

10 YEAR INFRASTRUCTURE PLAN

2017 – 2026



CONTENTS

Minister's Foreword	2	Sectors	21
Northern Territory Context	3	Cross Sector: Integrated Land Use and Infrastructure Planning	21
The Framework for Infrastructure Planning, Prioritisation and Delivery	7	Cross Sector: Regional Economic Development	31
Development Levers	8	Agribusiness, Fisheries and Aquaculture	35
Sectors	9	Tourism	41
Infrastructure Objectives	10	Energy and Minerals	47
Funding Infrastructure	11	Defence and Related Industries	53
Impact of Infrastructure Spending on Economic Growth	11	Education and Training	59
Financing Infrastructure Development	12	Electricity	65
Australian Infrastructure Plan	14	Water	71
Infrastructure Australia Priority List	14	Transport and Logistics	77
Northern Territory Project Delivery Framework	15	Public Safety and Justice	87
Consultation: Infrastructure Ideas	18	Health	93
		Housing	103
		Art, Culture and Active Recreation	111
		Digital	119
		Bibliography	124
		Acknowledgements	125

How to navigate this document

To understand the strategic framework for infrastructure delivery in the Northern Territory refer to pages 7 to 17.

Projects nominated by industry, business and the community for consideration in the Northern Territory's long term infrastructure planning are included on pages 18 to 20.

Planned and proposed infrastructure projects are provided in each Sector commencing from page 21.



MINISTER'S FOREWORD

Infrastructure is a key enabler of economic development, which underpins our capacity to create jobs, increase productivity and stimulate growth. Infrastructure supports the quality of our social well-being, the future of our children, our cultural and lifestyle experiences and the services we use every day.

For the Northern Territory to unlock its economic potential and social opportunities we need to provide a framework for planning and prioritising infrastructure projects, which will provide the foundation for making informed investment decisions.

The cost of maintaining existing, and investing in new, infrastructure is one of our biggest challenges. It is vital that decisions on infrastructure planning, investment and delivery achieve the best outcomes for the Territory within available funding.

Government expenditure as a proportion of the Northern Territory economy is significant, but it cannot sustainably grow the economy. All tiers of government and the private sector have an equally important role to play in owning, financing, building and operating infrastructure.

Government investment in enabling infrastructure supported by the right policy and regulatory settings, is critical to grow private sector investment.

Our investment in a steady pipeline of infrastructure work, as well as iconic and strategic infrastructure projects, is necessary to deliver enduring growth in economic activity to create jobs, and strengthen and diversify the economy.

Whilst this document incorporates planned and proposed infrastructure projects, it is not an exhaustive list of all anticipated infrastructure and civil construction activity. It covers all infrastructure sectors from our growth sectors of agribusiness, tourism and defence to providing better access to health and education, and improved telecommunication connectivity.

The document provides a framework for a more transparent and integrated approach to how we plan, prioritise, use and deliver infrastructure, to provide confidence and certainty about the future direction for infrastructure provision in the Territory.

The Infrastructure Plan is a companion document to the Economic Development Framework and the Infrastructure Strategy. It is based on feedback received through the 2016–17 Economic Summit process as well as earlier consultation and investigative studies.

I look forward to continuing our partnership with the Australian and local governments, the private sector and community to address the infrastructure challenges we face today and generate infrastructure investment that will produce an increase in economic and social development.



NORTHERN TERRITORY CONTEXT

The structure of the Northern Territory economy is markedly different to the national economy, reflecting the degree of maturity of the local economy relative to other parts of Australia and the impact that major projects can have on small communities.

This distinctive structure is influenced by the Northern Territory's geographic remoteness and demographic characteristics. One per cent of Australia's population live in the Northern Territory, dispersed over 17.5 per cent of Australia's land mass.

Almost thirty per cent of the Territory's population is Aboriginal compared to the national average of three per cent, and Aboriginal Territorians are significant land owners and custodians of our land and coastline. Approximately 50 per cent of the Territory's land mass, including around 80 per cent of the coastline, is inalienable Aboriginal freehold granted under Commonwealth legislation, the *Aboriginal Land Rights (Northern Territory) Act 1976*.

Much of the balance of the land is likely to be the subject of either exclusive or non-exclusive native title, as recognised by the *Commonwealth Native Title Act 1994*. This significant Aboriginal land ownership reinforces the role of Aboriginal Territorians in the economic future of the Northern Territory.

Significant distances separate our population centres from each other, and from the rest of Australia. However, the Northern Territory, particularly Darwin, enjoys the advantage of being in close proximity to Asia compared to most other Australian jurisdictions. There are 24 million people within five hours south of us and 400 million people within five hours north.

The Northern Territory economy has grown considerably over the past 10 years supported by a steady stream of major projects. Between 2005–06 and 2015–16, we've seen:

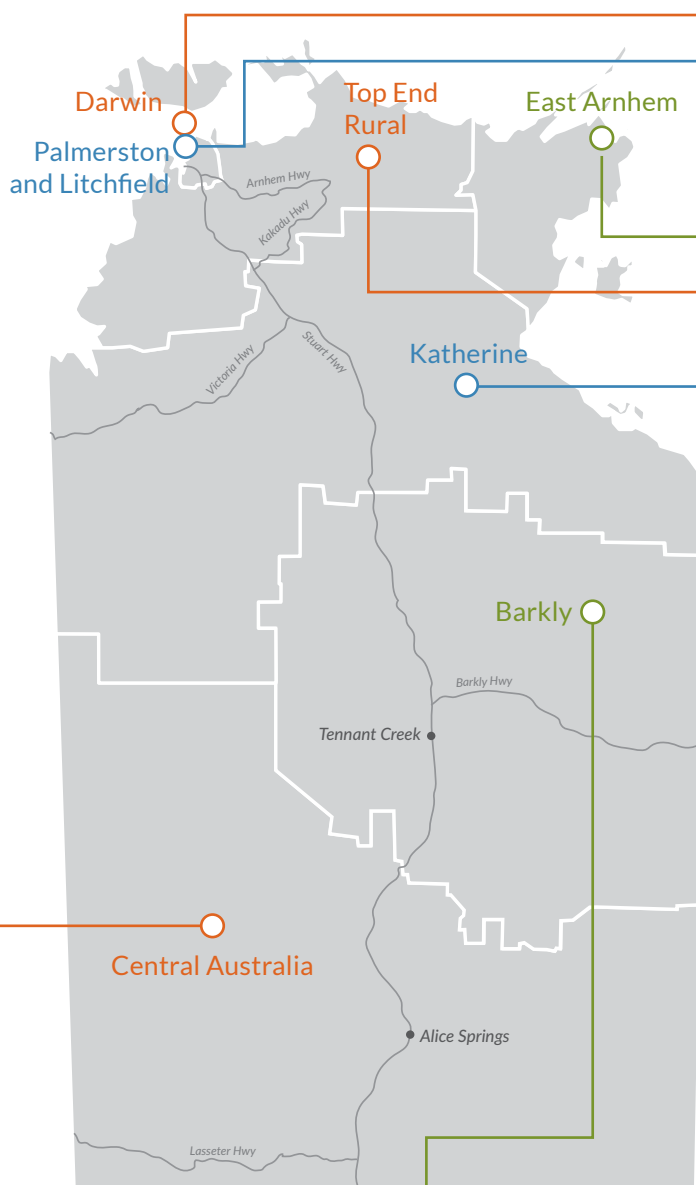
- Gross State Product grow over 40 per cent, from \$16.2 billion to \$23.6 billion
- population increase 17 per cent, to more than 245 000 people
- workforce expand by 34 000, to over 140 000 workers.

A rapid expansion of the role that investment plays in driving the Northern Territory's economy has seen investment contribute over 40 per cent of state final demand over the past five years compared to about 30 per cent previously. Following completion of the construction phase of the Ichthys LNG project and start of production, investment levels are expected to revert to historical levels.

The Territory has a strong comparative advantage in industries that produce products in high demand in Asia, and there are promising opportunities to grow the international education sector, tourism, mineral, gas, petroleum, fisheries and agricultural resources.

The Northern Territory's position as a gateway to Asia, role as a key defence hub, our world renowned tourist attraction and rich diversity of mineral, gas, petroleum and agricultural resources all provide the strategic opportunities required to underpin future economic growth. These strategic advantages also provide opportunities for growth in service industries such as health, education and research.

The Territory has a population of 245 000 people and a land area of 1.3 million km² which is 17.5 per cent of the land area of Australia.



Central Australia

Population: 40 715 people – 17 per cent of the Territory's population

Main industries: Pastoral, tourism, defence, Aboriginal arts and culture, mining, and oil and gas exploration

Main driver of economic activity and employment: Mineral production and exploration

Percentage of the Territory's businesses: 13.8 per cent

Barkly

Population: 6 862 people – 3 per cent of the Territory's population

Main industries: Pastoral, tourism, Aboriginal arts and culture, mining activities

Main driver of economic activity and employment: Government services, pastoral and mining related activities

Percentage of the Territory's businesses: 1.4 per cent

● Darwin

Population: 85 041 people – 35 per cent of the Territory's population

Main industries: Construction, defence, tourism, public administration, safety and tourism

Main driver of economic activity and employment: Tourism, government and defence

Percentage of the Territory's businesses: 73.4 per cent across the Greater Darwin region including Palmerston and rural areas

● Palmerston and Litchfield

Population: 58 588 people – 24 per cent of the Territory's population (35 065 Palmerston and 23 523 Litchfield)

Main industries: Aquaculture, horticulture, cattle, crocodile farming, defence and liquefied natural gas and helium production

Main driver of economic activity and employment: Retail and construction

Percentage of the Territory's businesses: 73.4 per cent across the Greater Darwin region including Palmerston and rural areas

● East Arnhem

Population: 13 935 people – 6 per cent of the Territory's population

Main industries: Mining and oil and gas exploration

Main driver of economic activity and employment: Mineral production and exploration

Percentage of the Territory's businesses: 1.6 per cent

● Top End Rural

Population: 18 892 people – 8 per cent of the Territory's population

Main industries: Tourism, horticulture and mining

Main driver of economic activity and employment: Tourism and Aboriginal arts and culture

Percentage of the Territory's businesses: 73.4 per cent across the Greater Darwin region including Palmerston and rural areas

● Katherine

Population: 21 158 people – 9 per cent of the Territory's population

Main industries: Pastoral, tourism, defence, horticulture, mining, and oil and gas exploration

Main driver of economic activity and employment: Defence, mineral production and exploration

Percentage of the Territory's businesses: 6.1 per cent



NORTHERN TERRITORY INFRASTRUCTURE SNAPSHOT



\$1.7B Infrastructure Program Budget

Energy and Minerals contributes
12% of gross state
product contribution



\$7 Billion
of NT Government road and bridge assets

8943 • tourist accommodation
rooms available

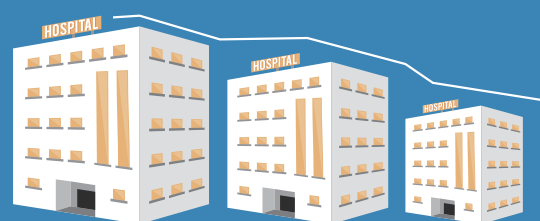


2110 full time
NTPFES personnel

52 youth workers



400
NT Emergency
Service volunteers



Health infrastructure valued at
\$1.353 billion
depreciating by \$27 million per year

\$606 million

Northern Territory Government estimate
of agricultural production

Target
50%
of our electricity from
renewable sources
by 2030



6 528 people
in the mining and resources sector

Defence major capital projects

\$20 billion

in Defence construction projects in NT over 20 years

\$8 billion by 2016-25

\$12.2 billion by 2026 – 2035

International
Education



contributed
\$81 million
to the NT economy

3.5 million
visitors to parks and reserves each year

THE FRAMEWORK FOR INFRASTRUCTURE PLANNING, PRIORITISATION AND DELIVERY

The Economic Development Framework, the Northern Territory Government's blue print for economic growth and diversity, forms the basis for the Northern Territory's long term decision making and ensures we are all moving towards a shared vision for the future.

The Framework provides the overarching structure for the Infrastructure Strategy and 10 Year Infrastructure Plan.

The Infrastructure Strategy charts how and why government will undertake infrastructure investment. It establishes the government's vision for infrastructure delivery, the broader economic and social objectives that infrastructure investment must achieve, and the underlying policies that support government to plan, assess, select, prioritise and invest in infrastructure initiatives.

The 10 Year Infrastructure Plan, informed by the Economic Development Framework and Infrastructure Strategy, provides an assessment of where sectors have prioritised

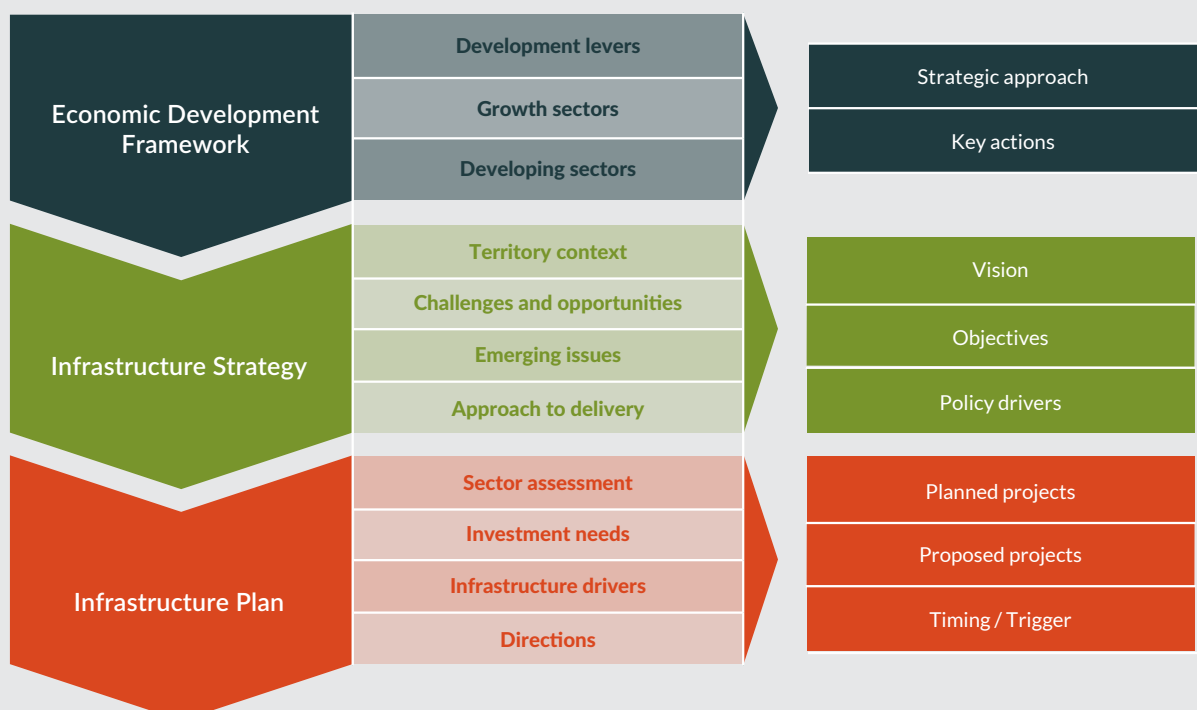
infrastructure investment and planned and proposed infrastructure projects over a 10 year horizon.

In the short term the Infrastructure Plan will help industry with its own planning and workforce management and inform decision-making across all levels of government. Over the longer term, the Infrastructure Plan sets direction for planning and delivering infrastructure in the Northern Territory.

The document identifies the objectives for infrastructure delivery, the impact of infrastructure spend on our economy and provides assessments and planned and proposed infrastructure projects for growth and essential sectors.

Figure 1 depicts the relationship between the draft Framework, Strategy and Plan.

Figure 1: Structure of strategic policy documents



DEVELOPMENT LEVERS

Six development levers critical to economic and social development, investment and jobs growth in the Northern Territory were identified through the 2016–17 Economic Summits process.



Natural Resources

Natural resources includes the land, flora, fauna, soils, water, minerals, oil, gas, waterways, inshore fisheries, coastal areas, the entire biomass in the Northern Territory, and our knowledge about these things. These resources are integral to the Territory’s economic growth and underpin priority industries, in particular agriculture, energy, mining and tourism.



People

People have a two-fold impact on the economy – they are the consumers of goods and services and are the workforce that supplies labour and knowledge. For our economy to grow, we must increase our population and find ways to engage the future workforce. Helping people reskill, upskill and reinvent their jobs will be essential.



Capital

Capital refers to different types of funding for businesses to invest in required technology, education, plant and equipment that support future growth. Capital also includes investment in the infrastructure that helps the economy function – road, rail, marine and air transport, pipelines, poles and wires, energy, water, buildings and telecommunications networks.



Connectivity

Better **connectivity** is critical to ongoing economic growth to strengthen our supply chains to improve the movement of people, goods and information, as well as connect with people who may exchange information, buy our products and services, or help us build relationships and partnerships to develop or reach markets.



Enterprise and Innovation

Enterprise and innovation occurs when entrepreneurs, university and governments strive to improve the products and services they deliver. Innovative structures and management strategies can help unlock the latent economic potential of our economy.



Liveability

A constant focus on improving **liveability** is important to promote the Northern Territory as an attractive place to live, work, study, visit, research and raise families. Unless we can convince other people of this, we will find it difficult to sustain a workforce that can support business growth and grow our population. A small population limits the range of choices available to Territorians and affect the cost of living and the cost of doing business.

SECTORS

The growth and essential sectors in this document provide a snapshot of the challenges for infrastructure delivery, opportunities and investment needs.



Agribusiness



Transport and Logistics



Tourism



Public Safety and Justice



Energy and Minerals



Health



Defence and Related Industries



Housing



Education and Training



Art, Culture and Active Recreation



Electricity



Digital



Water

Each sector in this document provides a summary of the role infrastructure plays in meeting government objectives and industry and community needs. Sectors also provide a summary of the challenges that will impact future infrastructure provision and identify ways we can respond to these challenges.

Each sector includes a table of infrastructure projects identified by region and timeframe to sequence delivery.

Planned infrastructure projects are identified in the first two years of the 10 Year Infrastructure Plan (2017–18 and 2018–19).

Proposed infrastructure projects are identified in the:

- medium term (2019–20 to 2021–22) and
- longer term (2022–23 to 2026–27).

Infrastructure projects identified in the medium and longer term are at various levels of maturity and many are unfunded. They represent potential projects for future investment either by the varying levels of government or the private sector.

Sector project tables identify whether a tier of government or the private sector is the prospective contributor of funding, which development lever the project could generate and the key driver for the project.

As infrastructure priorities can change in response to changing demands from the community, new technologies and changes to growth and essential sectors, the Plan will be a living document which is refreshed annually.

All statistics referred to in the Infrastructure Plan are based on 2015–16 unless otherwise stated.

INFRASTRUCTURE OBJECTIVES

The impact of making good infrastructure investment decisions can significantly improve the quality of living, transform communities and cities and create real long term economic benefits.

Defining and articulating the key objectives for infrastructure investment is the first step to ensure project selection is considered against broader economic and social objectives.

As well as the need for new infrastructure, it is equally important that we make the most of our extensive existing infrastructure networks. Efficient management, improved maintenance and smarter use of technology will help optimise the use of infrastructure we already have.

The following key infrastructure objectives set the policy framework and will help inform development of service delivery strategies and infrastructure plans and guide infrastructure assessment and prioritisation decisions.

Infrastructure Objectives

Growing and diversifying the economy

Growing the economy and our population improves government's capacity to deliver key services. An increased population allows a broader range of services to be provided at a lower cost. Creating an environment that encourages increasing levels of business investment in existing and new industries is essential to realising the Northern Territory's economic growth potential. Prudent infrastructure investment decisions are critical to creating this environment and will allow the Territory to improve its competitiveness in key industries.

Enabling Greater Aboriginal Participation

Closing the substantial gaps in outcomes between Aboriginal and non-Aboriginal Australians is one of the Northern Territory's most important priorities. Partnering with Aboriginal landowners is critical for successful place-based approaches to infrastructure delivery in regional and remote areas. Improved infrastructure provides better access to services, reduces

the cost of goods and construction, facilities, health services, education and training and enables communities to better access economic opportunities.

Creating jobs

Policy settings must provide enablers for new business investment, encourage new industries, and support private sector business to access new markets. Increased and sustained private investment requires a strong, capable and agile workforce. Jobs are critical to securing and keeping such a workforce.

Connecting our jurisdiction, regions and communities

In order for the Territory's full potential to be achieved and for its industries to maximise growth, transport and telecommunications networks are essential to efficiently deliver social services in regional and remote areas, and connecting businesses to markets.

Regional economic development in the Northern Territory is constrained by a lack of infrastructure, which affects development costs, contributes to project risk and impacts the ability to get products to markets. Connectivity between regional communities and secure and reliable supply chains are critical to economic growth and delivering health, education and other key services.

