system	Positive
Further sustainability	Improved communications coverage will assist in making Niue more sustainable as it will reduce the potential for environmental damage from run aground boats	Positive
Support tourism	Improved communications will greatly assist tourist boats with better navigation, weather and sea condition reporting	Positive
Support fisheries	Local fishermen will make use of the improved communications particularly with respect to location reporting and for search and rescue	Positive
Support agriculture	There will be little or no effect on agriculture	No Effect

Niue Transport Strategy - Maritime Sector Action Plan

Name	Repairs and strengthening of side wall and new fendering	
Description	Repair damage to side wall of the wharf and fit new fenders	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	The repairs to the side wall of the wharf and fitting new fenders will assist shipping and boats to tie up, creating new opportunities for users of the wharf	Positive
Maintenance of key infrastructure	The repairs and new fenders will correct damage and make the wharf wall more resilient. This will reduce overall maintenance requirements and protect the wharf structure	Very positive
Meet ICAO requirements	not relevant	No Effect
Meet IMO treaty requirements	Although it is crucial to the maritime sector, the works would not form part of any IMO requirement	No Effect
Respond to climate change	As weather and sea conditions worsen the structure of the wharf is going to be more susceptable to the effects of climate change. The planned works will strengthen this side of the wharf	Positive
Provide increased resilience	The damage to the side wall has weakened the structure. The planned works will strengthen the wharf making it more resilient to bad weather and other disasters	Very positive
Further sustainability	The planned works will have little effect on the sustainability of the transport system	No Effect
Support tourism	The works will support tourism by making it is easier for tourist vessels to tie up alongside the wharf	Positive
Support fisheries	The works will support fishing by making it is easier for local fishermen to tie up alongside the wharf	Positive
Support agriculture	There will be minimal impact on agriculture	No Effect

Niue Transport Strategy - Maritime Sector Action Plan

Name	Development of container storage at wharf	
Description	Remove the damaged fuel storage tanks and construct container storage area	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Whilst the planned works will ease congestion around the wharf they will have minimal impact on the overall transport system	No Effect
Maintenance of key infrastructure	A new container storage area will reduce the overall maintenance requirement by reducing the number of informal storage areas that need to be maintained	Positive
Meet ICAO requirements	not relevant	No Effect
Meet IMO treaty requirements	There will be no impact in IMO treaties	No Effect
Respond to climate change	The proposed site is on an exposed area. The works and stacking of containers in this area will act as a barrier to weather and excessive waves, responding to the impacts of climate change	Positive
Provide increased resilience	Adding container storage space in this area will add resilience to the transport system, reducing the need to use informal storage areas	Positive
Further sustainability	The works also involve removal of damaged fuel tanks and cleaning up of contaminated land. Together with the reduction in the risk of further pollution, the scheme will be very sustainable	Very positive
Support tourism	The works will have no impact on tourism	No Effect
Support fisheries	The works will have no impact on the fishing industry	No Effect
Support agriculture	The scheme will have no impact on agriculture	No Effect

Niue Transport Strategy - Roads Sector Action Plan

Name	Resurfacing of main roads	
Description	Resurfacing of the main roads including the coastal ring and cross island roads	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Resurfacing the main roads around and across Niue will have a substantial impact on the quality of land transport, improving access to good quality transport significantly	Very positive
Maintenance of key infrastructure	The resurfacing works will reduce the overall maintenance requirement significantly and will protect the road asset from deterioration	Very positive
Meet ICAO requirements	not relevant	No effect
Meet IMO treaty requirements	not relevant	No effect
Respond to climate change	The resurfacing works will help respond to climate change by making it easier to move around Niue during bad weather	Positive
Provide increased resilience	The resurfacing will protect the main roads from the effects of bad weather and disasters and will assist in emergency response and evacuation	Positive
Further sustainability	The resurfacing works will reduce maintenance requirements, reducing the use of scarce materials. Without action the resurfacing could result in increased road crashes	Positive
Support tourism	The improved roads will improve access for tourists to key locations and attractions	Positive
Support fisheries	The works will have no effect on the fishing industry	No effect
Support agriculture	The works will have only a minimal effect on agriculture	No effect

Niue Transport Strategy - Roads Sector Action Plan

Name	Surfacing of evacuation routes	
Description	Implementing all weather surfaces for evacuation routes at Makegu, Vaiea, Foa Foa and Tuapa	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	The surfacing of evacuation routes will have a small positive impact on those who live close to the ends of these routes	Positive
Maintenance of key infrastructure	These roads are currently not maintained. Surfacing will have little impact on medium term maintenance requirements	No effect
Meet ICAO requirements	not relevant	No effect
Meet IMO treaty requirements	not relevant	No effect
Respond to climate change	Surfacing these roads will have a positive effect on the response to climate change making it easier to move inland quickly in bad weather	Positive
Provide increased resilience	Surfacing the evacuation routes will assist people to escape tsunami and other disasters in all weather conditions	Very positive
Further sustainability	Surfacing evacuation routes will have only a very small impact on the sustainability of the transport system	No effect
Support tourism	These routes are also advertised as bicycle routes and are therefore occasionally used by tourists. Improving the condition of these routes will have a small positive effect on tourism	Positive
Support fisheries	There will be no effect on fishing	No effect
Support agriculture	These routes often also provide access to plantations and other agriculture facilities, so improving them will have a small positive impact	Positive

Niue Transport Strategy - Roads Sector Action Plan

Name	Surfacing of hospital area roads	
Description	Surfacing of the roads between the hospital, airport, power station and Government depot	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	The quality of roads around the hospital and other key locations is relatively poor. Improving these roads will have a significant effect upon the quality of transport provision in the area	Very positive
Maintenance of key infrastructure	Surfacing these roads will significantly reduce the medium term maintenance requirement	Positive
Meet ICAO requirements	not relevant	No effect
Meet IMO treaty requirements	not relevant	No effect
Respond to climate change	Improving these roads will help respond to climate change by making them passable in bad weather	Positive
Provide increased resilience	These roads serve crucial installations for which all weather access is required during emergencies and bad weather events	Very positive
Further sustainability	Surfacing these roads will reduce the medium term maintenance requirement thereby reducing the use of scarce materials, equipment and financial resources	Positive
Support tourism	These roads will rarely be used by tourists, so there will be minimal impact on the tourism industry	No effect
Support fisheries	There will be no effect on the fishing industry	No effect
Support agriculture	There will be minimal impact on agriculture	No effect

Niue Transport Strategy - Roads Sector Action Plan

Name	Road safety action plan	
Description	Development and implementation of a road safety action plan	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Improving road safety will improve safety for vulnerable road users	Positive
Maintenance of key infrastructure	There will be minimal impact on maintenance requirements	No effect
Meet ICAO requirements	not relevant	No effect
Meet IMO treaty requirements	not relevant	No effect
Respond to climate change	Improving road safety should reduce the number of crashes during bad weather by improving behaviour, eleminating black spots and improving vehicle standards	Positive
Provide increased resilience	There will be only a very small impact on resilience	No effect
Further sustainability	Reducing the number of road crashes will remove one of the key externailities from road traffic so improving the sustainability of the transport system	Very positive
Support tourism	Improving road safety will improve conditions for tourists around the main locations	Positive
Support fisheries	There will be minimal impact on fishing	No effect
Support agriculture	There will be no impact on agriculture	No effect

Niue Transport Strategy - Roads Sector Action Plan

Name	Public transport study	
Description	Research and assessment of the need for and impact of a lack of public transport services	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Good public transport could assist the most vulnerable in Niue to access key services and opportunities	Positive
Maintenance of key infrastructure	The study would have no impact on maintenance requirements	No effect
Meet ICAO requirements	not relevant	No effect
Meet IMO treaty requirements	not relevant	No effect
Respond to climate change	Public transport services would have minimal impact on the effects of climate change	No effect
Provide increased resilience	There would be a small improvement in resilience as public transport services would enable those without access to a car to be moved more quickly	Positive
Further sustainability	Public transport services would improve the sustainability of the transport system by providing those without access to a car with opportunities to access key services	Positive
Support tourism	Public transport services may have a small positive impact on tourists if they are available in appropriate locations	No effect
Support fisheries	There would be no effect on fishing	No effect
Support agriculture	There would be no effect on agriculture	No effect