Enhancing Liveability

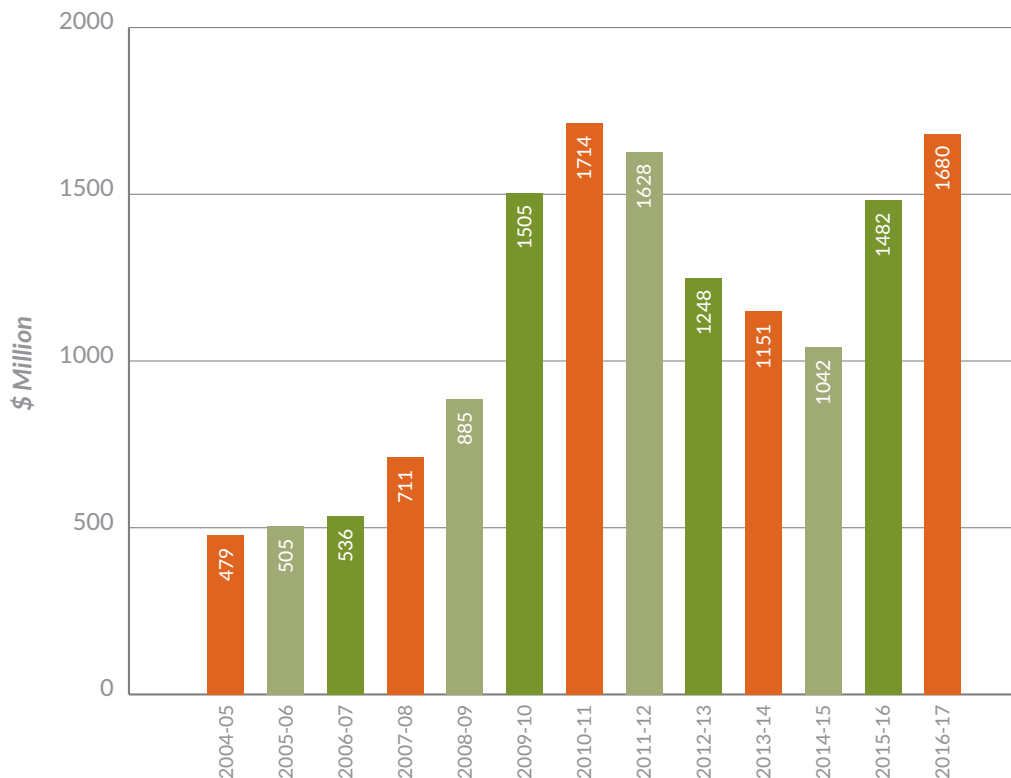
Improving liveability is critical to attract and retain a population that can develop and grow the economy. Maintaining high quality education and health services and employment opportunities is vital to attract investment, underpin long term prosperity, and make the Northern Territory an attractive place to live and invest.

FUNDING INFRASTRUCTURE

Selecting the right projects to invest in at the right time is critical to maximising the benefits of infrastructure investment for Territorians.

The Northern Territory Government has significantly increased its investment in infrastructure over the past 10 years.

Cash Allocations to Infrastructure since 2004



Impact of Infrastructure Spending on Economic Growth

Investing in infrastructure is a major stimulus to economic growth, particularly in the Northern Territory with its strategic geographic location and wealth of natural resources. Infrastructure investment, if properly designed and funded, generates economic benefits, helps create long term economic growth and improves community welfare and quality of life.

All tiers of government and the private sector have a role to play in enabling investment to develop the Northern Territory.

A rapid expansion of the role that investment plays in driving the Northern Territory's

economy saw investment contribute 47 per cent of state final demand in 2014–15 compared to 28.6 per cent in 2010–11. In 2015–16 investment contributed 37 per cent.

The Ichthys LNG project has had a significant positive impact on the Northern Territory economy. At the peak of constructing the onshore facility, a workforce of more than 8000 people was required. Ichthys LNG also invested \$3 million in the North Australian Centre for Oil and Gas at the Charles Darwin University.

Following completion of the construction phase of the Ichthys LNG project and start of production, investment levels are expected to revert to historical levels.

Financing Infrastructure Development

All tiers of government play an important role to enable the public sector to invest in infrastructure on its capital works program and create an environment that supports private investment in major projects.

There are three main funding mechanisms for infrastructure projects:

- operating cash flows of the Northern Territory Government (including general purpose grants from the Australian Government) and borrowings
- special purpose grants and payments received from the Australian Government
- direct private investor funding and associated revenue raising arrangements linked to the infrastructure users (e.g. private hospitals and clinics and privately operated power stations).

Private sector involvement in delivering infrastructure can help gain efficiencies in delivering and using infrastructure.

Two recent government financing initiatives have been established to provide finance to private sector investors and improve infrastructure development in the Northern Territory.

Northern Australia Infrastructure Facility (NAIF)

- The NAIF is a \$5 billion concessional loan facility established by the Australian Government to encourage and complement private sector investment in infrastructure to provide future economic benefits to northern Australia.
- Infrastructure supported by the NAIF will need to demonstrate public benefits while generating sufficient revenue to repay a loan. The NAIF targets very large projects (above \$100 million), however, smaller projects may also be considered.

Northern Territory Infrastructure Development Fund (NTIDF)

- The Northern Territory Government has committed \$200 million as a self-sustaining pool of infrastructure capital with a target to attract additional external capital from Australian and international investors.
- The objective of the NTIDF is to support long term economic growth and develop the Northern Territory by investing in a mix of new and existing infrastructure assets.
- The NTIDF may invest in airports, energy and electricity, transport and roads, and petroleum and other resources.

Table 1: Potential funding contribution by type of infrastructure across each sector

Sector		Australian Government (AG)	Northern Territory Government (NTG)	Local Government (LG)	Private Sector (PRIV)
Cross Sector – Integrated Land Use and Infrastructure Planning	Land Use Planning		•		
	Infrastructure Planning	•	•	•	•
Cross Sector – Regional Economic Development	Social infrastructure	•	•	•	•
	Economic enabling infrastructure	•	•		•
Agribusiness, Fisheries and Aquaculture	Horticulture		•		•
	Cattle Production		•		•
	Aquaculture		•		•
Tourism	Accommodation				•
	Convention Facilities		•		•
	Cruise Ship Facilities		•		•
	Tourism Product Facilities				•

Sector		Australian Government (AG)	Northern Territory Government (NTG)	Local Government (LG)	Private Sector (PRIV)
Energy and Minerals	Minerals				•
	Oil				•
	Gas				•
Defence and Related Industries	Army	•			
	Navy	•			
	Air Force	•			
Education and Training	Childcare Centres		•		•
	Preschool to High Schools		•		•
	Boarding Schools		•		•
	Universities	•			•
Electricity	Generation		•		•
	Transmission		•		•
	Retail		•		•
Water	Water Supply	•	•		•
	Sewerage	•	•		•
	Stormwater Management		•	•	•
Transport and Logistics	Roads	•	•	•	•
	Railway	•	•		•
	Marine/Barge Landings		•		•
	Airports/Aerodromes	•	•	•	•
	Public Transport		•		
	Cycleways		•	•	
Public Safety and Justice	Child and Family Centres		•		
	Fire and Emergency Service Facilities		•		
	Police Stations	•	•		
	Law Courts		•		
	Correctional Facilities		•		
Health	Hospitals	•	•		•
	Health and Dental Clinics		•		•
	Women's Shelters		•		
	Rehabilitation Facilities		•		
Housing	Remote Housing	•	•		
	Government Employee Housing	•	•		
	Urban Public Housing		•		
Art, Culture and Active Recreation	Art Galleries		•		•
	Museums and Cultural Centres		•		•
	Sporting Facilities		•	•	•
	Parks and Reserves	•	•		•
Digital	National Broadband Network	•			•
	Other Telecommunications		•		•

AUSTRALIAN INFRASTRUCTURE PLAN

In February 2016, Infrastructure Australia released the *Australian Infrastructure Plan*, which provides a package of priorities and reforms to improve the way national strategic infrastructure is invested in, delivered and used.

The *Australian Infrastructure Plan* sets out infrastructure challenges and opportunities and provides 78 recommendations for addressing infrastructure gaps, based on four aspirational themes:

- productive cities, productive regions
- efficient infrastructure markets
- sustainable and equitable infrastructure
- better decisions and better delivery.

Importantly for the Northern Territory, the *Australian Infrastructure Plan* recognises that many remote Aboriginal communities experience a lower standard of essential service infrastructure compared with non-Aboriginal communities of a similar size and location.

The *Australian Infrastructure Plan* advises that despite a number of recent reforms, service providers still face substantial challenges and costs associated with servicing large remote areas. This includes long distances that drive up transport costs for people and freight, a lack of competition, local tradespeople shortages, poor economies of scale leading to higher per capita labour, and construction and maintenance costs.

Infrastructure Australia Priority List

The Northern Territory Government provided a formal submission to Infrastructure Australia through the Australian Infrastructure Audit process in 2015. This has resulted in three key strategic initiatives outlined in the Territory's submission being placed on the Infrastructure Priority List.

1. *Providing enabling infrastructure and essential services to remote NT communities – Wadeye, Tiwi Islands and Jabiru*

This initiative proposes a range of upgrades to road, essential service and community infrastructure to address the lack of infrastructure required for sustainable economic and social development, including:

- road upgrades to improve accessibility and flood resilience of key road networks, including the Arnhem Highway and Port Keats Road
- upgrades to provide new or improved water storage and wastewater management facilities
- upgrades to provide additional public housing and upgrades to social infrastructure.

2. *Upgrading the Tanami Road*

This initiative proposes building a 527 kilometre two lane, sealed road from the Stuart Highway just north of Alice Springs to Newmont's Granites operations, and a further 176 kilometres of good gravel standard road to the Western Australian border.

This initiative will address a number of key problems such as limited economic opportunities for people in the region, limitations relating to mining, tourism and pastoral operations and poor flood immunity.

3. *Upgrading the Darwin region water supply infrastructure*

This initiative proposes upgrades to the Darwin region water supply infrastructure in response to increasing water demand associated with population growth and industrial development, and a forecast of future impact on future water supply from climate change and increasing evaporation and transpiration.

The Northern Territory Government will continue to work with Infrastructure Australia and the Australian Government to ensure the three projects on the Infrastructure Priority List proceed from being listed as initiatives to the project development and funding stage.

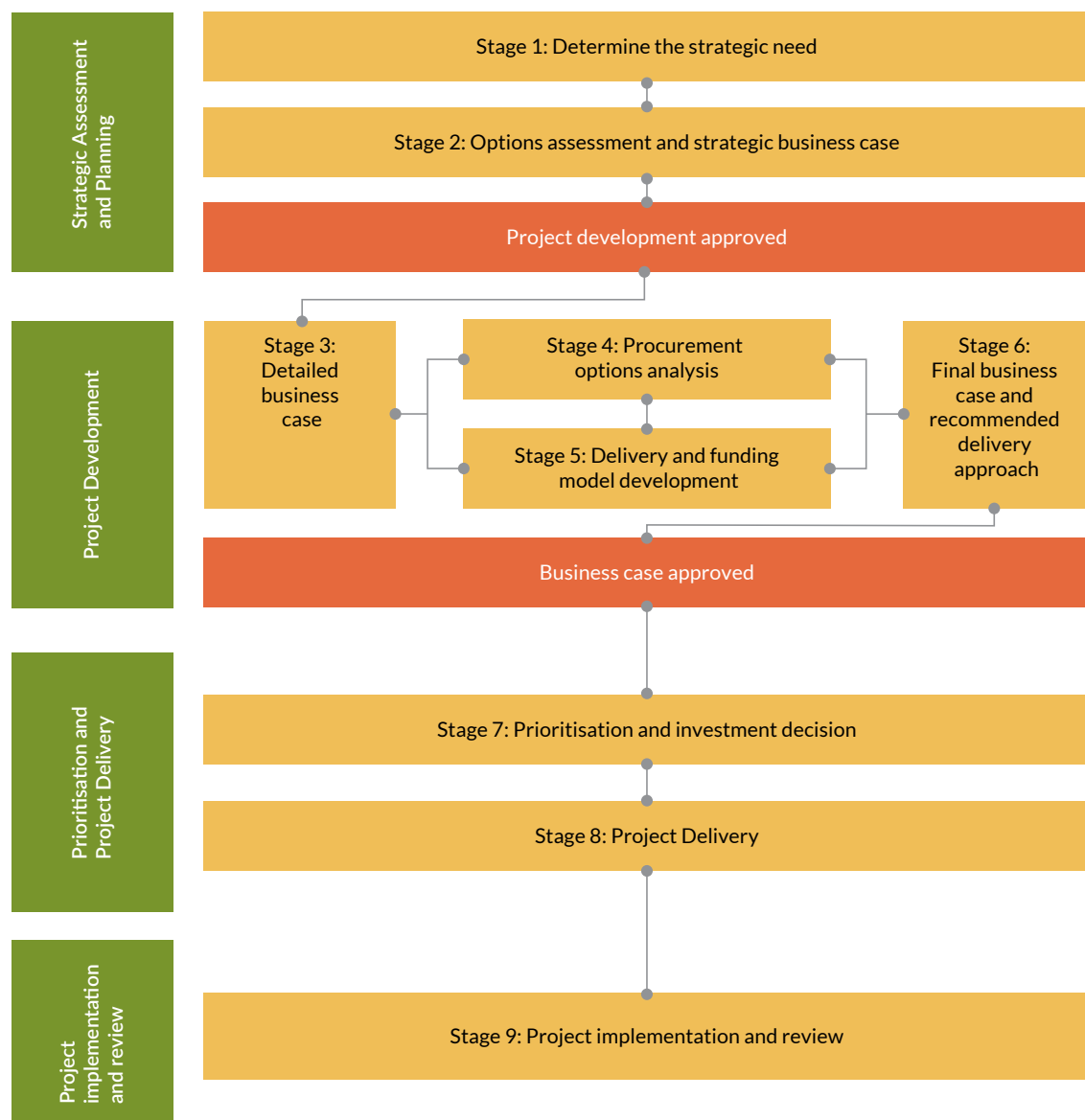
For further information on Infrastructure Australia visit www.infrastructureaustralia.gov.au

NORTHERN TERRITORY PROJECT DELIVERY FRAMEWORK

Achieving the Territory's objectives for infrastructure investment requires a robust planning, prioritisation and delivery methodology that ensures the right solution is delivered to the right places, at the right time.

Policymakers need to identify public infrastructure service needs, the appropriate role for government in addressing these over time and priorities for public investment. Once a decision is made to build the infrastructure, the central economic question becomes how the project can be delivered most efficiently.

The planning process should be methodical and evidence based, taking a long term view of infrastructure requirements. Connecting with industry is critically important to ensure future opportunities are developed into innovative and cost effective solutions. Equally important is considering how existing infrastructure should be used, how it can be made more productive and what infrastructure should continue to be maintained.



A transparent and consistent framework to plan, assess, select, prioritise and invest in infrastructure projects is critical to ensuring prudent management of government resources, accountability in project delivery and targeted outcomes are met.

The Northern Territory Project Development Framework (NTPDF) is a structured approach to project development that recognises competing project priorities and establishes a systematic approach to project evaluation.

The NTPDF will be applied to projects that are Northern Territory Government funded or require some level of Northern Territory Government support, irrespective of whether they are projects funded through the government capital works program, government facilitated strategic projects or unsolicited private sector projects.

The Infrastructure Plan provides a high level outline of the NTPDF. Detailed guidelines in support of each element of the NTPDF will be separately promulgated.

Strategic Assessment and Planning

Stage 1 – Determine the strategic need

Projects will be considered against the identified priorities of the Territory through the Economic Development Framework; Infrastructure Strategy and 10 Year Infrastructure Plan; and agency-level strategic plans and targets.

Stage 2 – Options assessment and a strategic business case

The case for investment needs to convey:

- the evidence based need to be addressed
- opportunities arising from addressing the need, including the potential to leverage private sector investment
- consideration of alternative funding and financing models
- the strategic importance, high level benefits and costs and risk profile of the project to enable classification
- the range of potential strategic interventions that could be undertaken to address the identified need

- definition of the required services, project scope and cost of investigations that will address the Territory's strategic infrastructure priorities.

A gateway review at the conclusion of Stage 2 of the process will determine if there is sufficient justification to proceed to a detailed project development.

Project Development

Upon receipt of approval and funding to progress to developing a detailed business case, work needs to be undertaken that will provide the basis for an investment decision to be made.

Stage 3 – Development of detailed business case

The development of a detailed project business case should include and assess all proposed options. A structured and robust process will evaluate whole-of-life financial, economic, social and environmental impacts. This stage incorporates development of detailed cost estimates for all proposed options.

Stage 4 – Procurement options analysis

Analysis includes consideration of the full range of procurement models to gauge the best value for Territory outcomes. The outcome of the procurement options analysis will be a recommended delivery model, subject to final funding being confirmed.

Stage 5 – Delivery and funding model development and final approvals

The approach to project funding is guided by the type of infrastructure and may include early consideration of the allocation of Northern Territory capital funds that may need to be drawn down for the project.

Opportunities for private sector participation in the project, through service provision, funding and financing are considered and tested as well as other sources of project finance and funding including opportunities for local and Australian Government participation.

Stage 6 – Final business case and recommended delivery approach

This incorporates the detailed work undertaken to align the business case and

preferred delivery approach to put forward clear recommendations on the project scope, expected outcomes, and procurement and delivery model for government's consideration.

At the conclusion of Stage 6, the detailed business case will be considered and if accepted, consideration will be given to how the project will be financed and funded.

Prioritisation and Project Delivery

Stage 7 – Prioritisation and investment decision

Sometimes infrastructure investment involves making trade-offs. We need to decide what we want to achieve and what investments are critical and necessary to deliver on short, medium and long term objectives. The challenge is planning, funding and delivering infrastructure for growth and for change in a future we cannot accurately predict.

There are many infrastructure projects that are likely to create significant economic, social and environmental benefits.

Traditional project-based economic assessments, such as cost-benefits analysis, need to be complemented alongside assessments against broader economic and social objectives of the Northern Territory and Australia.

Stage 8 – Project delivery

This considers the detailed design and procurement stage for the project and may involve:

- early engagement with industry through market sounding processes to confirm the best forms of contracting and appropriate allocation of project risks
- implementing expression of interest and tendering processes
- negotiation and execution of contracts and development agreements.

Project implementation and review

Stage 9 – Implementation and review

Project implementation includes establishing processes to ensure a smooth transition from execution of final contract documents to infrastructure construction, to the commissioning and operations phase. Robust contract management arrangements are needed to ensure all parties involved in the project continue to meet their obligations.

Post project reviews detailing progress against the outcomes originally expected to be delivered by the project are necessary to ensure that the project is addressing the identified need.

Contract management is a critical component of the project delivery cycle. This is particularly important for long term contracts where the government has partnered with private sector proponents to construct and operate infrastructure.



CONSULTATION: INFRASTRUCTURE IDEAS

Sustained economic growth and development is critical to the Northern Territory. Investment in government capital works alone is insufficient and will not generate enduring game changing economic outcomes. Investment in economically transformational strategic infrastructure, particularly in partnership with the private sector, is vital.

Industry, business and community stakeholders have recognised this through the 2016–17 Economic Summits process and nominated projects for consideration. These projects are outlined below.

The Northern Territory Government will work through a process of scoping, feasibility analysis and business case development to advance projects which will deliver targeted outcomes.

► **Cross-Sector Integrated Land Use and Infrastructure Planning**

- Improve land access and land tenure to provide certainty and promote investment
- Streamline processes for leasing Aboriginal land
- Develop Water Sensitive Urban Design that suits the Territory
- Build community halls in remote communities to provide for activity for locals

► **Cross-Sector Regional Economic Development**

- Develop a Bush/Aboriginal University in an Aboriginal community
- Improve essential services in remote communities
- Further develop tourism drives, such as Savannah Way and Outback Way, and a Plenty Highway trail
- Revitalise the Alice Springs and Katherine CBDs
- Reactivate the Alice Springs CBD through options for inner city living
- Establish a Mining Hall of Fame in Tennant Creek
- Revitalise wayside inns and CBDs of Timber Creek and Pine Creek
- Implement Gove Port Industry Development Strategy to drive fisheries, transport and logistics, marine services and tourism sector growth
- Develop a co-op fabric printing factory for Aboriginal arts groups
- Develop a 'smart' and sustainable Aboriginal community (renewable energy, water, waste management, and smart lighting technology)

► **Agribusiness, Fisheries and Aquaculture**

- Improve infrastructure and supply chain for the cattle and buffalo industry
- Increase cold transport storage options for the rail and port
- Develop a milling and refractrant drying plant to process native products
- Construct an abattoir in Central Australia for the camel industry and donkey farming
- Establish an agricultural hub, land port and regional hub at Ti Tree
- Construct new fish handling facility at the Duck Pond in Frances Bay, Darwin

► **Tourism**

- Build more five star hotels
- Develop the Alcoota fossil bed site
- Support cruise ship home berth terminal
- Upgrade cruise ship terminal to enable two ships to berth
- Construct an iconic water park in Darwin
- Redevelop the old Darwin hospital site
- Improve connectivity between Cullen Bay, the Darwin Waterfront, Cruise Ship terminal, Smith Street Mall, Esplanade and Frances Bay
- Develop a North Australian Rail Trail
- Create a tropical entrance to highlight our tropical climate
- Construct Stage 2 for the Darwin Convention Centre
- Create a Darwin CBD lookout tower with 360 degree views
- Develop trails for tourists visiting the Darwin CBD
- Develop Frances Bay with a Fish Market and marina

- Develop a Rail Trail from Batchelor to Adelaide River (culture and heritage sites)
- Create destination resorts in Litchfield and Darwin
- Develop a train journey from Adelaide River Rail Station to Snake Creek siding (culture and heritage sites)
- Improve wet season access to the south Kakadu National Park entry point
- Develop infrastructure to support year round viewing at Jim Jim Falls
- Create tourism accommodation precincts from excess housing at Gove
- Support private sector efforts to increase accommodation options for tourists visiting the Gove Peninsula and East Arnhem
- Develop a Gove Port Tourism Hub; including cruise ships, recreational fishing, leisure craft facilities

► **Energy and Minerals**

- Develop a Centre of Excellence for mine rehabilitation
- Develop a centralised gold milling facility at Tennant Creek for use by explorers, small mines and prospectors
- Tennant Creek should become a mining service and supply chain

► **Defence and Related Industries**

- Department of Defence to rehabilitate and hand back to the Territory at no cost the old Darwin Navy Tank Farm

► **Education and Training**

- Develop an Environmental Services Centre of Excellence
- Develop an international standard tertiary education precinct and student accommodation precinct
- Establish a co-branded Charles Darwin University and other university education and research precinct
- Share infrastructure and resources between the Charles Darwin University and the Territory Government
- Establish another middle school in Darwin
- Construct a quality boarding facility in Darwin

► **Electricity**

- Develop an innovative approach to solar for pumping and desalination
- Develop infrastructure to support renewable energy
- Develop multi-generational power supply and transmission
- Improve reliability of electricity infrastructure
- Develop a large scale solar facility in Alice Springs
- Build a power station in Central Australia to provide baseline power to other jurisdictions
- Extend the existing power line from Timber Creek to the Ord Hydro Power Station
- Work with regional stakeholders to provide a long term sustainable and expandable power supply for Gove Peninsula

► **Water**

- Increase dams and water supply infrastructure
- Demonstrate desalination of low quality water with solar energy
- Improve water supply in remote communities and provide a permanent mains water supply for Wagait
- Lake development on the northern outskirts in Tennant Creek with adjacent parkland

► **Transport and Logistics**

- Make Darwin the Australian port of call and develop a crane that can lift a stack of containers instead of a single lift
- Research appropriate corridor for rail between Mt Isa and Tennant Creek and consider rail through to Port Hedland
- Continue to seal and upgrade our roads, including the Tanami, Central Arnhem and key Beef Roads – Buntine, Tablelands and Carpentaria Highways
- Improve river and floodplain crossing for Darwin/Alice Springs rail line
- Complete Mereenie and Litchfield loop roads
- Upgrade Arnhem Highway to all weather access

- Locate ferry terminals at the Darwin Waterfront and Palmerston
- Dredge and widen Charles Point Patches to guarantee long term all tide access
- Bridge the Elizabeth River, Darwin River and Fly Creek
- Develop a new port at Gunn Point that could cater for navy fleet base ships

► **Public Safety and Justice**

- Increase number of shelters for victims of domestic violence
- Build a new police station and housing in Mililingimbi

► **Health**

- Investigate opportunities to establish research hubs in regional and remote locations
- Build a new hospital in Katherine with a Medical Centre of Excellence
- Develop a regional health training hub in North East Arnhem to support Aboriginal employment in health, aged care and disability services

► **Housing**

- Identify a rolling 15-25 year land supply program to meet housing demand and identify adequate zoning and servicing
- Make housing more affordable through tropical designed houses that don't need air conditioning
- Develop a lifestyle village in Alice Springs
- Develop aged accommodation in Batchelor and the Litchfield municipality

► **Art, Culture and Active Recreation**

- Develop creative industry hubs in affordable shop-house style buildings
- Develop a second oval in Alice Springs

to attract high performance athletes to train

- Extend existing mountain bike trails to connect the network
- Develop a new drag strip in Alice Springs
- Construct a multi-purpose stadium on the Tank Farm site
- Expand use of the Hidden Valley Motor Sports Complex
- Revitalise Mindil Beach and Bullocky Point
- Continue a bike path network between Howard Springs, Coolalinga and Humpty Doo
- Move the Territory Wildlife Park adjacent to the CBD
- Develop a sea side festival park
- Construct a Singapore Tree type feature at Darwin Botanic Gardens or old Hospital site
- Develop eco-style accommodation in Parks
- Develop a Cultural Precinct at the Darwin Waterfront
- Activate Vestey's Beach with a swimming pool and family friendly area

► **Digital**

- Proposed optical fibre link from Guam to Darwin for high speed internet access
- Trial tele health models and develop to export systems
- Improve internet and mobile coverage outside populated areas of the Northern Territory
- Operate the new Palmerston Regional Hospital as a fully digital model (electronic health records)
- Maintain Shortwave radio which is critical for regional and remote communities
- Develop an Information Technology Data Centre for the backup and storage of other jurisdiction's core information



Cross Sector: Integrated Land Use and Infrastructure Planning



INTEGRATED LAND USE AND INFRASTRUCTURE PLANNING

Planning and delivering infrastructure plays a vital role in managing growth, harnessing economic opportunities and supporting healthy, active urban, regional and remote communities.

Strategic land use planning sets the direction for sustainable and orderly building and development to support the Northern Territory's continual growth.

Land use plans provide clues as to where infrastructure will be required and the scale of the infrastructure required. Infrastructure demand is driven by how people use land and where people live, work and play.

Infrastructure to service land is a key enabler of growth and economic development in the Northern Territory. Without a steady supply of development ready land to meet the needs of the community and industry, the cost of living increases and economic development opportunities are lost to interstate competitors.

Land use and infrastructure planning is key to unlocking land so that enabling infrastructure can be built to support commercial, industrial or residential land releases to provide housing and services such as schools and hospitals, police stations and commercial centres. Early planning to protect infrastructure and service corridors (such as transport corridors) is an essential part of planning for the future growth of the Northern Territory.

With an increasing interest in diversifying and developing our economy, adequate time for land capability assessment, land and infrastructure planning is critical to ensure the Northern Territory is prepared for population demand.

The linear process of infrastructure planning begins with strategic planning, with the regional, sub-regional and district planning needed to identify what infrastructure

is needed, before it can be designed and constructed. Once enabling infrastructure including electricity, water, sewer and transport are planned and in place, then social infrastructure such as schools, hospitals, police, fire, sporting facilities, detention centres and courts can be built.

A key element in this process is consultation with the community and industry to ensure we are aware of their needs.

Integrated land use and infrastructure planning takes time, is difficult to accelerate and can lead to poor community outcomes if undertaken in an ad hoc manner. Consistent funding for planning to service land is crucial to keep up with demand and deliver on priority capital works projects that will support population growth.

For this reason it is important to forecast to ensure timely release of land to meet the Northern Territory's residential, industrial and commercial needs.



Investment needs

Investment in land use and infrastructure planning underpins our future development by:

- providing investment certainty by developing land use plans that identify areas for growth
- supporting the implementation of land use plans through the construction of critical headwork infrastructure
- providing serviced land to meet the demand for commercial, industrial and residential properties
- providing for planning and modelling for future land use such as at Weddell and Cox Peninsula.

Informing decision making

The Northern Territory Planning Commission is an advisory body to the Minister for Infrastructure, Planning and Logistics who sets the strategic framework for integrated land use, transport and infrastructure planning, to deliver more sustainable and cost-effective outcomes for the industry and the community.

The Northern Territory Government's Mapping the Future program will deliver

critical information essential for governments, communities and land managers to make evidence based decisions and de-risk future development. The program will:

- provide data to underpin land use plans for regional growth areas to identify areas that are highly suitable for land uses such as agriculture
- allow regional communities to make informed decisions on the location of natural resource-based economic development opportunities and local community-based land use planning
- attract private investment in natural resources industries based on accurate scientific data
- inform the long term management, protection and health of community drinking supplies, while ensuring sustainability of natural and cultural assets such as ground water dependent ecosystems
- streamline environmental assessments by providing scientific baseline environmental information related to land suitability, water resources and biodiversity.

Key objectives				
Coordinate land and enabling infrastructure planning to support sustainable and orderly development.	Provide creative and innovative infrastructure delivery options that demonstrate value for money and encourage private sector investment.	Deliver land to meet residential, commercial and industrial demand to support sustainable economic development.	Deliver an ongoing program of investment in infrastructure to service land to ensure development ready land is available in advance of acute demand.	Ensure effective management of natural resources for sustainable development and protect the Northern Territory's unique natural, heritage and cultural assets.

INTEGRATED LAND USE AND

Community Consultation



Planning for future growth



REGIONAL PLANNING

Goal: Establish a framework for future land use and cater for infrastructure needs

Scale: Regional area with a larger population

Action: Land use and infrastructure investigations in consultation with industry and the community

Enabling infrastructure: Railway, national highway, dam, power station

Social infrastructure: Regional hospital, detention centre, university

Authority: Minister

REGIONAL PLAN



SUB-REGIONAL PLANNING

Goal: Create a detailed guide for land use for an area inside a region

Scale: Municipality or a part of a region

Action: Land use and infrastructure investigations in consultation with industry and the community

Enabling infrastructure: Distributor roads, wastewater treatment plant, power sub zone station, elevated water tower

Social infrastructure: High school, medical centre, local courthouse, emergency service headquarters

Authority: Minister

SUB-REGIONAL PLAN



AREA PLANNING

Goal: Set the land use at a district level

Scale: A group of suburbs within a sub-region

Action: Land use and infrastructure investigations in consultation with industry and the community

Enabling infrastructure: Power lines, sewer trunk drain, water main, collector roads

Social infrastructure: Doctor's clinic, primary school, football oval, fire station

Authority: Minister

DISTRICT PLAN



Identify priority infrastructure needs

Deliver Regional Infrastructure

Deliver Sub-Regional Infrastructure

Deliver District Infrastructure

No infrastructure planning



Time

INFRASTRUCTURE PLANNING

Goal: Design reticulation services to connect house blocks

Scale: Neighbourhood, suburb and street

Action: Local area network and site design in consultation with industry and the community

Enabling infrastructure: Power, water, sewerage, local roads

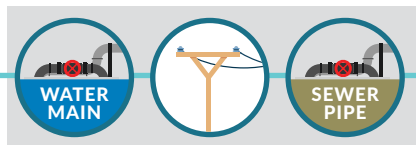
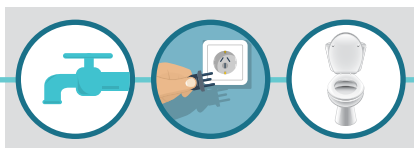
Social infrastructure: Shops, playground, park

Authority: Development Consent Authority

NEIGHBOURHOOD PLAN



Deliver Subdivision infrastructure



Enabling infrastructure

Social infrastructure

POPULATION



INTEGRATED LAND USE AND INFRASTRUCTURE PLANNING

	Prospective Contribution				Total Estimated Cost (\$m)		Indicative Sequencing				
						Funding (\$m)					
Project	AG	NTG	LG	PRIV		2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers	
Territory Wide											
Remote area headworks	✓	✓			45	45				 Enable the delivery of business and social services in remote communities	
Headworks infrastructure and subdivision designs to support the development of land		✓		✓	22	2	2	•	•	 Support population growth	
Regional waste management and recycling facilities	✓	✓	✓	✓	•			•	•	 Support population growth	
Central Australia											
Alice Springs Flood Mitigation initiatives		✓			30			•	•	 Improve community safety and reduce the damage, disruption and costs associated with major flood events	
Mt Johns Valley Area Plan – infrastructure plan and delivery		✓		✓	20				•	 Support population growth	
Larapinta Area Plan – infrastructure plan and delivery		✓		✓	11			•		 Support population growth	
Kilgariff Area Plan – infrastructure plan and delivery		✓		✓	10			•		 Support population growth	
Ti-Tree land development		✓		✓	3			•		 Support population growth	
Larapinta land development		✓		✓	1			•		 Support population growth	
Barkly											
Tennant Creek Residential Area Plan – infrastructure plan and delivery		✓		✓	6				•	 Support population growth	
Elliott land development		✓		✓	3			•		 Support population growth	

A lesser figure in the 2017-18 and 2018-19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Katherine										
Katherine Inland Port and Logistics Hub	✓	✓		✓	35			•	•	  Support development of Katherine as an inland port
Katherine East Residential Area Plan – infrastructure plan and delivery		✓		✓	22			•	•	  Support population growth
Katherine Region Flood Mitigation initiatives		✓			25	11		•	•	  Improve community safety and reduce the damage, disruption and costs associated with major flood events
Katherine East Industrial Area Plan – infrastructure plan and delivery		✓		✓	10			•	•	  Enable economic development
Borroloola land development		✓		✓	7	3	4			  Support population growth
Timber Creek land development		✓		✓	4				•	  Support population growth
Kalkarindji land development		✓		✓	4				•	  Support population growth
Mataranka land development		✓		✓	3				•	  Support population growth
Pine Creek land development		✓		✓	3				•	  Support population growth
East Arnhem										
Numbulwar residential and community subdivision			✓		•			•		  Support population growth
Top End Rural										
Batchelor Airport – provide serviced commercial allotments		✓			10	2	2	•	•	  Support local economic development
Cox Peninsula – infrastructure plan and delivery		✓		✓	•	•	•	•	•	  Enable population growth
Weddell – infrastructure plan and delivery		✓		✓	•	•	•	•	•	  Enable population growth

	Prospective Contribution						Indicative Sequencing					
						Funding (\$m)						
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers		
Palmerston and Litchfield												
Zuccoli Village – a joint venture with a private developer to deliver lots for sale		✓		✓	120	10	15	•	•	 	Support population growth	
Holtze Area Plan – infrastructure plan and delivery		✓		✓	38		10	•	•	 	Support population growth	
Coolalinga Area Plan – infrastructure plan and delivery		✓		✓	27			•		 	Support population growth	
Defence Support Hub – a joint venture with a private developer to deliver lots for sale		✓		✓	20		4	•		 	Enable economic development	
Palmerston Regional Hospital headworks		✓			19	11				 	Finalise delivery of the new hospital to support population growth and improve access to health services	
Howard Springs Area Plan – infrastructure plan and delivery		✓		✓	15				•	 	Support population growth	
Palmerston East Area Plan – infrastructure plan and delivery		✓		✓	2	2				 	Support population growth	



	Prospective Contribution						Indicative Sequencing					
						Funding (\$m)						
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers		
Darwin												
Transport Industry Precinct – Truck Central, corner of Kirkland and Wishart roads		✓		✓	95	15	5	•	•		Enable economic development	
East Arm (Marine Industry Park)	✓	✓		✓	60	5	3	•	•		Enable economic development	
Berrimah North Area Plan – infrastructure plan and delivery		✓		✓	25	3			•		Support population growth	
Darwin Region Flood Mitigation initiatives		✓			25	14	4				Improve community safety and reduce the damage, disruption and costs associated with major flood events	
Darwin Inner Suburbs Area Plan – infrastructure plan and delivery		✓		✓	23			•	•		Support population growth	
Stormwater upgrades			✓		20	1	2		•		Improve community safety and reduce the damage, disruption and costs associated with stormwater issues	
Shoal Bay Waste Disposal			✓		20	4	7		•		Support population growth	
Middle Arm Industrial Precinct		✓		✓	15			•	•		Enable economic development	
Darwin Business Park North		✓			12	12					Enable economic development	
Darwin Waterfront – Stokes Hill site environmental remediation		✓		✓	10	2		•			Enable development of the Darwin Waterfront	
Headworks infrastructure to support Landbridge luxury hotel at the Darwin Waterfront		✓		✓	10	10					Enable economic development	
Development of the former Stokes Hill Power Station site		✓		✓	7				•		Enable future development	
Darwin Infill Strategy headworks		✓			6	6					Support population growth	

	Prospective Contribution						Indicative Sequencing					
						Funding (\$m)						
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers		
Darwin continued												
Upgrade Kitchener Drive drainage system		✓		✓	5			•			Improve safety and reduce the damage, disruption and costs associated with flood events	
Extension of Ludmilla Creek and Kulaluk trunk drains		✓			3	3					Improve safety and reduce the damage, disruption and costs associated with major flood events	
Coastal foreshore erosion mitigation			✓		2	1	1				Mitigate and protect areas of the Darwin foreshore from erosion	
RAAF Base Darwin Ludmilla flood mitigation	✓				2	2					Improve safety and reduce the damage, disruption and costs associated with major flood events	
Irrigation infrastructure upgrades			✓		2	•	•		•		Improve public open space amenity and maximise irrigation efficiency	
Greater Darwin Regional Waste Management Facility		✓	✓		•			•			Support population growth	

Cross Sector: Regional Economic Development



CROSS SECTOR: REGIONAL ECONOMIC DEVELOPMENT

The Northern Territory's regions contribute substantially to our growth and prosperity. The regions produce many of our key exports such as energy, minerals, agriculture and tourism.

Ensuring people in regional and remote areas continue to have access to services that are available in comparable towns in Australia is essential to providing Territorians with a healthy start to life, a good education and the opportunity for enduring employment.

Similarly, providing infrastructure that allows businesses to develop and grow is critical for growing employment and private sector capacity in regional and remote communities. The combination of social services and economic opportunity are essential to maintaining liveability in regional and remote areas.

The Territory has typically led the delivery of infrastructure that both enables the development and expansion of key industries and improves the liveability of regional and remote areas. This infrastructure has a mix of social and economic benefits for communities. For example, all-weather access lowers the cost of trading goods and services, while also providing easier and faster access to health, education and other social services.

One of the key issues facing development in regional and remote areas is that the cost of investing and maintaining infrastructure is higher than in urban areas. Infrastructure needs to be targeted to the varying conditions and dynamics across regional and remote Northern Territory. Most regional areas have a sparse population and dispersed industry, making it more difficult to deliver good-quality infrastructure services.

A compounding issue is the need to provide infrastructure to service land which is a key enabler of growth and economic development. Without a steady supply of development ready land to meet the needs of the community and industry, the cost of

living increases and economic development opportunities can be lost.

Infrastructure investment decisions need to be based on an understanding of current service levels, community expectations, what is affordable and how infrastructure can best support social and economic outcomes. Community expectations and objectives about infrastructure should help guide decisions on when, where and how to invest in regional and remote communities.

The application of new technology and better information is an essential part of any regional and remote infrastructure approach. The National Broadband Network (NBN) will improve access to national and international markets. New technology will help identify the most efficient route from farm to market (and perhaps target investment towards these routes).

Infrastructure should provide a strong foundation for all Territorians, but for remote and very remote communities – which are characterised by small populations, long distances by road to population centres and poor access to services – there are distinct challenges.



Aboriginal Territorians represent 30 per cent of the Territory's population and a much higher proportion of the population of remote towns, communities and outstations/homelands.

There are 73 remote Aboriginal communities, 43 town camps and over 500 outstations/homelands in the Northern Territory.

Closing the gap in outcomes between Aboriginal and non-Aboriginal Australians is one of the Northern Territory's, and has to be one of this nation's, most important priorities.

Many remote and very remote communities lack reliable energy supply, clean water and wastewater services, quality telecommunications, adequate housing, road access and the availability of development ready (serviced) land. These are difficult infrastructure challenges.

Aboriginal people have higher rates of chronic disease than non-Aboriginal people and preventing and managing chronic disease is crucial to closing the gap in life expectancy. Success in education, from early childhood through schooling and into higher education, remains critical for Aboriginal people. Tackling the housing deficit in remote communities is critical for the social welfare of people living and working in these locations.

Extreme weather puts more pressure on infrastructure. Low population densities result in higher per capita construction and maintenance costs. Long distances drive up transport costs for people and freight. High demand for tradespeople over large and widely-dispersed areas leads to shortages in services. This affects health, education, housing, policing and other social services

and makes it harder to sustain an economy to support jobs.

The Northern Territory Government has limited capacity to fund the substantial needs in remote areas. Partnerships between governments, the private sector and land holders are required to accelerate the development and capacity of remote areas.

The expected growth in demand for services in the regions and remote communities provides an opportunity to improve outcomes for Aboriginal people as a vehicle for delivering these services and the associated infrastructure. This has broader benefits through increased Aboriginal workforce participation, more effective community engagement and improvement in the quality and timeliness of service delivery.

Due to the small size of most remote communities, the current delivery of infrastructure is often sporadic and does not provide the continuous flow of work required for stable employment opportunities in remote areas. Some initiatives to overcome this, such as the bundling of work programs in adjacent communities to generate a stable flow of work, are underway, but there is further room for improvement, particularly through better coordination of activities across multiple service providers.

Finding ways to integrate new technology into infrastructure delivery, particularly energy and telecommunications will deliver more reliable and affordable infrastructure that supports new opportunities for remote communities.

Infrastructure investments should be tailored to support broader reforms that increase economic opportunities for communities.

These reforms include recent Council of Australian Government and Australian Government proposed actions that aim to improve land administration and use, support Aboriginal-led economic development and create greater certainty for private investment in remote areas.

Investment Needs

Rural and remote community infrastructure investments can help communities to become economically independent through:

- ensuring housing, education and health services are a platform for economic development and improved social outcomes
- linking infrastructure investments

to address identified needs and opportunities to build community resilience

- continued investment in access roads in regional and remote areas to improve access to services
- continued improvements to township leasing and land planning arrangements to provide the basis for long-term, transferable interests in Aboriginal land to attract private sector investment and build confidence to business and financial institutions
- improving supply chains (road, sea and air) to increase competition in freight industry and reduce the cost of living and doing business.