Niue Transport Strategy - Roads Sector Action Plan

Name	Refurbishment and upgrade of sea tracks	
Description	Repair and upgrade selected sea tracks	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	Improving the sea tracks will improve the overall quality of the transport system	Positive
Maintenance of key infrastructure	Improving the sea tracks, particularly sealing steeper sections will reduce short and medium term maintenance requirements	Positive
Meet ICAO requirements	not relevant	No effect
Meet IMO treaty requirements	not relevant	No effect
Respond to climate change	The works will have minimal impact on Niue's ability to respond to climate change	No effect
Provide increased resilience	There would be a small improvement in resilience as improving the sea tracks will make them more resilient to bad weather	Positive
Further sustainability	There will be minimal impact on overall sustainability	No effect
Support tourism	The sea tracks provide vital links to tourist and cultural sites and improving them will have a significant impact on the tourist experience	Very positive
Support fisheries	There would be no effect on fishing	No effect
Support agriculture	There would be no effect on agriculture	No effect

Niue Transport Strategy - Plant Sector Action Plan

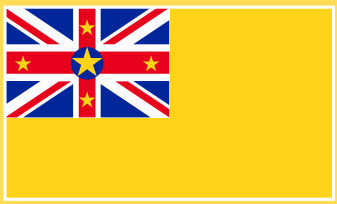
Name	Replacement of the 55 tonne crane	
Description	Replacement of the 55 tonne crane	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	The crane is crucial to freight transport, but has only a limited role in the provision of transport as a whole	Positive
Maintenance of key infrastructure	Replacement of the crane would significantly reduce maintenance requirements, as a new machine would require less maintenance than the existing crane	Positive
Meet ICAO requirements	not relevant	No effect
Meet IMO treaty requirements	The crane is required to launch the workboat and so is important for search and rescue requirements	Positive
Respond to climate change	Ensuring that a reliable crane is available at all times is important as this will allow wharf operations in worse weather than at present	Positive
Provide increased resilience	The crane has a wide ranging role across Niue and would be required for emergency response	Very positive
Further sustainability	Ensuring that the crane is available at all times and is able to operate in bad weather will improve the sustainability of the transport system by making wharf operations more efficient	Very positive
Support tourism	Replacing the crane would have only an indirect impact on tourism	No effect
Support fisheries	Replacing the crane would enable more efficient launching of fishing vessels	Positive
Support agriculture	Replacing the crane would have only an indirect impact on agriculture	No effect

Niue Transport Strategy - Plant Sector Action Plan

Name	Replacement of truck and trailer	
Description	Replacement of the container truck and trailer	
Objective	**Assessment**	**Scoring**
Improve access to quality transport	The container truck is the only means of transporting containers around the island and it is therefore crucial to all activities	Very positive
Maintenance of key infrastructure	The truck and trailer are approaching the end of their lives and require increasing amounts of maintenance, replacing them will reduce these requirements	Positive
Meet ICAO requirements	not relevant	No effect
Meet IMO treaty requirements	not relevant	No effect
Respond to climate change	There would be minimal impact on the ability to respond to climate change	No effect
Provide increased resilience	A more modern truck which was more reliable in the medium term would improe the resilience of Niue	Positive
Further sustainability	A more modern truck and trailer would reduce fuel use, harmful emissions and reduce container damage due to more modern suspension	Positive
Support tourism	There would only be an indirect impact on tourism	No effect
Support fisheries	There would be no impact on fishing	No effect
Support agriculture	There would be a small positive impact on agriculture as some agricultural produce is exported	Positive

Niue Transport Strategy - Plant Sector Action Plan

Name	Replacement of the swing lift	
Description	Replacement of the existing swing lift with a unit capable of carrying 2 x 20 foot or 1 x 40 foot container	
Objective		
Improve access to quality transport	A new swing lift will have minimal impact on the access to good transport, although it will reduce the risk of goods being damaged in transit	No effect
Maintenance of key infrastructure	Replacing the swing lift will reduce the overall maintenance requirement as the existing equipmenrt needs ongoing major maintenance	Positive
Meet ICAO requirements	not relevant	No effect
Meet IMO treaty requirements	not relevant	No effect
Respond to climate change	A new swing lift will reduce container handling times thus reducing the time required in port for the ship. This will make the operation less subject to climate change related delays	Positive
Provide increased resilience	The new swing lift will be able to operate in worse weather conditions and will provide better quality container handling	Positive
Further sustainability	A new lift will increase the sustainability of the transport system by reducing the number of trips required to transport containers to and from the wharf	Positive
Support tourism	There will be no effect on tourism	No effect
Support fisheries	There will be minimal effect on fisheries, although faster handling will mean that the wharf is closed for less time than at present	Positive
Support agriculture	Faster container handling will have a small positive effect on agriculture as it will reduce the handling time for produce	Positive



GOVERNMENT OF NIUE