Key objectives				
Provide the infrastructure to supply development ready land to meet the needs of the community and industry.	Align the delivery of infrastructure with the services being delivered and the outcomes sought.	Maximise the benefits of telecommunications technology to deliver health, education, safety and business opportunities in regional and remote communities.	Transition towards renewable energy options to deliver essential services, where practical and affordable.	Improve housing options and create jobs for people living in regional and remote communities.

Planned and proposed infrastructure projects that contribute to regional economic development are included in the Sector tables throughout the Infrastructure Plan.



Agribusiness, Fisheries and Aquaculture



AGRIBUSINESS, FISHERIES AND AQUACULTURE

The Northern Territory has an abundance of fertile land and water that provides opportunities for a range of primary industries.

Food, fibre, foliage and forestry production covers a significant land and sea area in the Territory. These industries have important linkages with tourism interests and our Aboriginal communities, creating jobs and maintaining Territorians' strong connections to the land.

Cattle production is our major agribusiness industry. Commercial crocodile farming has achieved commercial success with skins used in high quality fashion goods.

Mangoes are the major horticultural crop in the Territory worth a combined total of about \$88.5 million* each year. Other crops include melons, vegetables, nursery, cut flowers, field crops, forestry product and fruit, such as table grapes in Central Australia and citrus in Katherine.

Our fishing industry includes wildcatch barramundi, salmon, shark, various snapper and other reef species, as well as mud crab, prawns, trepang and aquaculture species. Fishing is a popular recreational activity for Territorians and visitors and is a significant contributor to the economy.

The Northern Territory's agribusiness sector is a strong, stable contributor to the regional economy long term and is estimated to be worth \$606 million in 2015–16. Agribusiness is expected to continue to expand production to reach \$635 million in value in 2017–18.

Challenges

Land tenure continues to present a challenge for agriculture with the pastoral estate covering 44 per cent of the Territory's land mass. Legislative change has encouraged non-pastoral uses, however, lease arrangements can make capital raising more difficult for new agricultural development. Native title over intertidal waters requires

negotiations between landowners, government and other user groups for public and fishing industry access.

Access to water can be a constraint for many agricultural projects to grow crops, aquaculture products or to water stock. Diversifying our cattle properties for agriculture and aquaculture requires the right soils and access to water. Connecting these agricultural 'sweet spots' requires reliable transport infrastructure and specialised logistics operations along the supply chain. With a large land mass and dispersed production areas, the supply chain is challenged by long distance, cold store requirements handling and capacity.

Infrastructure investment is needed to enable local processing for food manufacturing to increase product value, reduce perishability and overcome restrictions on exporting fresh products.

Opportunities

Our proximity to markets in Asia present opportunities to export fresh and frozen foods – mangoes, melons, tropical fruit, Asian vegetables, seafood and beef. Domestically this produce relies on road transport to southern and eastern markets, and cold chain and processing infrastructure in Darwin for export.



* (NT Farmers Association, 2015)

Territory cattle account for about one third of Australia's total live exports to Indonesia and more markets are being explored in South East Asia. Minor roads in regional and remote areas are vital to the cattle industry.

Our aquaculture industry continues to expand with farmed Barramundi set to double production over the next three years and planning for the \$2.1 billion Project Sea Dragon proposed for Legune Station in the Victoria River District is underway to develop one of the world's largest prawn aquaculture farms. Project Sea Dragon is subject to a final investment decision and environmental approvals.

Niche aquaculture projects including trepang ranching, giant clam farming and rock oyster trials are being developed in remote and island communities on the Northern Territory's pristine coast. Expanding port facilities in Nhulunbuy and the Gulf of Carpentaria increases potential links to markets via Darwin.

Forestry is expanding in the Northern Territory with 51 500 hectares of forest products and three potential plantation operations expected to grow. Roads and electricity to milling facilities will be needed for African Mahogany in the Douglas-Daly region, Black Wattle on the Tiwi Islands and Sandalwood in the Katherine region.

Katherine is being refocussed for development as an inland port and logistics hub to support agribusiness in the region and as a gateway across Northern Australia.

The potential for land release at Wildman River is being investigated as an opportunity for private holdings within a large scale agricultural precinct in the Top End.

There is increasing interest from Aboriginal communities to partner in the longer term development on Aboriginal land, which will rely on expanded transport infrastructure. Improved telecommunications also provide a range of services to increase production including remote management options, real-time monitoring and participation in e-commerce.

Investment needs

The agribusiness, fisheries and aquaculture sector needs extensive investment in infrastructure to:

- develop an agribusiness freight and logistics hub in Katherine
- maintain and improve the regional road network to support industry
- develop processing, cold chain infrastructure and logistics support for key agricultural industries, including mangoes, other fruit, fish and seafood.

Priority Projects

- **Katherine inland port and logistics hub** – create a logistics hub to support key agribusiness.
- **Wildman River horticultural precinct** – assess the potential for development of good quality agricultural land close to Darwin.

Key objectives				
Work to establish a flourishing economy underpinned by profitable and sustainable resource-based industries.	Achieve optimal sustainable use of the Northern Territory's natural resources.	Work with our partners to stimulate and sustain agribusiness throughout the Territory.	Minimise establishment of exotic pests and diseases with an integrated biosecurity system that involves the community.	Increase the engagement of the regional NT workforce in primary industries.

AGRIBUSINESS, FISHERIES AND AQUACULTURE SNAPSHOT

Northern Territory Government estimate
of agricultural production

\$606 million



2.3 million head

of cattle
run on **596 091 km²**

which is 45% of NT land mass

on **223 pastoral leases**

including 20 Aboriginal businesses on pastoral properties

1700 jobs

in agriculture,
forestry and fishing

Australian Bureau of Statistics, 2016

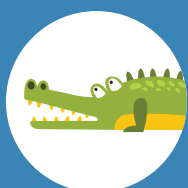


\$1 billion

NT Cattlemen's Association estimate
of value of the beef cattle industry

\$244.4 million

NT Farmers Association estimate of
Gate Value of Production (GVP) of
farming industries for 2015



\$28.5 million

Northern Territory Government estimate
of the value of other livestock,
including crocodile production

\$81.5 million

Northern Territory Government estimate
of the value of commercial fisheries and
aquaculture industry



50%

of Australian
mango production
grown in the NT

NT Farmers Association, 2015



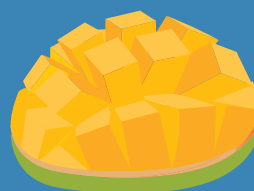
125

mango growers produce

4 million

trays of mangoes

NT Farmers Association, 2015



\$88.5 million

NT Farmers Association estimate of
GVP of mangoes grown in NT, 2015

Plant-based industries used:



5000

freight vans

transport farming produce worth

\$25 million

to southern states each year

NT Farmers Association, 2015

\$12.5 million

spent on packaging for produce



\$80 million

in wages per year

NT Farmers Association, 2015

AGRIBUSINESS, FISHERIES AND AQUACULTURE

	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers	
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6- 10 Years)		
2017- 18					2018- 19						
Project					AG	NTG	LG			PRIV	Total Estimated Cost (\$m)
Central Australia											
Provide infrastructure, including roads, to encourage horticulture development at Deep Well Station		✓		✓	40				•	 Support development of a horticultural industry at Deep Well Station	
Establish a joint bush foods and horticultural packing facility and cool rooms in Alice Springs		✓		✓	2				•	 Enable development of the bush food industry	
Solar desalination for irrigation at the Arid Zone Research Institute to demonstrate technology		✓		✓	2				•	 Provide a sustainable, reliable and fit for purpose water supply for horticultural research crops	
Katherine											
Agribusiness hub and industrial sub-division		✓		✓	50			•		 Enable agribusiness supply chains, processing and transport	
East Arnhem											
Nhulunbuy Port upgrades		✓		✓	15			•		 Underpin the development of the agribusiness industry to service the community and export markets	
Top End Rural											
Project Sea Dragon – aquaculture farm proposed for Legune Station	✓	✓		✓	2100	•	•	•		 Enable long term economic growth	
Develop roads and connect three phase power and telecommunications to service Wildman River agricultural precinct should suitable land and water resource be proven		✓		✓	20				•	 Underpin the development of the agribusiness industry to service the community and export markets	
East Arm Logistics Precinct				✓	•	•	•			 Enable economic development	
Tiwi Islands – opportunities to develop greenfield sites for aquaculture, agriculture, tourism and industrial purposes		✓		✓	•			•	•	 Support the development of the Tiwi Islands by facilitating private sector investment	

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution						Indicative Sequencing				
						Funding (\$m)					
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers	
Darwin											
Northern Territory Government Research Precinct	✓	✓	✓	✓	59		•	•		  Increase research capacity and capability in the Territory	
Berrimah Export Yards upgrade		✓		✓	4	•			•	  Further develop the livestock export industry	

Tourism



TOURISM

Tourism is a driving force behind the Northern Territory's economy with holiday makers attracted to our natural landscapes, rich culture and unique visitor experiences.

Overall, the total number of domestic overnight and international visitors to the Northern Territory for the calendar year 2016 were estimated at 1.8 million.

Tourism employed 15 500 people in 2014–15 and contributed \$1.8 billion in value to the Northern Territory economy and is a major employer and key contributor to diversifying our economy.

Key enablers for attracting more visitors include increasing access through aviation and road transport, improving the range and number of accommodation options, improving tourism products and infrastructure, and increasing the availability of job-ready Territorians.

The Northern Territory Government has a long term approach to support major events, festivals and regional events that activate infrastructure, attract more visitors and energise local communities.

Challenges

The Northern Territory operates in a highly competitive global environment with more than 200 destinations around the world vying for the tourist dollar. It is vital the Northern Territory's tourism offering is equal to or exceeds that provided by competing destinations. Some of our tourism products match the best and most unique tourism attractions and experiences in the world, but little has changed over the past few decades and our tourism offering needs to evolve.

Continued investment in infrastructure is essential for the Northern Territory to keep up with the needs and wants of the modern traveller, particularly if the Northern Territory's push for more visitors from China and India is to succeed.

As the value of tourism grows each year, the pressure for better access to our

natural landscapes, iconic destinations and Aboriginal heritage increases. More visitors wanting to access different areas of the Northern Territory put pressure on road networks, port, aviation and parks infrastructure.

Affordable airfares can see tourist numbers increase and it is important that airport infrastructure be improved so capacity remains ahead of passenger demand.

An increase in cruise ships visiting the Top End reached a high in 2016, with 45 ships bringing in just under 63 000 passengers from around the world. Port facilities in Darwin, as the major port, need to expand to improve the experiences of cruise ship visitors and cater for their growing number.

As visitor numbers increase, so too does the expectation and pressure on tourist centres, parking and access to our national parks including Litchfield, Kakadu, Nitmiluk and Uluru-Kata Tjuta.

Opportunities

The Northern Territory can become Australia's leading centre for Aboriginal art and culture, with an Iconic National Indigenous Art Gallery to be built in Alice Springs. Australia's most central town will become the inland capital for Aboriginal art and culture, with an additional Iconic



National Indigenous Cultural Centre to tell the story of Aboriginal Australia. An Indigenous Arts Trail will begin in Central Australia and connect to a network of art galleries throughout the Northern Territory.

Self drive is an important market with many of the Northern Territory's natural resources and Aboriginal cultural heritage off the beaten track. New road networks established for agricultural, mining and resources can provide better tourist access, including sealing the Litchfield Loop Road and Mereenie Loop Road.

The tourism industry works closely with the Darwin Port to cater for the growing need of cruise ship vessel size and larger passenger numbers, as well as explore opportunities to grow expedition cruise ship visits to remote locations along our coastline.

Supporting major new projects has attracted private investment to develop a luxury hotel in Darwin, which is expected to be completed in 2020 and will attract a new international luxury visitor market to the Northern Territory. Four short term commercial accommodation developments built in Darwin over 2015–16 have increased the total number of rooms by 495, boosting the total room number to 8943 Territory-wide.

The expanded Darwin International Airport terminal, including new business traveller lounges, has doubled the airport's passenger and plane capacity. Government and industry work in partnership with airlines to grow sustainable demand for existing and new aviation services, including a direct international air route from China to the

Northern Territory as a priority.

Investment needs

Investment in infrastructure is crucial to support tourism by:

- considering visitor access in transport planning
- supporting the growth of sustainable cruise ship and aviation services
- ensuring accommodation supports and attracts growth in visitor demand
- supporting major and regional events and festivals to increase visitors and create jobs in local and regional communities.

Priority Projects

- **Iconic National Indigenous Art Gallery** – \$50 million investment in Alice Springs to house a national Aboriginal art collection.
- **Iconic National Indigenous Cultural Centre** – \$20 million investment in Alice Springs to tell the story of Aboriginal Australia before and after European contact.
- **Iconic National Indigenous Arts Trail** – create a world-class arts trail linking Aboriginal arts and cultural centres, with \$10 million each for art galleries in Katherine, Tennant Creek and Arnhem Land and \$6 million for regional and remote gallery enhancements.
- **Darwin CBD Revitalisation** – \$100 million investment to create a safe and vibrant city including the redevelopment of State Square and a new museum at Myilly Point.
- **Westin Luxury Hotel** – \$200 million hotel will enhance the Waterfront precinct and boost tourism.

Key objectives				
Grow tourism value by increasing desirability of the Territory as a travel destination to increase visitor numbers and length of stay.	Address supply constraints in accommodation, facilities, and workforce to cater for visitor demand.	Consider visitor needs for access in planning road, port and aviation infrastructure and services.	Improve visitor experience by developing new experiences that reflect the needs of the visitor economy.	Grow the visitor economy by building on the Northern Territory's authentic Aboriginal cultural experiences.

TOURISM SNAPSHOT

Year ending December 2016



Two thirds of international holiday visitors to the Territory

visited
Uluru
and surrounds

\$1.8 billion
value to the Territory economy



1.807
million
total visitors

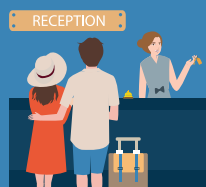
Of these, 840 000 visited for a holiday

15 500 total
tourism jobs
(2014-15)



2.2
million
inbound
airline seats
(in year ending
November 2016)

\$1413 average
spend per trip



RECEPTION

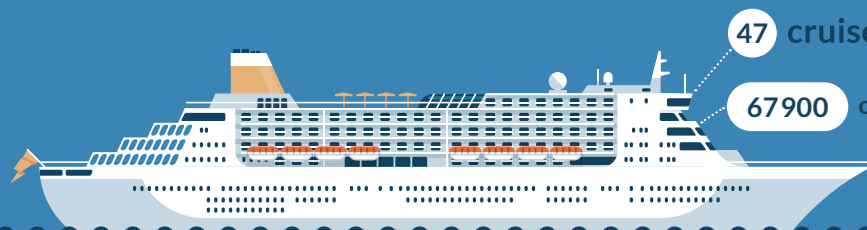
7

nights average
length of stay

8943

tourist accommodation
rooms available

In 2016-17 we will reach a record:



47

cruise ship visits

67 900

cruise ship passenger capacity

TOURISM

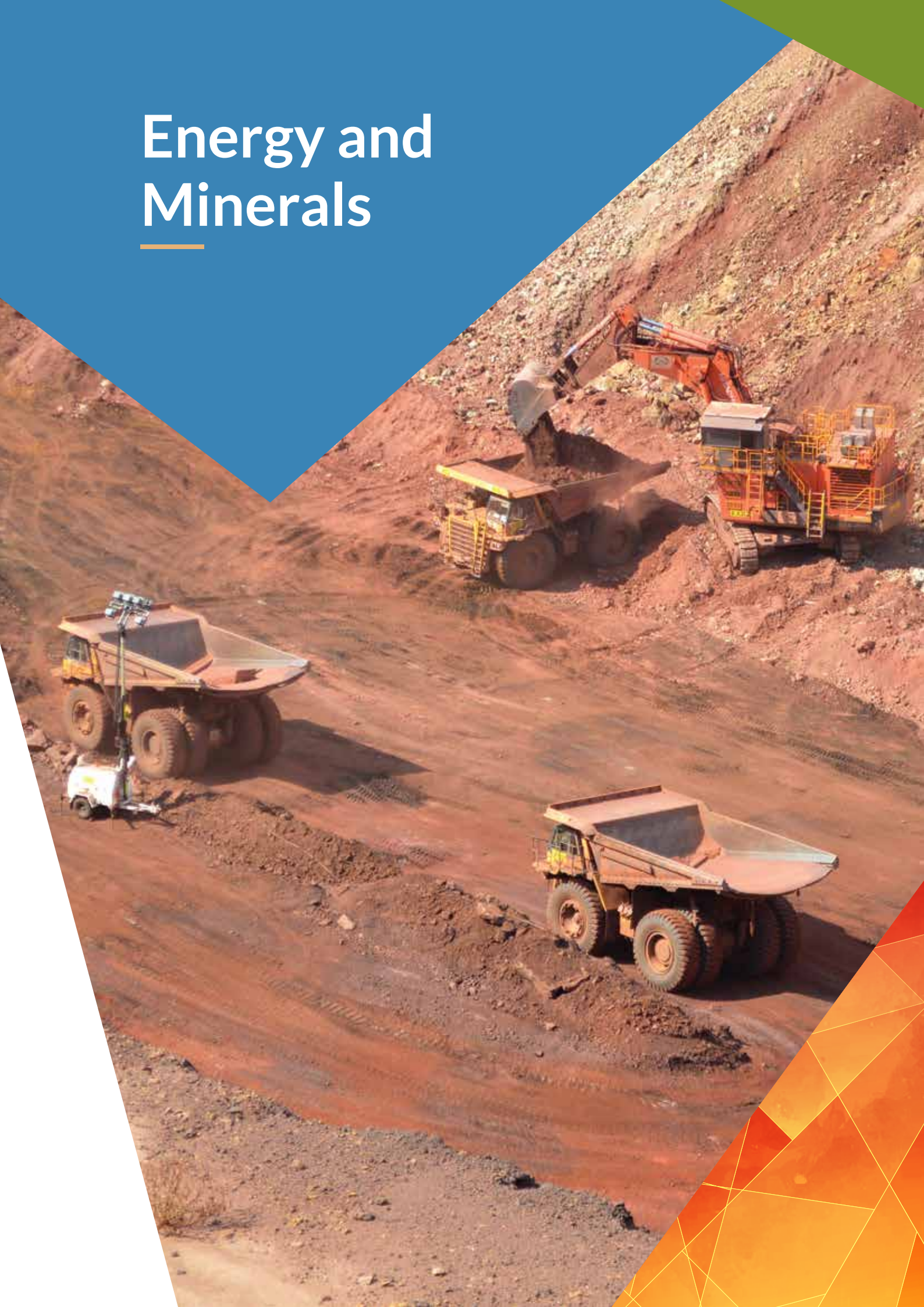
	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6-10 Years)	
Project						2017-18	2018-19			
Territory Wide										
Parks – infrastructure upgrades		✓		✓	8	4	4	•	•	 Conserve the natural, heritage, cultural, recreational and tourism value in parks
Parks – walking and mountain bike trails		✓		✓	1	1				 Enhance recreational facilities
Luxury tourism accommodation in parks				✓	•			•		 Enable further commercial opportunities and enhance visitor experience
Remote parks waste management facilities		✓			•			•		 Improve waste management and recycling systems in remote parks
Central Australia										
Iconic National Indigenous Art Gallery		✓		✓	50			•		 Exhibit and preserve Aboriginal art and culture
Alice Springs CBD Revitalisation (potential Regional City Deals)*	✓	✓	✓	✓	25	•	•	•		 Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy
Iconic National Indigenous Cultural Centre		✓		✓	20			•		 Exhibit and preserve Aboriginal art and culture
Alcoota megafauna fossil exhibition fit out		✓			2	2				 Showcase the evolution of Central Australia
Ellery Creek Big Hole upgrade and seal access road and carpark		✓			1			•		 Improve access and the visitor experience
Alice Springs Desert Park visitor experience development		✓			•			•	•	 Enhance the visitor experience
Barkly										
Tennant Creek Art Gallery extensions – connect the Iconic National Indigenous Arts Trail		✓		✓	10		10			 Provide opportunity for increased visitor numbers and length of stay in the Territory
Tennant Creek tourism entry statements		✓			2	2				 Create a sense of place
Katherine										
New Riverside development		✓		✓	15	•	•			 Enable growth in the tourism and corporate markets
Nitmiluk National Park – upgrade of Infrastructure		✓		✓	10	2	3	•		 Conserve the natural, heritage, cultural, recreational and tourism value in parks
Katherine Art Gallery extensions – connect the Iconic National Indigenous Arts Trail		✓		✓	10		10			 Provide opportunity for increased visitor numbers and length of stay in the Territory

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6- 10 Years)	
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017- 18	2018- 19	Medium Term (3-5 Years)	Longer Term (6- 10 Years)	Key Drivers
Katherine continued										
Railway Bridge Restaurant and Function Centre		✓	✓	✓	5				•	 Enable economic development and enhanced visitor experience
Elsey National Park upgrades – shared trails and camping facilities		✓			3			•		 Enhance the visitor experience and increase length of stay in the Territory
Borrooloola and Numbulwar – combined government centre and tourist centre			✓		2			•		 Enhance delivery of local community and visitor services
East Arnhem										
East Arnhem Art Gallery extensions – connect the Iconic National Indigenous Arts Trail		✓		✓	10		10			 Provide opportunity for increased visitor numbers and length of stay in the Territory
Top End Rural										
Adelaide River War Cemetery – construct car park	✓	✓			1	1				 Enhance the visitor experience
Litchfield National Park visitor experience upgrades		✓		✓	•	•	•	•	•	 Provide additional facilities for camping, swimming, walking tracks and four wheel drive tracks
Litchfield National Park – accommodation resort and transport hub		✓		✓	•				•	 Facilitate the expansion of Litchfield National Park, remove congestion and extend the length of stay
Palmerston and Litchfield										
Territory Wildlife Park visitor experience upgrades		✓		✓	•			•	•	 Enhance the visitor experience
Darwin										
Construct the Westin Luxury Hotel at the Darwin Waterfront Precinct		✓		✓	200	•	•			 Enable growth in the tourism, convention and corporate markets
Darwin CBD Revitalisation (potential City Deals) – redevelop State Square – connect Darwin Waterfront and Cullen Bay – activate laneways – boardwalk between new Westin luxury hotel and Lameroo Beach – New Darwin Museum*	✓	✓	✓	✓	100	•	•	•	•	 Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy
George Brown Darwin Botanic Gardens Centre		✓			•			•		 Conserve the natural, heritage, cultural, recreational and tourism value in parks

* City Deals between the three tiers of government will make our cities better places to live in and do business. Through City Deals, governments, industry and communities will develop collective plans for growth and commit to the actions and investments needed to implement them.

Energy and Minerals



ENERGY AND MINERALS

The Northern Territory boasts several world class mineral resources spread over 1.3 million square kilometres and strong oil and gas potential.

The Northern Territory economy is dominated by the mining and energy resources sector, which is valued at \$3.05 billion – making it the second largest contribution to gross state product (GSP) of about 12 per cent.

The Northern Territory is rich with minerals and resources including bauxite, uranium, zinc, lead, copper, phosphate, manganese, gold, silver and rare earths. With nine major mines operating, the feasibility of more than 30 potential mines are being investigated in the Northern Territory.

One of the largest zinc-lead deposits in the world can be found at the McArthur River Mine located in the Gulf of Carpentaria. Less than 10 kilometres away is the Teena deposit which is the largest zinc-lead discovery in Australia in the past 20 years.

Groote Eylandt has the world's largest manganese mine, which currently supplies over 15 per cent of the world market demand, and has a proven mine life until 2031. The Northern Territory also has some of the largest phosphate deposits in the world.

The Territory is a frontier for energy development with access to more than 30 trillion cubic feet of offshore gas reserves as well as large potential onshore oil and gas resources.

An inquiry into Hydraulic Fracturing (fracking) of onshore unconventional gas reservoirs and associated activities in the Northern Territory is in progress to investigate the environmental, social and economic risks and impacts of fracking. A moratorium on fracking was announced in September 2016.

Challenges

Investment into mining and resources in the Northern Territory fluctuates according to commodity prices, which change with the

global market. When commodity prices are up, there are funds available for exploration and developing higher priced commodities. When prices hit a downturn, investment funds are hard to attract, sometimes forcing producing mines to close if prices drop below economic levels, such as with iron ore mining.

The mining sector is capital intensive and relies heavily on road, rail, port, electricity, water and telecommunications infrastructure. Without appropriate infrastructure, energy and mining operations may struggle to become economically viable. While the Northern Territory has a good central infrastructure corridor from Alice Springs to Darwin with the Stuart Highway, Darwin-Adelaide railway and Amadeus Basin-Darwin gas pipeline, more than 70 per cent of the Northern Territory's roads are unsealed. The main port infrastructure is at the Darwin Port and marine supply base, located a long way from mining operations.

Opportunities

Shorter shipping times due to our proximity to Asia, bulk handling facilities at Darwin Port and the national rail line running the length of the Northern Territory create an opportunity to expand the energy and mining sector.

Infrastructure expansion through private/public partnerships and investment, such as port and rail infrastructure, will potentially give mining companies more cost effective alternatives to road transport. A new master plan for the Darwin Port recommends



improved infrastructure for bulk handling and expanded rail access to help reduce transport costs and increase the feasibility of mining operations.

Building railway sidings near mining activity and rail spurs to connect regional centres to mining operations could provide better access and attract more business and industry development. A potential rail siding at Mataranka and north of Alice Springs, a rail spur out of Tennant Creek and future rail line between Queensland and Tennant Creek could provide more cost effective rail transport options.

A project to build a gas pipeline connector between Mt Isa in Queensland and Tennant Creek will see the town become a major mining service and supply centre to support the Northern Gas Pipeline and mining and exploration in the region.

The Northern Territory is greatly underexplored and there are vast opportunities for world class mineral and energy discoveries. The existence of several world class deposits, which make up the backbone of our current mining industry, are a testament to this.

The Northern Territory Government is undertaking major pre-competitive geoscience programs under the 'Creating Opportunities for Resource Exploration' (CORE) initiative, to highlight areas of resource potential and attract new exploration investment. This will be complemented by the Australian Government's new \$100 million 'Explore for the Future' initiative to boost northern Australia's attractiveness as a destination for investment in resource exploration, targeting the Barkly North region.

Opportunities lie not only in developing new commodity industries, but also encouraging infrastructure for downstream processing and manufacturing in the Northern Territory rather than just exporting commodities for overseas processing and offshore profits.

Investment needs

The resources sector needs ongoing infrastructure investment to:

- improve rail, road and port infrastructure to improve cost efficiencies and viability of the mining and resources sector
- improve bulk handling infrastructure and expand rail access at the East Arm Port to decrease transport costs
- facilitate major projects such as the Northern Gas Pipeline project to enable commercialisation of supplying gas to Australian markets
- develop Tennant Creek into a major mining services and support centre.

Priority Projects

- **New commodity projects** – garnet (Harts Range), copper (Jervois), rare earths (Nolans), vanadium (Mount Peake), salt (Chandler), and phosphate (Ammaroo).
- **Northern Gas Pipeline** – build a gas pipeline from Tennant Creek to Mt Isa.
- **Common-user mine processing facility** to boost mining opportunities in the Barkly region - undertake a feasibility study.

For further information on mining developments in the Northern Territory visit www.core.nt.gov.au

Key objectives				
Make the Northern Territory the preferred destination for resource investment and development.	Regulate and administer tenure and land access for exploration, mining and production of minerals and petroleum.	Enhance the wealth of the Northern Territory through responsible stewardship of its minerals and energy resources.	Attract local and international business investment partnerships for the mining and resources sector.	Support economic development and participation for Aboriginal Territorians.

ENERGY AND MINERALS SNAPSHOT

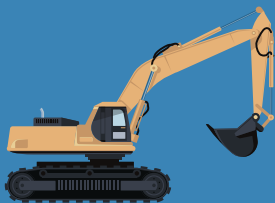
12% of gross state
product contribution



\$101 million

spent on exploration in 2015-16

CLOSE TO **30 trillion**
cubic feet of offshore gas reserves



9

major operating
mines in 2016

plus minor mines, quarries and extractive operations

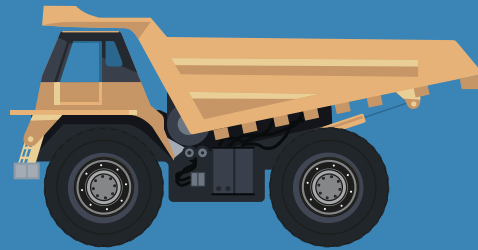
About 30

potential mining operations under feasibility studies

5

biggest mines in NT (all world class deposits):

- ▷ Gove (bauxite)
- ▷ Callie (gold)
- ▷ GEMCO (manganese)
- ▷ McArthur River Mine (zinc-lead)
- ▷ Ranger (uranium)



\$5.2 billion

value of the mining, energy and
resource manufacturing sector



Estimated
200
trillion cubic feet

of gas resources in onshore basins



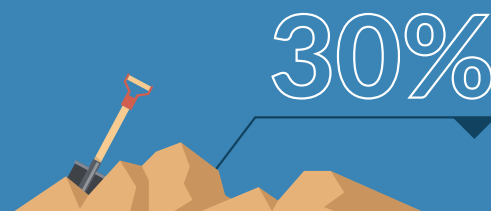
enough to power Australia for 200 years



4800 jobs

in the mining and resources sector

Short distance from nine key markets



30%

of Australia's total known uranium
reserves are in the NT

ENERGY AND MINERALS

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Central Australia										
Nolan's Mine – open cut mine, on-site preliminary processing to produce rare earths concentrate for off-site final processing plant				✓	895		289	•		 Meet global demand for minerals
Chandler Salt Mine – develop underground mine, on-site salt and fertiliser processing plant and underground storage facilities				✓	566		161	•		 Meet global demand for minerals
Jervois Mine (KGL Resources Ltd) – reopen old mine with open cut pits, underground mining and on-site processing				✓	217		•	•		 Meet global demand for minerals
Mt Peake Mine – develop new open pit mining and processing operation, including mine camp, power station and rail siding				✓	208		•	•		 Meet global demand for minerals
Molyhil Mine – develop underground mine and on-site processing plant				✓	70				•	 Meet global demand for minerals
Ti Tree Airstrip upgrade and new terminal supporting Mt Peake Mine		✓		✓	2			•		 Meet global demand for minerals
Barkly										
Northern Gas Pipeline between Tennant Creek and Mt Isa				✓	800	•	•			 Connect the Northern Territory to the east coast gas market
Ammaroo Phosphate Mine – new mine with open cut pits, crushing and processing plant with three processing options				✓	750				•	 Meet global demand for minerals
Wonarah Phosphate Mine – Stage 1 – open cut mine and on-site superphosphate processing				✓	350+				•	 Meet global demand for minerals

The minerals, oil and gas projects listed are all private sector and are derived from publicly available information provided by explorers.

A lesser figure in the 2017-18 and 2018-19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Katherine										
Mt Todd Mine – reopen open cut pit with new on-site processing plant and power station				✓	1005		•	•		 Meet global demand for minerals
Roper River Iron Ore Project – Stage 1 – open cut iron ore mining, on-site processing, and direct shipping ore				✓	170				•	 Meet global demand for minerals
Sill 80 project – surface mining and processing of ilmenite sands				✓	•	•	•			 Meet global demand for minerals
East Arnhem										
Groote Eylandt – South 32 – GEMCO – establish new quarries on eastern leases to provide additional ore to existing processing plant				✓	160			•		 Meet global demand for minerals
Top End Rural										
Ranger 3 Deeps – develop underground mining operation with ore treatment at existing processing plant				✓	180+				•	 Meet global demand for minerals
Tom's Gully – reopen underground mine and on-site processing plant				✓	26		26			 Meet global demand for minerals
Rum Jungle Creek South – repairs and maintenance on cover system and drainage structures				✓	5					 Maintenance of existing infrastructure
Mt Bundy Gold Project – Rustlers Roost open pit mine and Quest 29 deposits				✓	•				•	 Meet global demand for minerals
Kilimiraka – develop new mineral sands mine and processing plant – south west corner of Bathurst Island				✓	•				•	 Meet global demand for minerals
Palmerston and Litchfield										
Middle Arm Metals Processing Facility – develop processing facility to produce high purity titanium, vanadium and iron products	✓	✓		✓	647			•		 Meet global demand for minerals

Defence and Related Industries



DEFENCE AND RELATED INDUSTRIES

The security of Australia, in particular the imperative to guarantee the sovereignty of Australia's maritime borders, especially in the north, and to protect significant onshore and offshore critical infrastructure, is a national priority.

The Northern Territory and northern Australia is at the frontline of Australia's national security in many diverse ways, including: energy, mining, maritime, biosecurity, economic and trade, immigration, military and border security.

Darwin, as the capital city in northern Australia, is the regional hub for Australia's international engagement in the Indo-Pacific Region.

Defence contributes significantly to our economy by creating direct and indirect jobs, building infrastructure and generating demand for local goods and services. Defence spending reached \$1.67 billion in the Northern Territory in 2015–16 and accounted for 7.3 per cent of the gross state product (GSP). This will increase on average over the coming two decades to \$2.5 billion.

Major defence sites include RAAF Base Darwin, Larrakeyah Barracks and HMAS Coonawarra in Darwin, Robertson Barracks in Palmerston, RAAF Base Tindal near Katherine and the Joint Defence Facility Pine Gap near Alice Springs. In addition, the Northern Territory is home to significant training areas including Bradshaw Field Training Area, Kangaroo Flats Training Area, Mount Bunday Field Training Area and Delamere Air Weapons Range.

Demands for new infrastructure to support the US Force Posture Initiative will create opportunities to develop joint use infrastructure that can benefit the Northern Territory economy and community.

Defence personnel and their families are an important part of the population, with about 5400 uniformed personnel based in the Northern Territory. Together with their families, the extended defence community represents about 12 000 people or five per cent of the Northern Territory population, primarily based in Darwin and Katherine.

Challenges

Liveability and lifestyle are paramount to recruit defence personnel to the Northern Territory and infrastructure is a key component of these. The quality of infrastructure for hospitals, health centres and schools as well as sporting and recreational facilities are crucial to living and working here.

To achieve success in military and humanitarian operations, there must be adequate defence facilities and infrastructure with transport linkages between bases and key civil infrastructure.

Defence relies on airport, port and road infrastructure to conduct its duties and operations, as it invests in improving its efficiency and capability in the Northern Territory and with Australia's international partners and neighbours in Asia.

Opportunities

Looking to the future it is important to maintain and expand the ability for defence to sustain, maintain and protect the Australian Defence Force (ADF) and our allies in the Asia Pacific Region. Not just for security but also to provide humanitarian support when called for. This requires something more than a mere presence. This requires infrastructure and industrial capacity to be in place and be well versed in supporting defence.



The Australian Government’s 2016 Defence White Paper, Northern Australia Development agenda and the Indigenous Advancement Strategy create opportunities for defence to work with its partners to the benefit of all stakeholders.

The Defence White Paper and its supporting documents identify infrastructure investment in northern Australia, particularly in Darwin and RAAF Base Tindal in Katherine, as a high priority.

About \$20 billion in defence construction projects are planned for the Northern Territory over the next 20 years under the Major Capital Facilities Program. Defence will spend \$8 billion in the next 10 years and \$12.2 billion in the following 10 years.

Australia and the US will also share the costs for more than \$2 billion in infrastructure investment in northern Australia as part of the Force Posture Agreement.

Joint user infrastructure is an important part of infrastructure investment that benefits other sectors as well as defence. The multi-user barge ramp facility at East Arm is a great example of joint user infrastructure, where defence use the facility for 60 days a year, and commercial operators use the facility for the remainder.

Recognising the increasing demand for marine industry services from defence, Australian Border Force and the oil and gas and commercial sectors, the Northern Territory Government announced a

\$100 million investment to develop a common user Ship Lift Facility. The Facility is under development and will meet the current and projected growth in demand for marine maintenance and repairs of defence, Australian Border Force and commercial users in Darwin Harbour.

Investment needs

Investment in infrastructure for defence is vital to:

- expand the capability of defence bases to cater for new defence platforms, including the Offshore Patrol Vessel and the Triton unmanned air vehicles
- maximise the economic benefit of defence opportunities
- create critical mass to support infrastructure for other projects and industries, including construction, energy and mining, and agricultural industries, such as the common user Ship Lift Facility.

Priority Projects

- **Larrakeyah Barracks and HMAS Coonawarra upgrade** – to provide improved infrastructure and to cater for the docking of larger visiting naval ships.
- **Air Combat Facilities Project for RAAF Base Tindal** – to provide infrastructure for the Joint Strike Fighter.
- **Ship Lift Facility** – construct the common user facility to support defence and other industries in the Northern Territory.

Key objectives				
Maximise the economic benefit from defence opportunities in the Northern Territory.	Use local industry in the supply chain for defence projects.	Attract Defence Industry Corporations to establish their national and regional headquarters in Darwin.	Support local jobs and industry while achieving value for money for defence projects.	Increase defence capacity and capability in North Australia for defence and security cooperation in the Indo Pacific region.

DEFENCE AND RELATED INDUSTRIES SNAPSHOT



\$1.67 billion

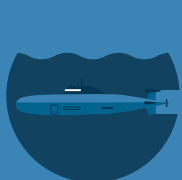
current Defence spend in 2015-16

12000

strong Defence community = 5% of NT population

Exercise Kakadu

is a major Defence naval exercise involving



19 ships and
submarines



18 aircraft



and more than
3000 personnel

from 19 Asia Pacific and Indian Ocean
navies and air forces



5400

uniformed Defence personnel in NT

Defence major capital projects

\$20 billion

in Defence construction projects
in NT over 20 years

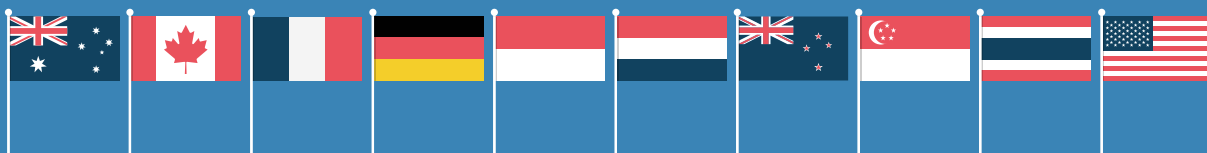
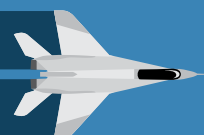
\$8 billion by 2016-25

\$12.2 billion by 2026 - 2035

Exercise Pitch Black

is the largest Defence air force exercise in the NT and in 2016 involved

2500 personnel and 115 aircraft from



Australia, Canada, France, Germany, Indonesia, Netherlands, New Zealand, Singapore, Thailand and the United States

DEFENCE AND RELATED INDUSTRIES

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Territory Wide										
Robertson Barracks CTA, Bradshaw and Kangaroo Flats training area upgrades	✓				500				•	  Improve facilities to enhance defence personnel training
RAAF Base Darwin and Tindal – support the new Air Combat Capability Joint Strike Fighter (JSF35)	✓				473	•	•	•		  Enhance defence capability
National Aircraft Pavement Maintenance Program – RAAF Base Darwin, Tindal and Robertson Barracks	✓				50	•	•	•		  Maintenance to maximise existing infrastructure
RAAF Base Darwin and Tindal – Air 5431 – construct new 25 metre high multi-level facility and sensor equipment building	✓				10	•	•	•		  New infrastructure to support introduction of new air traffic control system
Phase 3 Defence Terrestrial Communications Network Facilities upgrades	✓				•				•	  Improve communications
Katherine										
RAAF Base Tindal – KC 30 new weapon system	✓				500				•	  Enhance defence operations
RAAF Base Tindal – Project Growler – Delamere Range – communications and guidance systems	✓				130	•	•	•		  New infrastructure to enhance defence operations
RAAF Base Tindal – J0088 aviation refuelling vehicle facility	✓				3	•	•			  Support defence operations
RAAF Base Tindal – J0091 Land 998 replacement aviation fire trucks	✓				1	1				  Redevelop infrastructure to support defence operations
Palmerston and Litchfield										
Shoal Bay Receiving Station – facility upgrade	✓				6	6				  Support defence operations
Robertson Barracks – Land 200 Battlefield communication systems	✓				5				•	  Enhance defence operations
Robertson Barracks – A9052 – 25 metre range	✓				5	5				  Support defence operations
Robertson Barracks – Land 17 – 1B/1C Land Force artillery simulator replacement, new hangers, simulator facility	✓				4	•	•			  Redevelop infrastructure to support defence operations

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Palmerston and Litchfield continued										
Robertson Barracks – Defence Logistics Transformation Program – Stage 6	✓				3	3				  Enhance defence operations
Robertson Barracks – A9009 – Land 136 – Phase 1 Force mortar replacement	✓				2	2				  Redevelop infrastructure to support defence operations
Robertson Barracks – A4512 – electrical reticulation system upgrade	✓				1	1				  Support defence operations
Robertson Barracks – Land 155 enhanced gap crossing capability	✓				•	•	•			  Support defence operations
Robertson Barracks – Land 121 – unit sustainment facilities – weighbridge, fast fuel fill	✓				•				•	  Support defence operations
Darwin										
Larrakeyah Barracks and HMAS Coonawarra J0109/N2238 – infrastructure upgrades NORFORCE redevelopment	✓				550	•	•	•	•	  Enhance infrastructure to support redevelopments
Ship Lift Facility		✓		✓	100+	•	•			  Provide a common user facility for the general maritime sector, Department of Defence and the Australian Border Force
RAAF Base Darwin – AIR7000 – new facilities for P8 aircraft	✓				90	•	•	•		  Enhance defence capability
RAAF Base Darwin – J0056 Explosives Ordnance Logistics Reform Program – new administration office and road upgrade	✓				4	•	•	•		  Redevelop infrastructure to support defence operations
HMAS Coonawarra Health Centre J0105 – Joint Health Command – permanent garrison health facilities upgrade	✓				2	•	•	•		  Enhance facilities for defence personnel
Larrakeyah Barracks – N2263 Offshore Patrol Vessel (OPV) Facilities (SEA1180)	✓				2			•	•	  Enhance defence capability
RAAF Base Darwin Ludmilla flood mitigation	✓				2	2				  Improve safety and reduce the damage, disruption and costs associated with major flood events
RAAF Darwin J0088 Aviation Refuelling Vehicle Facilities (JP157 1 – AZ5922)	✓				2	•	•			  Support defence operations
RAAF Base Darwin – base redevelopment – in ground infrastructure	✓				•	•	•	•	•	  Support defence operations

Education and Training



EDUCATION AND TRAINING

The Northern Territory Government is committed to providing high quality education and improving the opportunities in education from birth through to adulthood.

Investing in education infrastructure will provide a safe, healthy and quality learning environment for Territorians.

Every child deserves a good education to improve their emotional, social and physical health so they can contribute to society – without a place to learn, children can face disadvantage.

More than 44 910 children are enrolled in 189 schools as well as 27 homeland centres across the Northern Territory, supported by more than 4200 teachers and staff. Children have access to high quality education services through government, non-government, homeland learning centres, distance learning centres, higher education, special school and early childhood and family centres.

Education is linked to housing, health and social infrastructure and requires a system-wide approach to infrastructure. Without a home and bed to lay in for a good night's sleep, a child's learning and health can be impacted. With a solid education base our children can go on to choose a pathway that meets their aspirations and the skills needed to get a job and contribute to building our economy.

Challenges

Planning infrastructure for new schools is traditionally based on increasing enrolments as more suburbs are built, however, our ageing population will change the demand on existing schools and traditional 'village' planning for commercial and school precincts in every new suburb.

Shifts in government policy change the infrastructure required to support teaching and learning. As education delivery has become multi-faceted, new infrastructure is needed such as child and family centres, international boarding facilities, middle years schooling and trade training centres.

Ageing education facilities are an increasing challenge for the Northern Territory with a large percentage of schools more than 30 years old.

Keeping pace with the changing regulatory environment for school infrastructure is a challenge to ensure our assets are still fit for purpose. As schools are upgraded, infrastructure needs to be brought up to current Australian standards and made safe. Better access for people living with disabilities, such as retro-fitting lifts, and removing asbestos containing materials are costly.

Providing a level playing field to enable children to learn means new infrastructure is needed to cater for children with special needs or who live with a disability, such as the new Henbury School co-located with Dripstone High School and the new Forrest Parade School in Palmerston.

Upgrading university infrastructure to keep pace with international standards and to remain competitive and attractive to high achieving academics, international and domestic students and academic and business and industry partners is important to grow the Northern Territory's economy and social and cultural future.

Opportunities

The Northern Territory's education system aligns its capital works, and repairs and maintenance programs to ensure infrastructure can respond to new government priorities and strategies.



The Northern Territory recognises parents have a crucial role to play in their child's learning and development from their early years. Child and family centres bring together services in one place, including early childhood and care, child and maternal health, family support and adult education services. Centres have been built in Palmerston, Gunbalanya, Maningrida, Ngukurr, Yuendumu and Alice Springs, and one will be built in Tennant Creek.

Part time teaching services in homelands help children learn in their own communities and \$5 million will be spent over the next four years to upgrade homeland infrastructure.

A Science, Technology, Engineering, Arts and Maths Centre will be built at Darwin High School to encourage student focus on these disciplines. A new performance centre will be built at Darwin Middle School and a boarding facility for regional, remote and international students is planned for the Bullocky Point Education precinct.

Expanding vocational education and training opportunities creates job-ready Territorians with the skills to meet the needs of industry and major projects. Trade training centres have been built in Maningrida, Borroloola, Shepherdson and Nhulunbuy to train a local workforce and build a skills base in regional and remote communities.

The growing international education and training sector contributed \$81 million to the Northern Territory economy in 2015–16. Expanding trading and tourism relationships provide opportunities to attract international

students from China, Indonesia, Japan, Korea, Timor-Leste and Vietnam. While purpose built student accommodation and private rental market vacancies meet current demand, an increase in students could see investment needed for a range of accommodation options, including purpose built student accommodation, college life options, a Uni lodge, group houses or private rental market.

Investment needs

Investment in infrastructure is needed to:

- provide integrated child and family services at schools to support transition to school and strengthen parent engagement in learning
- support infrastructure for special schools, distance learning and international education
- replace ageing infrastructure and upgrade existing infrastructure to Australian standards
- new and expanded schools to cater for population and enrolment growth, particularly in remote communities.

Priority Projects

- **Science, Technology, Engineering, Arts and Maths Centre** – a state-of-the-art centre in Darwin to focus on these disciplines.
- **School infrastructure grant program** – grant for minor new works for every school.
- **Upgrade homeland facilities** – upgrade infrastructure for teaching in homelands.

Key objectives				
A great start for children by supporting families to give children the best possible start in life.	Opportunities for successful learning for every student in every school to prosper in the 21st century.	Partner with families and communities and industry to improve access to education and outcomes for children in remote communities.	Enhance the attractiveness of the Northern Territory as an international education destination and increase our market share.	Provide training to create a skilled workforce that meets the needs of industry and our economy.

EDUCATION AND TRAINING SNAPSHOT



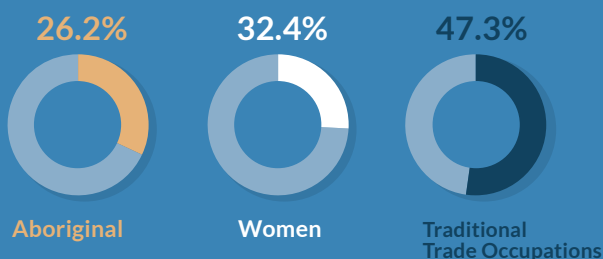
4218
education staff
in NT

2459 teachers
162 assistant teachers
in government schools

17 751
Aboriginal children enrolled in
government and non-government schools



3802 apprentices
and trainees
in training across NT



44 910

**Territory children
enrolled in school**

74% government schools
26% non-government schools

International
Education



contributed
\$81 million
to the NT economy



created 444 jobs
in 2014-15



Top three countries of origin



**Nepal,
India and
the Philippines**

EDUCATION AND TRAINING

	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6- 10 Years)	
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017- 18	2018- 19	Medium Term (3-5 Years)	Longer Term (6- 10 Years)	Key Drivers
Territory Wide										
Various upgrades of school infrastructure	✓	✓			255	•	•	•	•	 Enable the continued delivery of quality education and support student enrolments
Various Schools – increase pool of transportable (relocatable) classrooms		✓			14	4		•	•	 Enable the continued delivery of quality education and support student enrolments
Child care centre upgrade program		✓			7			•	•	 Maintain ageing infrastructure to enable the continued delivery of quality child care
Homeland schools repairs		✓			5	1	1	•		 Enable the continued delivery of quality education and support student enrolments
Rooftop photovoltaics on Territory schools		✓			5		2	•		 Decrease dependency on traditional energy sources and link to renewable education programs
Central Australia										
Centralian Senior College – Science, Technology, Engineering, Arts, Maths centre		✓			10			•		 Provide new infrastructure to support educational programs and services
Acacia Hill School new administration building and classrooms		✓			7	7				 Enable the continued delivery of quality education and support student enrolments
Barkly										
New Tennant Creek preschool integrated with facilities for on-site Families as First Teachers Program and relocatable building to support special education		✓			8	8				 Enable the continued delivery of quality education and support student enrolments
Katherine										
Katherine High School – major classroom refurbishment and Science, Technology, Engineering, Arts, Maths centre		✓			11			•		 Provide new infrastructure to support educational programs and services
Vocational child care facility	✓			✓	3			•		 Enable delivery of quality child care services
East Arnhem										
Replace elevated classrooms and canteen at Shepherdson College		✓			25			•		 Enable the continued delivery of quality education and support student enrolments
New preschool and replace infrastructure destroyed by fire at Angurugu School	✓	✓			6	6				 Enable the continued delivery of quality education and support student enrolments

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution				Total Estimated Cost (\$m)		Indicative Sequencing				
						Funding (\$m)					
Project	AG	NTG	LG	PRIV		2017- 18	2018- 19	Medium Term (3-5 Years)	Longer Term (6- 10 Years)	Key Drivers	
Top End Rural											
New school to replace Woolianna School, plus teacher housing in Daly River		✓			15			•		 	Enable the continued delivery of quality education and support student enrolments
Maningrida – new classrooms and specialist areas for secondary education		✓			5			•		 	Enable the continued delivery of quality education and support student enrolments
Palmerston and Litchfield											
Zuccoli – shared facilities to support new preschool and primary school		✓		✓	47	9	6	•		 	Provide new infrastructure to support educational programs and services
Taminmin College – Science, Technology Engineering, Arts, Maths centre; – Refurbish science labs – Multi purpose community hall		✓			31	11		•		 	Provide new infrastructure to support educational programs and services
Humpty Doo School – replace preschool with new and early childhood classrooms – replace aged classrooms and administration		✓			27			•	•	 	Maintain ageing infrastructure to enable the continued delivery of quality secondary education
Girraween Primary School – new classroom block and remove transportables		✓			3			•		 	Enable the continued delivery of quality education and support student enrolments
Darwin											
New pre and primary school for 450 enrolments in Muirhead North		✓		✓	50			•		 	Provide new infrastructure to support educational programs and services
Ludmilla Primary School – redevelop and include an integrated early childhood facility		✓			21	6		•		 	Provide new infrastructure to support educational programs and services
Darwin High School – leading Science, Technology, Engineering, Arts, Maths centre		✓			18	18				 	Maintain ageing infrastructure to enable the continued delivery of quality secondary education
Casuarina Senior College new multi purpose enclosed pavilion		✓			12			•		 	Provide new infrastructure to support educational programs and services
Darwin Middle School multi purpose enclosed pavilion		✓			12		12			 	Provide new infrastructure to support educational programs and services
Darwin secondary schools at Bullocky Point – International and remote students boarding facility		✓			12			•		 	Provide new infrastructure to support educational programs and services
Stuart Park Primary School – expansion		✓			10				•	 	Enable the continued delivery of quality education and support student enrolments
Nightcliff Middle School – Science, Technology, Engineering, Arts, Maths centre		✓			5			•		 	Provide new infrastructure to support educational programs and services
Leanyer Primary School – Stage 1 Master Plan		✓			1			•		 	Enable the continued delivery of quality education and support student enrolments

Electricity



ELECTRICITY

Access to affordable electricity is critical for driving economic growth in the Northern Territory.

Affordable electricity in all its forms, driven by efficient infrastructure investment, is a key enabler of current and future business investment and overall economic prosperity.

Electricity supplied to the major urban centres of Darwin, Katherine, Tennant Creek and Alice Springs is predominantly generated from natural gas. Electricity supplied to other small or remote communities is generated by isolated power stations using diesel, diesel-solar, gas energy sources or supplied from one of the major electricity networks.

The Northern Territory electricity generation sector sources most of its natural gas to generate electricity from the Blacktip gas field, 110 kilometres off the northwest coast in the Joseph Bonaparte Gulf.

Challenges

The evolving nature of the energy and electricity sectors is challenging the traditional value chains of electricity companies and their associated market structures. The transition to a renewable energy future is also a key challenge for electricity businesses of today. The Northern Territory Government has established an Expert Panel to deliver a Roadmap to Renewables Report in 2017, which will set out the options to achieve a target of 50 per cent of our electricity from renewable sources by 2030.

Providing essential services to communities that are geographically isolated and encompass both tropical and arid environments is challenging. Weather events impact electricity infrastructure and good infrastructure is paramount to maintaining a safe and reliable electricity supply. Remote and regional communities that are not connected to the major Northern Territory gas-fired electricity networks are heavily dependent on expensive diesel for electricity generation.

Opportunities

A framework is being established for the Northern Territory Electricity Market. Under this reform program, the regulatory arrangements that govern the Darwin-Katherine, Tennant Creek and Alice Springs networks are being progressively transitioned to the National Electricity Law to ensure safe, reliable, affordable electricity services are provided for all Territorians over the long term.

Capital investment in electricity networks occurs to meet load growth and ensure reliable and quality services continue to be provided. For example, the recent construction of a new \$40 million Darwin Zone Substation will help meet the needs of future electricity demands for commercial and residential growth in Darwin CBD, while a 132kV double circuit transmission line across the Elizabeth River will support improved reliability under extreme weather events.

The Northern Territory does not rely on carbon intensive coal with gas pipeline infrastructure, extending from Darwin to Alice Springs, connected to economic gas resources for electricity generation. Gas exports provide considerable revenue potential to boost the Northern Territory



economy and the Northern Gas Pipeline will connect the Northern Territory gas fields to the eastern markets.

Making the most of our excellent solar resource will help reach the target of 50 per cent of our electricity from renewable sources by 2030 and reduce carbon emissions. A high number of solar systems are being installed across the Northern Territory and the uptake of solar will continue to rise rapidly. The challenge will be to ensure electricity grids and market arrangements can support the transition to renewable energy, while maintaining security of supply.

The \$55 million Solar Energy Transformation Program funded by the Australian Renewable Energy Agency and the Northern Territory Government is designed to reduce the cost of electricity generation. Solar SETuP is rolling out 10 mega watt of solar across approximately 30 remote communities. An advanced high penetration solar-battery storage system is being constructed at Daly River as part of the program to allow the diesel generators in the power station to be switched off during the day to maximise diesel savings.

Connecting remote communities to gas-fired electricity grids, such as the proposed connection of Nganmarriyanga

(Palumpa) and Peppimenarti to the Wadeye Gas Power Station, will support a reduction in the cost of electricity generation.

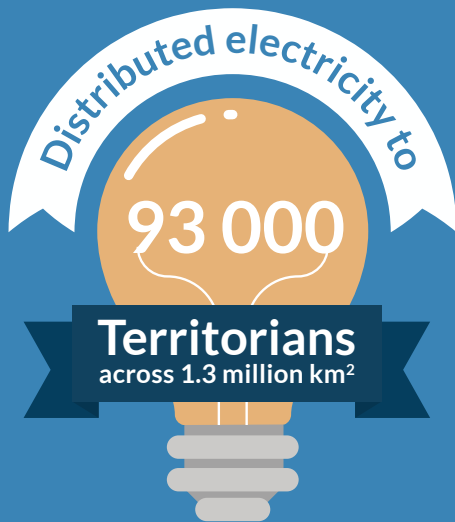
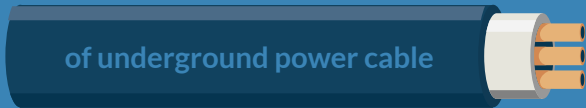
Priority Projects

- **Alice Springs power upgrade** – install Sadadeen 11kV switchboard and replace power distribution poles for the Alice Springs network.
- **Palmerston power upgrade** – construct a new 66kV transmission line from Archer Zone Substation to Palmerston Zone Substation.
- **Solar SETuP Program** – rollout of 10MW solar across approximately 30 remote communities.
- **Palumpa and Peppimenarti grid connection** – to Wadeye gas power station.

Key objectives			
Plan, build and maintain safe, cost efficient and reliable electricity infrastructure for provision of services.	Target 50 percent of our electricity from renewable sources by 2030 and reduce greenhouse gas emissions.	Manage the purchase, transport and sale of gas to electricity generators and other major gas users.	Future proof the Northern Territory by planning for and building electricity infrastructure to meet future supply demand.

ELECTRICITY SNAPSHOT

3210 km



Target

50%

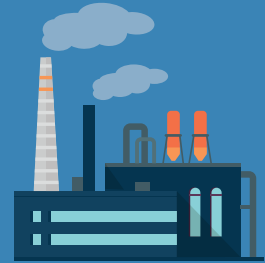
of our electricity from
renewable sources
by 2030



7269 km

of overhead power lines

58



power stations across the
Northern Territory

Kings Canyon, Yulara, Alice Springs (Ron Goodin and Owen Springs), Tennant Creek, Katherine, Darwin (Channel Island), Weddell
+ 45 Aboriginal communities
+ 5 minor centres



GAS

sourced from Blacktip and
Central Australian gas fields

ELECTRICITY

	Prospective Contribution						Indicative Sequencing			
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Territory Wide										
Power Networks – repairs and maintenance		✓			330	26	36	•	•	 Compliance, asset renewal and service efficiency improvement
Power Network service improvement and asset upgrades		✓			285	24	24	•	•	 Compliance, asset renewal and service efficiency improvement
Indigenous Essential Services – minor works projects		✓			96	10	9	•	•	 Compliance, asset renewal and service efficiency improvement
Solar Energy Transformation Program	✓	✓			55	21	9	•	•	 Growth in demand and improve efficiency
Minor centres generation projects		✓			35	1	1	•	•	 Compliance, asset renewal and service efficiency improvement
Indigenous Essential Services – future capital works asset replacement		✓			28			•	•	 Asset renewal and compliance
Remote Indigenous Communities – network developments		✓			23	14	2		•	 Compliance, asset renewal and service efficiency improvement
Solar Hospitals Program		✓			12			•	•	 Contribute to Northern Territory Government renewables target and reduce operating costs
Power Networks outage management system and radio system upgrade		✓			9	3				 Growth in demand and efficiency improvements
Rooftop photovoltaics on Territory schools		✓			5		2	•		 Decrease dependency on traditional energy sources and link to renewable education programs
Remote operation centre		✓			2	2				 Enable operation of all Territory Generation stations from headquarters through efficiency improvements
Hospital Energy Performance Upgrades		✓			•			•	•	 Contribute to Northern Territory Government renewables target and reduce operating costs

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Central Australia										
Power Network corroded poles replacement, transformers, and switching station upgrades		✓			37	7	6	•	•	  Compliance, asset renewal and service efficiency improvement
Owen Springs and Tennant Creek Power Station expansion and upgrade		✓			19	19				  Growth in demand and improve efficiency
Decommission, disposal, and rehabilitation of Ron Goodin Power Station		✓			5	3	2			  Site rehabilitation
Alice Springs Centre for Excellence in Solar Energy		✓	✓		4	4				  Support Solar City initiative
Barkly										
Tennant Creek Power Station engine exchange and alternator replacement		✓			8	1	1	•	•	  Compliance, asset renewal and service efficiency improvement
Katherine										
Katherine Power Station engine exchange, asset replacement and fire system upgrade		✓			27	1	1	•	•	  Compliance, asset renewal and service efficiency improvement
Power Network and Zone Substation upgrades		✓			9	1	5	•		  Compliance, asset renewal and service efficiency improvement
Top End Rural										
Power Network transformers upgrade		✓			3			•		  Compliance, asset renewal and service efficiency improvement
Palmerston and Litchfield										
Channel Island Power Station upgrades – gas pipeline, steam unit, asset replacement, engine exchange, and switchboard		✓			257	28	35	•	•	  Compliance, asset renewal and service efficiency improvement
Various Power Network and substation upgrades		✓			77	14		•	•	  Compliance, asset renewal and service efficiency improvement
Weddell Power Station hot section exchange, major overhaul and hardware standardisation		✓			32	4	6	•	•	  Growth in demand and improve efficiency
Darwin										
Construct Casuarina Zone Substation and various network and substation upgrades		✓			168	4	12	•	•	  Growth in demand and improve efficiency

Water



WATER

Supply of safe and secure water is critical to supporting how and where we live, do business and grow our industries in the Northern Territory.

Surface water sources, in Darwin and Katherine, provide more than half the volume of the Territory's potable water supply, with groundwater the primary water source for the remaining centres. Relying on weather to replenish our surface and groundwater supplies, the tropical Top End and dry centre have different infrastructure needs to survive.

Ready access to water dictates where we build houses, develop business and expand our agribusiness industries including livestock and agricultural crops. Urban and industrial developments also require water for construction, operation and maintenance activities.

How we use and conserve this precious resource dictates how much water is available for drinking, bathing, cleaning and growing food to eat. Further investment in water infrastructure is needed to sustain development in the Northern Territory, including developing future water sources.

Challenges

Growth in the Northern Territory has been rapid in recent years, putting pressure on delivering water and sewerage services efficiently and economically. Ongoing development is placing a greater demand on existing water sources, storage, treatment and delivery infrastructure.

Water use in some locations is excessively high and in the Top End, people use more than twice as much water as those living in other Australian capital cities.

The Darwin region water supply sources most of its water from the Darwin River Dam, while in Central Australia Alice Springs water supply is from the large aquifer known as the Amadeus Basin.

The Darwin region is heavily reliant on a single surface water supply source and supplements this with groundwater from the McMinns and Howard East borefields. These groundwater sources also serve as the region's emergency supply and building the capacity and reliability of the borefield is critically important. Manton Dam, which used to be Darwin's main water source, is not used as a water supply due to constraints with infrastructure, water quality challenges and recreation use of the reservoir. Unless water consumption can be reduced, augmentation of Darwin region's water source and treatment infrastructure will be required within the next 10 years to meet projected demand growth.

The Northern Territory's water supply and demand is strongly influenced by climate and variable yearly rainfall. The forecast impacts of climate change could see drier and hotter years and a potential increase in water use and loss from our surface water supply sources through evaporation.

The age, condition and performance of water infrastructure including dams, reservoirs, bores, treatment plants, pumps, mains, water tanks, services and meters impact on the delivery of water supply services and reliability.



Opportunities

It is critical to ensure water is used as efficiently as possible to preserve this precious natural resource for our community, ensure there is a sufficient resource for industry development and keep downward pressure on the cost of supply.

Future options to secure the water supply for Darwin include demand management initiatives such as the Darwin Living Water Smart Program and options for a new water source. Living Water Smart aims to reduce the pressure on Darwin's water supply by one quarter and defer the need to invest in infrastructure for a new water supply source.

Infrastructure Australia has included 'Upgrading the Darwin region water supply infrastructure' on the Infrastructure Priority List.

The capital investment program for water services in the Northern Territory is focussed on delivering increased water supply capacity and quality, and improving assets to increase water supply reliability.

Major new developments in Palmerston and Darwin, plus continuing infill and development, have increased water demand, requiring network upgrades to provide and maintain water service. Construction of the Palmerston elevated water storage tank will

supply water for the growing population of Bellamack, Zuccoli, Rosebery, Johnston and Palmerston South – increasing capacity by storing four million litres of water.

The \$1.1 billion Northern Territory Remote Housing Program will drive the need to expand water and sewerage infrastructure in remote communities and supporting water source sustainability will be critical to meet the future needs of communities.

Investment is needed to expand and increase infrastructure to ensure safe and reliable water and sewerage services across the Northern Territory.

Priority Projects

- **Implement the Darwin Region Water Supply Strategy** – including investigation of future water source and treatment options.
- **Remote Communities** – progressively upgrade infrastructure to provide safe and reliable water and sewerage services in remote communities.
- **Tennant Creek Borefield Upgrade** – to ensure ongoing reliability of supply.
- **Sewerage Upgrades** – including Leanyer Sanderson wastewater stabilisation ponds and East Point sewerage outfall.

Key objectives			
Provide good quality drinking water by enhancing capability in line with Australian Drinking Water Guidelines.	Manage the sustainability of water supply in line with demand.	Plan for future sewerage infrastructure to continue to treat and dispose of sewage.	Plan, build and maintain safe, cost efficient and reliable water and sewerage infrastructure for provision of services.

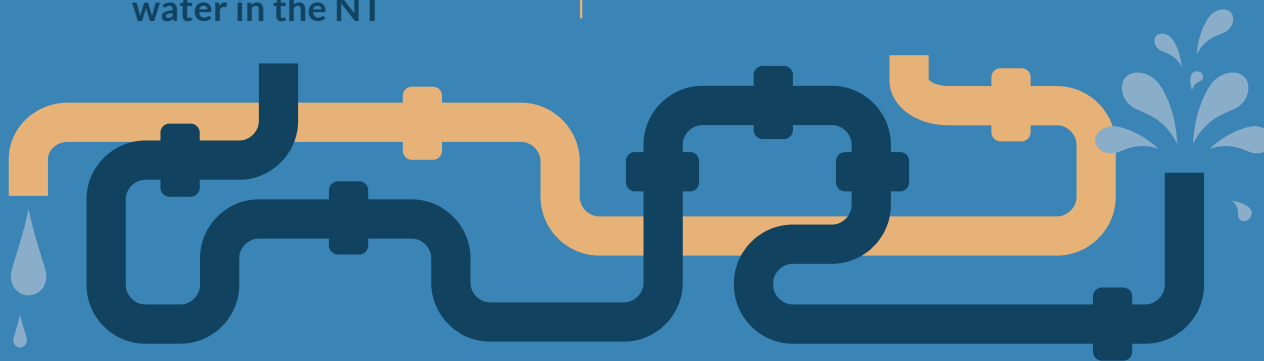
WATER SNAPSHOT

3012 km

of water mains are used to pump water in the NT

1608 km

of sewer mains are used in NT



water and
sewerage
services
supplied to



major
centres



minor
centres

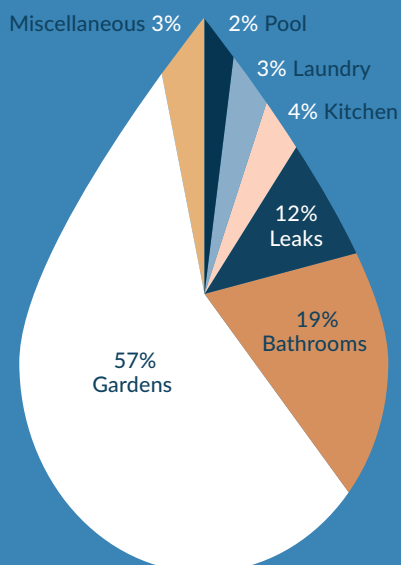


remote
communities

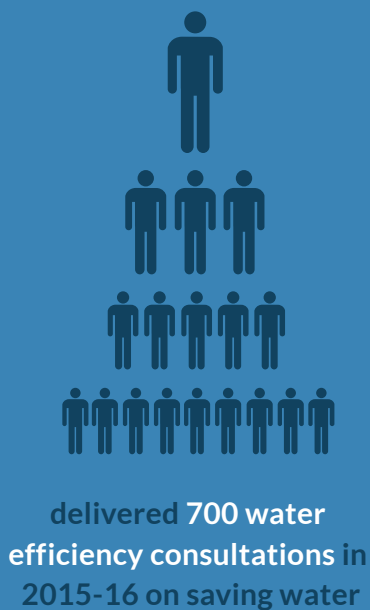


outstations

Darwin residential water use



Living water smart program



One in five homes

Alice Springs – have a
leak on their property



One in eight homes

Darwin – have a
leak on their property

19% of home
water

is used in the
bathroom for
long showers



WATER

	Prospective Contribution				Total Estimated Cost (\$m)		Indicative Sequencing				Key Drivers
						Funding (\$m)					
Project	AG	NTG	LG	PRIV		2017- 18	2018- 19	Medium Term (3-5 Years)	Longer Term (6- 10 Years)		
Territory Wide											
Indigenous Essential Services – future capital works asset replacement		✓			110			•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	
Indigenous Essential Services – minor works projects		✓			96	10	9	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	
Indigenous Essential Services – water supply and reticulation upgrades		✓			58	21	15	•		 Growth in demand, compliance, asset renewal and improve service efficiency	
Water reticulation and treatment upgrades		✓			54	4	4	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	
Various Minor New Works – Sewerage		✓			54	3	4	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	
Various Minor New Works – Water		✓			53	13	3	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	
Indigenous Essential Services – sewerage reticulation upgrades		✓			33	15	11	•		 Growth in demand, compliance, asset renewal and improve service efficiency	
Sewerage upgrades and de-sludging		✓			10	1	1	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	
Central Australia											
Water source, transmission and reticulation upgrades		✓			63	3	3	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	
Sewerage treatment and reticulation upgrades		✓			48	1	1	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	
Katherine											
Water source, transmission and reticulation upgrades		✓			46	5	1	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	
Sewerage pump station, treatment and reticulation upgrades		✓			10	•	•	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency	

Projects listed in the Water Sector focus on supply for residential and business users in urban areas, towns, rural activity centres and remote communities, not for agricultural production.

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution						Indicative Sequencing			
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Top End Rural										
Water storage, treatment, transmission upgrades		✓			240	2	1	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency
Palmerston and Litchfield										
Water storage, treatment, transmission upgrades		✓			110	1	1	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency
Sewerage pump station, treatment, reticulation upgrades		✓			73	10	4	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency
Darwin										
Upgrade the Darwin Region water supply infrastructure		✓			579	11	11	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency
Sewerage re-use, treatment and reticulation upgrades including Leanyer-Sanderson Water Treatment Plant upgrade and East Point Outfall extension		✓			233	16	6	•	•	 Growth in demand, compliance, asset renewal and improve service efficiency

Transport and Logistics



TRANSPORT AND LOGISTICS

Transport and logistics networks are the life blood of the Northern Territory. They provide a vital link to the rest of Australia and form the nation's strategic supply chain to the rapidly expanding economies of Asia.

Transport and logistics networks are a key enabler of the Territory's economic growth. Private and publicly owned roads, ports, barge landings, airports, aerodromes, pipelines, railways and freight hubs support the viability and productivity of our major industries including the agribusiness, energy and minerals, tourism and defence sectors.

These networks also contribute to social development for Territorians by providing access to essential welfare, health and education services and recreational, business and job opportunities.

The transport network must be developed to keep pace with our growing and diversifying economy to enhance linkages to key domestic and international markets and provide improved equitable access for Territorians living in remote and regional areas.

Challenges

The Northern Territory's small population is spread across more than 1.3 million square kilometres, with a large proportion of people living in remote and regional areas.

Improving network resilience and developing infrastructure to meet growing demand is costly. A low infrastructure base, extreme climatic and geographic conditions, and poor economies of scale provide challenges which contribute to higher per capita labour, construction and maintenance costs.

The road and bridge network makes up the largest component of the Northern Territory Government's transport infrastructure assets. While the Northern Territory's national highway system is fully sealed, 70 per cent of the road network is unsealed and vulnerable to wet weather, which increases freight costs and isolates communities.

Opportunities

Our key priority is to plan for future transport infrastructure needs while still developing and managing the existing transport network to improve reliability, accessibility, productivity and safety. Roads in key remote and regional areas are being progressively upgraded to improve access all year round.

The rail line from Adelaide to Darwin provides the only rail service for passengers and freight (retail, consumer and minerals) movement in the Northern Territory, providing a key supply chain link. Opportunities exist for public and private sector investment to upgrade existing rail infrastructure and create new future rail connections between interstate centres and the Northern Territory.

The Northern Territory, Queensland and Australian Governments are undertaking Northern Australian feasibility studies to understand the requirements of any future development of the Tennant Creek to Mt Isa railway.

Our aviation infrastructure supports our growing tourism and business sectors and our emerging role as an international aviation gateway for northern Australia.

The privately owned Darwin International Airport is the Northern Territory's aviation



gateway and connects to a network of major regional airports and remote aerodromes.

The Port of Darwin and the East Arm logistics precinct is the Territory's major commercial marine and logistics hub, and is supported by several coastal ports and barge landings. There is capacity to service greater freight volumes with existing port infrastructure, while new and enhanced infrastructure will support increased shipping and logistical services across the Northern Territory.

Investment needs

The transport and logistics network requires extensive ongoing investment to:

- ensure infrastructure meets the needs of our developing industries' demand for a growing freight service
- ensure transport networks provide equitable access for Territorians living in regional and remote areas
- build and maintain a resilient transport network with minimal closures and restrictions
- ensure assets are maintained to a good standard
- improve overall supply chain efficiency to increase productivity and reduce freight costs.

In November 2016 the Australian Government announced it will develop a national freight and supply chain strategy to increase the productivity and efficiency of Australia's freight supply chain. Concurrently, the Northern Territory is developing a Territory Wide Logistics Master Plan which will outline the Territory Government's role within the freight and logistics sector, and provide a framework for government to partner with industry to promote investments that improve freight outcomes.

Priority Projects

- **Sealing Tanami Highway** – providing a nationally significant road connection from south-eastern Australia to the Western Australia Kimberly region.
- **Improving Beef Roads** – progressively upgrading cattle roads will increase reliability and subsequently economic development and productivity for the pastoral industry.
- **Mt Isa to Tennant Creek Railway** – undertaking feasibility studies to understand the requirements for any future development.
- **Develop Katherine** – as a major inland port and logistics hub.

Key objectives				
Drive economic growth by providing efficient freight networks which meet industry needs and support increased productivity and reduced costs.	Improve transport safety by maintaining and upgrading existing infrastructure and consider user and operator safety when developing new transport and logistics infrastructure.	Provide improved connectivity to support equitable access for Territorians in regional and remote areas to support social inclusion, development and enable service delivery.	Enhance asset management by maintaining and rehabilitating infrastructure to improve network resilience and reduce whole of life costs.	Integrate land and transport planning to protect corridors for the future and ensure planning provides for effective connection to transport hubs and major activity centres.

TRANSPORT AND LOGISTICS SNAPSHOT

 **\$7 Billion**
of NT Government road and bridge assets

36 000 km
of roads

22 000 km
managed by NT Government

only
25%

of the entire 36 000 km
road network is sealed



1

International airport
(Darwin)

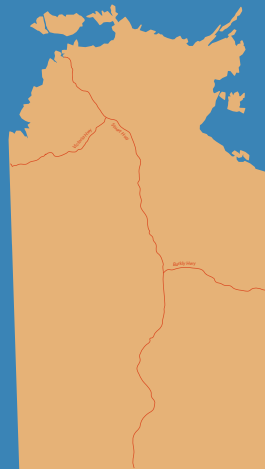
23

certified or registered
airports – regional
and mining

OVER 350



remote aerodromes or airplane landing areas



2700 km

of the road
network is
National
Highway
(fully sealed)



220

major bridges



1000's

of river and creek crossings



55
roadside rest areas



131

truck parking bays



3

Major ports – Darwin,
Nhulunbuy and Port Melville

2

Significant industry ports –
Bing Bong and Alyangula



14

Barge landings servicing
Top End and island
communities



1 737 km

of standard gauge rail line

– from the South Australian border to Darwin
– privately owned and operated

260 km



of urban shared bicycle/pedestrian paths



4

Major freight hubs

– Darwin, Alice Springs
Katherine, Tennant Creek

TRANSPORT AND LOGISTICS

	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6-10 Years)	
Project						2017-18	2018-19			
Territory Wide										
Roads: National Network										
Programs including flood immunity improvements, road safety initiatives, strengthening and widening and Black Spot	✓	✓			474	40	•	•	•	 Economic enabler and key interstate freight route
Stuart Highway – new works and upgrades, including Pinelands Industrial Precinct access	✓	✓			215	6	•	•	•	 Economic enabler and key national freight route. The only road transport supply line to Darwin
Territory Roads										
Programs including strengthening and widening, Black Spot, road safety initiatives, landscaping, cycle paths	✓	✓	✓		567	24	•	•	•	 Support connectivity and regional development through improved key arterial and secondary roads
Beef Road – upgrade secondary local roads		✓			72		•	•	•	 Support economic development of the cattle industry and improve community connectivity
Local fishing and tourist road new works and upgrades		✓			64		•	•	•	 Support recreational and tourism activities
Regional Roads Productivity Package	✓	✓			36	36	•			 Support delivery of essential services to regional and remote communities
Transport Assets										
Marine – barge landing and jetty upgrades		✓			136	11	•	•	•	 Support economic development by improving all weather access and goods handling facilities
Barge and aerodrome access roads	✓	✓	✓	✓	100			•	•	 Improve all weather access to support growth and improve community safety
Aerodrome upgrades including Batchelor, Bathurst Island, Milingimbi and other aerodromes	✓	✓			68	9	•	•	•	 Improve all weather access to support future growth
Public Transport – upgrade bus stops, bus interchanges and CCTV		✓			38			•	•	 Improve community safety
Level crossing upgrades	✓	✓			15			•	•	 Improve road safety
Road Transport – weighbridge upgrades		✓			10			•	•	 Support economic development
Mount Isa to Tennant Creek railway – investigations	✓	✓		✓	•	•		•		Connect the Alice Springs to Darwin railway with the line between Mount Isa and Townsville

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution				Total Estimated Cost (\$m)		Indicative Sequencing				
	AG	NTG	LG	PRIV		Funding (\$m)	Medium Term (3-5 Years)	Longer Term (6-10 Years)			
Project					2017-18	2018-19			2017-18	2018-19	Medium Term (3-5 Years)
Central Australia											
Territory Roads											
Tanami Road – upgrade to a sealed standard (including WA section)	✓	✓		✓	680	3	•	•	•	 	Support economic development of the mining industry
Plenty Highway, Outback Way – Connecting Queensland through the Territory to Western Australia – reconstruct various sections and widen single lane to two lane seal	✓	✓			320	31	•	•	•	 	Economic enabler for the mining, pastoral, cattle and tourism industries
Maryvale Road – improve the road standard	✓	✓		✓	150	5			•	 	Support delivery of essential services to regional and remote communities
Sandover Highway – sealing selected sections		✓			100	5		•	•	 	Supports community access and the cattle industry
Santa Teresa – sealing selected sections		✓			50			•	•	 	Support delivery of essential services to regional and remote communities
Larapinta Drive – capacity improvements and upgrades including completion of Mereenie Inner loop	✓	✓			36	2		•	•	 	Improve road safety and visitor experience
Lasseter Highway – improve the road standard	✓	✓		✓	34	4		•	•	 	Support economic development of the tourism, cattle and resource industries
Sadadeen Road connector	✓	✓			27				•	 	Improve flood immunity in the Mount Johns Valley and Desert Springs areas
Tjukarauru Road (Outback Way) – improve the road standard	✓	✓			25	10	•	•	•	 	Economic enabler for the mining, pastoral, cattle and tourism industries
Luritja Road – improve flood immunity		✓			8			•		 	Support tourism and local cattle industry
Extend the seal on access road from Ross Highway to Trephina Gorge		✓			2				•	 	Improve access to support the tourism industry
Seal access into Redbank Gorge from Namatjira Drive		✓			1				•	 	Improve access to support the tourism industry
Local Government Roads											
Ilparpa Road upgrade including path	✓	✓	✓		8	•		•		 	Improve road safety
Utopia Health Centre – access road upgrade and seal		✓			5	1				 	Support delivery of essential services to regional and remote communities

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Barkly										
Roads: National Network										
Barkly Highway upgrades	✓	✓			8			•	•	 Economic enabler and key national freight route between the Territory and Queensland
Territory Roads										
Barkly Stock Route – improve the road standard	✓	✓			230	13	•	•	•	 Support economic development of the cattle industry
Tablelands Highway – improve the road standard	✓	✓			100	25	•	•	•	 Support economic development of the cattle industry
Seal access to Devils Pebbles		✓			2				•	 Improve access to support the tourism industry
Katherine										
Roads: National Network										
Victoria Highway – Little Horse Creek and Big Horse Creek upgrades	✓	✓			35	35				 Improve flood immunity
Territory Roads										
Buntine Highway – improve the road standard	✓	✓			250	40		•	•	 Support economic development of the cattle and tourism industries
Roper Highway – sealing selected sections	✓	✓			202	4		•	•	 Support economic development of the cattle, mining and mineral exploration industries
Wollogorang Road – improve the road standard		✓			25	5		•	•	 Support economic development of the cattle industry
Carpentaria Highway – progressively widen, seal from one lane to two lanes and improve flood immunity		✓			25			•	•	 Support economic development of the mining, cattle, and tourism industries and improve community access
Lajamanu Road – capacity improvements and upgrades		✓			13	8		•	•	 Support delivery of essential services to regional and remote communities
Nathan River Road – improve flood immunity		✓			10			•	•	 Improve access to support the tourism industry
Katherine East Arterial – extending Chambers Drive to Bicentennial Drive		✓			6			•		 Support economic development through future land development
Gorge Road – upgrade Maud Creek Crossing		✓			6			•		 Improve access to support the tourism industry
Local Government Roads										
Emungalan Road Leight Creek Bridge construction	✓	✓	✓		3		•			 Improve flood immunity
Internal Roads			✓		3		3			 Improve road safety

	Prospective Contribution				Total Estimated Cost (\$m)		Indicative Sequencing			
				Funding (\$m)						
Project	AG	NTG	LG	PRIV		2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Local Government Roads continued										
Katherine Civilian Airport – upgrades to the apron and terminal		✓	✓	✓	2		•	•		  Support economic development of the agribusiness sector
East Arnhem										
Territory Roads										
Central Arnhem Road – improve the road standard		✓			600		•	•	•	  Improve regional and remote connectivity and support the cattle and tourism industries
Numbulwar Road – improve the road standard including Phelp River crossing		✓			10				•	  Support delivery of essential services to regional and remote communities
Transport Assets										
Nhulunbuy Port upgrades		✓		✓	15			•		  Underpin the development of the agribusiness industry servicing the community and export markets
Top End Rural										
Territory Roads										
Arnhem Link Road (Top Road or West Arnhem Road) improve road standard	✓	✓			290	5		•	•	  Improve regional and remote community connectivity – alternate route to Nhulunbuy
Port Keats Road upgrades – Yellow Creek and Saddle Rail Creek crossings, improved community connections between Wadeye, Palumpa and Peppimenarti	✓	✓			180	23	•	•	•	  Support economic development of the tourism and potential cattle and gas industries and improve community access
Arnhem Highway – upgrades (other than Adelaide River Floodplain)	✓	✓			109		•	•	•	  Support economic development of the tourism, defence, mining, extractive and livestock industries
Keep River Plains Road upgrade	✓	✓			80	58	•			  Support Project Sea Dragon (proposed aquaculture farm at Legune station) and Ord River Stage 3 project
Arnhem Highway Adelaide River Floodplain	✓	✓			78	•	•			  Improve flood immunity at the Adelaide River crossing
Douglas – Daly Roads – new works and upgrades	✓	✓			58			•	•	  Support economic development of agribusiness industries
Kakadu Highway – improve the road standard		✓			55				•	  Improve access to support the tourism industry
Kambolgie Creek Crossing upgrade	✓	✓			5	5				  Improve access to support the tourism industry
Corroboree Billabong access road upgrade	✓	✓			2	2			•	  Improve access to support the tourism and recreational fishing industries
Improve access to Sandy Creek (Litchfield National Park)		✓			2			•		  Improve access to support the tourism industry

	Prospective Contribution				Total Estimated Cost (\$m)		Indicative Sequencing			
						Funding (\$m)				
Project	AG	NTG	LG	PRIV		2017- 18	2018- 19	Medium Term (3-5 Years)	Longer Term (6- 10 Years)	Key Drivers
Transport Assets										
Mandorah jetty and ferry terminal		✓			40				•	 Improved safety for ferry passengers and enable growth of service to meet demand
Local Government Roads										
Tiwi Roads – improve the road standard	✓	✓			73			•	•	 Support economic development of the timber industry and improve community access
Palmerston and Litchfield										
Territory Roads										
Chung Wah Terrace – capacity improvements and upgrades		✓	✓		44			•	•	 Improve network capacity
Weddell Freeway – construct new two lane link form Tiger Brennan Drive to Kirkland Drive	✓	✓			40				•	 Support future land development
Gunn Point Road – upgrade and seal various sections	✓	✓			40		•	•		 Improve connectivity and unlock the potential for future development
Elrundie Avenue – capacity improvements and upgrades		✓			27				•	 Improve connection between gas plants, Middle Arm and East Arm Port
Litchfield National Park Road – including constructing the Lower Finnis River bridge	✓	✓			27	27	•			 Improve access to support the tourism industry
University Avenue – capacity improvements and upgrades		✓			18				•	 Improve network connection
Cox Peninsula Road – upgrade intersections to improve capacity and safety		✓			14			•	•	 Support development of the extractive industry
Lambrick Avenue – capacity improvements and upgrades		✓			10				•	 Improve network connection
Roystonea Avenue – capacity improvements and upgrades		✓			7			•	•	 Provide increased north-south capacity to cater for residential development
Upgrade Kirkland Drive and Woodlake Boulevard intersection		✓			3			•		 Improve network connection
Local Government Roads										
Finn Road upgrade	✓	✓	✓		5		•			 Support development of the extractive industry
Darwin										
Roads: National Network										
Berrimah Road – capacity improvements	✓	✓			100				•	 Improve network capacity and safety for increased traffic into the port
Tiger Brennan Drive – Woolner Road intersection overpass	✓	✓			89				•	 Improve network connection

	Prospective Contribution				Total Estimated Cost (\$m)		Indicative Sequencing					
						Funding (\$m)						
Project	AG	NTG	LG	PRIV		2017- 18	2018- 19	Medium Term (3-5 Years)	Longer Term (6- 10 Years)	Key Drivers		
Territory Roads												
McMillans Road – capacity improvements and upgrades	✓	✓			136			•	•		Improve network connection	
Barneson Boulevard Link – duplication Tiger Brennan Dve, McMinn St to Dinah Beach	✓	✓	✓		40	40	•				Provide commuters with a new option to enter/exit the Darwin CBD	
Vanderlin Drive – capacity improvements and upgrades		✓			37	10		•	•		Provide north-south capacity improvement for access from the northern suburbs	
McMinn Street – capacity improvements and upgrades	✓	✓			30			•			Provide capacity improvements for Darwin CBD circulation and relieve congestion	
Amy Johnson Avenue – begin progressive duplication	✓	✓			28			•			Provide commuters with an alternative connector from northern suburbs to Darwin CBD	
Bagot Road – capacity improvements and upgrades		✓			26			•	•		Improve network connection	
Trower Road – capacity improvements and upgrades		✓			10			•			Improve network connection	
Export Drive – improve flood immunity		✓			2			•			Improve safety and access associated with flooding	
Transport Assets												
Ship Lift Facility		✓		✓	100+	•	•				Provide a common user facility for the general maritime sector and Department of Defence	
Local Government Roads												
Road Resurfacing			✓		19	2	2		•		Network improvement and improve road safety	
Pathway and Footpath Programs and Street Scapes upgrades			✓		28	3	3	•	•		Enhance safety, accessibility, connectivity and amenity	
Boulter Road urban cross section upgrade			✓		6				•		Network capacity improvement and improve road safety	
Cavenagh Street reconstruction			✓		3		2	•			Network capacity improvement	
Chin Quan Avenue upgrades			✓		2			•			Network capacity improvement and improve road safety	
Dinah Beach urban cross section upgrades			✓		2		•	•			Network capacity improvement and improve road safety	
Cavenagh and Bennett Street intersection upgrades		✓			1	1					Provide capacity improvements for CBD circulation and relieve congestion	

Public Safety and Justice



PUBLIC SAFETY AND JUSTICE

Investing in infrastructure for services that support our children, families, justice system and emergency responders is vital to protect our community and keep people safe and resilient.

The Northern Territory is covered by a large network of infrastructure to provide public safety, child protection and justice services for more than 245 000 Territorians.

To do this, the Northern Territory Government provides a range of services focused on juvenile justice, protecting children from harm and helping families. Frontline staff are available throughout the Northern Territory with offices and shopfronts in Central Australia, Tennant Creek, Nhulunbuy, Katherine, Casuarina, and Palmerston. Our first responders manage 70 police facilities and 27 fire stations across 1.3 million square kilometres, including metropolitan, regional and remote areas.

Our family and justice services staff and court system work to protect and promote the rights of victims of crime, the vulnerable and disadvantaged across a large geographical area. Refuges and childcare centres provide support for people coping with family violence, issues with alcohol and other drugs, abuse and neglect.

Challenges

Patterns of demand on child protection, family welfare, police, and emergency services are changing with increasing social issues such as family violence, substance abuse and mental illness. As our population steadily increases more infrastructure is needed to deliver these services.

The recent review of Northern Territory correctional services and the Royal Commission into the Protection and Detention of Children in the Northern Territory may change future infrastructure requirements, particularly for youth. The Northern Territory's approach to youth justice will emphasise a rehabilitation and restorative approach instead of incarceration and punishment.

More people living in the Northern Territory means an increase in the number of prisoners, increasing pressure on our justice system and correctional centres. More severe weather events predicted in the future will put pressure on our family welfare workers, emergency services, and infrastructure to ensure adequate emergency response and recovery arrangements can be sustained, particularly in remote communities.

Our child protection and family welfare workers, police and emergency services need to explore more collaborative approaches to issues with a greater range of strategic partnerships.

Opportunities

Ageing infrastructure used to deliver child protection and family welfare services, public safety and justice needs to be phased out and replaced with new buildings and modern technology designed to save resources and help tackle significant distance, between services and communities.

New infrastructure and technology is vital to improving how services are delivered to Northern Territory families, our youth and people living in remote and regional communities.

A recently upgraded Joint Emergency Services Communications Centre increased the effectiveness and efficiency of our



emergency response, with opportunities to use technology to improve capabilities.

Integrated child and family centres and an upgraded women's shelter in Alice Springs will support our children and families and help keep them healthy and safe from family violence. Centres like the Tennant Creek Community Based Children's Care Centre enable vulnerable children from the local region to remain connected to their community and family as a short term residential care option, while longer term care plans are arranged.

New court and prison facilities in Tennant Creek and Alice Springs, as well as a new Children's Court in Darwin, help tailor our justice and correctional services to people in remote communities and youth. Infrastructure for court support services in remote communities enable vulnerable witnesses to give evidence in court proceedings without leaving their community and support networks.

The Northern Territory Government is exploring options to improve or replace the youth detention centres. The challenge for facility design is to achieve an affordable balance between security, safety, opportunity for rehabilitation and reintegration, response to gender, cultural and individual needs of young people, as well as providing appropriate health, mental health and education programs.

The Northern Territory is undergoing one of the most comprehensive overhauls of the youth justice system. Fifty two new youth diversion workers will focus on victims and diversionary programs. The aim is to help

stop crime before it happens and break the cycle. Youth diversion workers will be based in major centres across the Northern Territory and will work with police, education and non-government organisations.

Investment needs

Extensive investment is needed to support services for the protection of children and families, the justice system and our first responders to:

- provide youth-focussed infrastructure that focusses on diversionary programs, creating after hours activities for youth and reintegrating young people back into the community
- explore opportunities for private sector investment in infrastructure to support children, families, the justice system and our police, fire and emergency services
- keep the community safe through frontline police services and crime reduction initiatives
- provide a strong, responsive, contemporary justice system by support courts, tribunals and corrections facilities
- provide effective and efficient emergency response to minimise the impact of disasters on the community.

Priority Projects

- **Youth detention centres** – replace the Don Dale and Alice Springs youth detention facilities.
- **New Police Station and watchhouse in Palmerston** – to meet an increase in demand.

Key objectives				
Ensure a safe and resilient community by supporting the vulnerable and disadvantaged, and protecting children from harm.	Provide a strong, responsive, contemporary justice system to ensure everyone has access to opportunities and resources to participate in society.	Prevent crime by reducing domestic and family violence, focus on youth crime and target the drivers of crime including alcohol and other drugs.	Achieve an affordable balance between security, safety, opportunity for rehabilitation and reintegration with youth-focussed infrastructure.	Enhance the resilience and response capability of our emergency services.

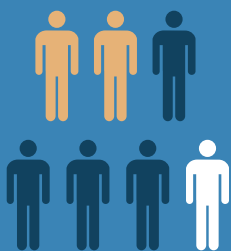
PUBLIC SAFETY AND JUSTICE SNAPSHOT



10
courts



32
circuit courts



2110 full time NTPFES
personnel
400 NT Emergency
Service volunteers
52 youth workers

2 juvenile justice facilities

6

Territory
Families
shopfronts



8

residential
care facilities

58 police stations

3

police
shopfronts



6

police posts

11 fire stations

16

volunteer
fire stations



33

emergency
volunteer units

NT fire rescue and emergency service responded to
7322 fire and emergency incidents in 2015-16



18
flood events



26
land, marine
and air searches



1567
grass fires



563
road crash
rescues

PUBLIC SAFETY AND JUSTICE

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Territory Wide										
Remove asbestos to enable infrastructure upgrade	✓	✓			200	20	20	•	•	 System wide removal of asbestos in government assets
Bail support accommodation including Darwin and Alice Springs		✓			15	15				 Improve outcomes for people in detention
Upgrade women's shelters		✓			6			•		 Improve support for victims of domestic violence
New facilities for the Northern Territory Civil and Administrative Tribunal in Alice Springs and Darwin		✓			6			•		 Increase in service requirements
Relocate Director of Public Prosecutions offices in Alice Springs, Darwin and Katherine		✓			6			•		 Increase in service requirements and improve proximity to courts
New youth detention facilities in Darwin and Alice Springs		✓			•		•	•		 Improve outcomes for young people in detention
Central Australia										
Ntaria (Hermannsburg) police station upgrade	✓				9				•	 Increase in service requirements and improve community safety
New women's shelter		✓	✓	✓	9	9				 Improve support for victims of domestic violence
Alice Springs increase courts capacity		✓			3	1				 Increase in service requirements
Refurbish local courts to cater for domestic violence cases		✓			3	3				 Increase in service requirements
Alice Springs Youth Detention Centre rectification works		✓			1	1				 Improve outcomes for young people in detention
Barkly										
Kulumindini (Elliott) police station upgrade		✓			9			•		 Increase in service requirements and improve community safety
Katherine										
Upgrade Kalkarindji, Lajamanu, Maranboy, Mataranka, and Timber Creek police stations	✓	✓			47			•	•	 Increase in service requirements and improve community safety
Wadeye multi purpose police station and accommodation	✓				28	4				 Increase in service requirements and improve community safety

A lesser figure in the 2017-18 and 2018-19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6-10 Years)	
Project						2017-18	2018-19			
Katherine continued										
New Katherine Fire Station	✓				13	8		•		 Provide effective emergency response and improve community safety 
Katherine Court House additional court room		✓			2			•		 Increase in service requirements 
East Arnhem										
Upgrade Angurugu and Alyangula police facilities	✓				10	10				 Increase in service requirements and improve community safety 
Nhulunbuy police station upgrade		✓			2				•	 Increase in service requirements and improve community safety 
Galiwinku safe house		✓			1	1				 Improve support for victims of domestic violence 
Nhulunbuy Courthouse additional ablution facility		✓			1			•		 Address work, health and safety issues 
Top End Rural										
Maningrida police station upgrade	✓				19			•		 Increase in service requirements and improve community safety 
Wurruymiyanga (formerly Nguiu) police station upgrade		✓			11			•		 Increase in service requirements and improve community safety 
Palmerston and Litchfield										
Palmerston new police station including watch house, regional emergency operations centre and a community hall		✓			26	26				 Increase in service requirements and improve community safety 
Palmerston Fire Station relocate and upgrade		✓			11			•	•	 Provide effective emergency response and improve community safety 
Winnellie and Batchelor Regional Bushfire Response Centre upgrade facilities		✓			8			•		 Provide effective emergency response and improve community safety 
Coolalinga new fire station		✓			5				•	 Provide effective emergency response and improve community safety 
Darwin										
Peter McAulay Centre upgrades		✓			22	3		•	•	 Increase in service requirements and improve community safety 
Don Dale Youth Detention Centre rectification works		✓			6	6				 Improve outcomes for young people in detention 

Health



HEALTH

An accessible and equitable health system is critical to achieving quality of life in the Northern Territory.

Our sparse but growing population dictates where and how health services are accessed, whether it is health clinics in remote areas, a dental clinic or a hospital in a regional area.

Innovation in health delivery changes how we receive care and access health infrastructure.

While the Northern Territory Government's goal is to promote good health and prevention to minimise the number of people who need to go to hospital, an ageing population experiencing increasingly complex and chronic conditions means more hospital beds and specialty health care are needed.

Delivering health care to a population of 245 000 people over 1.3 million square kilometres is resource intensive, requiring good transport links and reliable infrastructure.

Demand for our health services continues to grow with the adoption of new technologies, service expansion and innovation to meet the growing needs of our population.

Challenges

Health infrastructure in the Northern Territory, including remote clinics, primary health care centres and our seven hospitals is valued at \$1.353 billion. Most of this infrastructure was built in the 1960s, 1970s and 1980s. Estimates show our ageing infrastructure depreciates in value by about \$27 million each year.

While the Northern Territory is known for its young population, the proportion of Territorians aged 65 years and over has almost doubled between 1995 and 2015. At the same time, people are living longer and are choosing to remain in the Territory. This brings a higher health burden and the need for more specialised care, including palliative care services, aged care services,

acute and sub-acute hospital and primary care services.

Aboriginal people account for almost 30 per cent of the Northern Territory population and more than half of Aboriginal Territorians live in very remote areas, making it challenging to provide affordable and equitable health care. Remote health centres, with renal dialysis capabilities where possible, as well as housing for health care staff in remote communities present significant needs, as well as aviation infrastructure to support health services in remote communities and homelands.

Advances in medicine, surgery and imaging technology offer the promise of improving health services and outcomes but require specialised infrastructure to cater for them, such as the Positron emission tomography (PET) scanner, which has certain building requirements to be installed at Royal Darwin Hospital.

Changing chronic health needs put pressure on the need for new infrastructure. A higher percentage of Territorians smoke tobacco and drink alcohol at harmful levels than other Australians, and along with poor diet and inadequate exercise, these are significant risk factors for developing chronic diseases and increased demand for health services.



Opportunities

Supporting the earliest years of life, including for pre-pregnancy planning, provides the best opportunity for the infant, child and later adult to achieve their full potential. Improving early childhood development is critical to ensure vulnerable children have access to the best health care.

Child and family centres are being built to combine services in one place, including early childhood care and maternal health, family support and adult education services in a way that works in partnership with children and families. Health centres in Aboriginal communities need to have culturally appropriate design to accommodate men and women.

An audit of all health infrastructure is being completed to identify the greatest areas of need and a master plan will be developed for all Northern Territory hospitals to prioritise local treatment for the majority of health needs, so people don't need to travel interstate for health services.

Along with significant renovations of our biggest hospitals – Royal Darwin Hospital and Alice Springs Hospital – a new 116-bed Palmerston Regional Hospital is being built to cater for our growing population and renovations are needed at the Katherine Regional Hospital.

The Northern Territory Government works in partnership with Aboriginal community controlled health organisations, private health practitioners, the Primary Health

Network, Aboriginal Medical Service Alliance (AMSANT), Darwin Private Hospital, day surgery practices, non-government organisations and peak bodies to increase health services for all patients.

Making telehealth a standard service in remote communities and supporting technology that allows more day surgery, will help reduce the length of hospital stays and pressure on the capacity of our local hospitals.

Investment needs

Our health sector requires significant investment to:

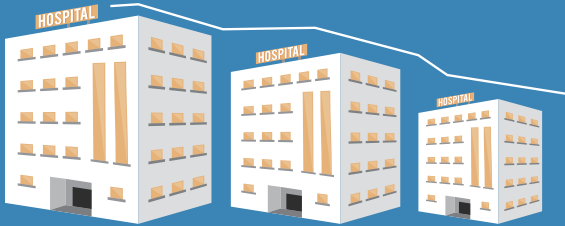
- upgrade or replace ageing health infrastructure so it meets the needs of the future
- support new technology to increase access to state-of-the-art medical facilities
- improve services to cater for our ageing population as well as our children
- improve health care services for Aboriginal people living in urban and remote areas.

Priority Projects

- **Finalise Palmerston Regional Hospital** – a 116-bed hospital in Palmerston.
- **Royal Darwin Hospital upgrade** – upgrade to enhance paediatric, out-patients and pre-admission facilities.
- **Royal Darwin Hospital New PET scanner** – deliver a PET scanner and cyclotron.
- **Alice Springs Hospital upgrade** – new palliative care facility.

Key objectives				
Promote and protect health and wellbeing of all Territorians.	Deliver appropriate care to vulnerable people and populations across their lifespan.	Improve Aboriginal health outcomes and close the gap in health and wellbeing.	Better coordinate and integrate care to improve pathways and consistency of care for patients.	Strive for clinical excellence to improve the quality and safety of patient care.

HEALTH SNAPSHOT



Health infrastructure valued at
\$1.353 billion
depreciating by \$27 million per year

7 HOSPITALS
IN THE NT



Royal Darwin Hospital **367 beds**
Darwin Private Hospital **104 beds**
Alice Springs Hospital **183 beds**
Palmerston Regional
Hospital (under construction) **116 beds**
Katherine Hospital **60 beds**
Tennant Creek Hospital **20 beds**
Gove District Hospital **30 beds**
and **2** medical schools



remote health centres

19 

primary healthcare and other health service
delivery related owned facilities

74 100 

public hospital admissions

 **144 500**
emergency department
presentations

 **3370** babies born

46 600 

patients attended by
St John Ambulance

6850 

specialist outreach services to
remote communities



6640

staff working in public
health system in NT

HEALTH

	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6-10 Years)	
Project						2017-18	2018-19			
Territory Wide										
Morgue upgrades and remote morgue replacements	✓	✓			28	3		•	•	 Meet service requirements and compliance and asset standards
Repair and improve Remote Primary Health Care Centres		✓			10			•		 Improve service delivery and health outcomes
Remote Area satellite renal rooms (Renal-ready rooms)		✓			•	1		•	•	 Deliver renal services to improve health outcomes
Alcohol and Other Drugs rehabilitation facilities		✓			•			•		 Improve delivery of rehabilitation services
Central Australia										
New Health Centres – Alcoota, Bonya, Finke, Haasts Bluff, Imanpa, Mt Liebig, Nyirripi, Santa Teresa, Ti Tree, and Yuendumu	✓	✓			80			•	•	 Improve service delivery, health outcomes and support population growth
Relocate pathology/ mortuary to Liebig building site and rebuild Liebig building		✓			11			•		 Meet service requirements and compliance and asset standards
New palliative care facility	✓	✓			6	3				 Provide quality health care services for patients and their families facing life-threatening illness
New dental clinics for health centres – Canteen Creek, Epenarra, Harts Range, Laramba, Mt Liebig, Ti Tree, Willowra, Yuelamu		✓		✓	3			•		 Improve service delivery, health outcomes and support population growth
Construct two additional consulting rooms and pharmacy store at Ti Tree		✓		✓	1			•		 Improve service delivery, health outcomes and support population growth
Renal facilities in Hermannsburg (Ntaria)		✓			•			•		 Deliver renal services to improve health outcomes
Alice Springs Hospital upgrades – emergency electrical equipment, fire rectification, services wells fire, services block and maintenance workshop, inpatient wing, cognitive care facility, ward, accommodation, lift shaft, wet area, rationalise car parking	✓	✓			•			•	•	 Upgrade hospital facilities to improve service delivery, health outcomes and support population growth
Alice Springs Hospital renewal of building services – laundry, chillers and boilers, services building fire remediation, electrical risers		✓			•			•		 Upgrade hospital facilities to improve service delivery, health outcomes and support population growth

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Central Australia continued										
Alice Springs new renal facility		✓			•			•		  Deliver renal services to improve health outcomes
Flynn Drive Medical Facility major refurbishment		✓			•			•		  Improve service delivery, health outcomes and support population growth
Refurbish health centres – Areyonga, Harts Range, Kings Canyon (Watarrka), Laramba (Napperby), Mt Allan (Yuelamu), Wallace Rock Hole, Wilora, and Willowra		✓			•			•	•	  Improve service delivery, health outcomes and support population growth
Additional Remote Health Centre staff accommodation		✓			•			•		  Provide accommodation for visiting consultants who deliver health services in remote communities
Barkly										
New health centres – Ali Curung, Lake Nash (Alpururulam), Epenarra (Wutunugurra)	✓	✓			24				•	  Improve service delivery, health outcomes and support population growth
Tennant Creek Hospital upgrades and expansion – theatre complex, renal extensions, wards, kitchen, chillers, building management system, and expand Emergency Department (discreet Birthing/SARC/ Women's Health Unit)		✓			•			•	•	  Upgrade hospital facilities to improve service delivery, health outcomes and support population growth
Elliott Health Services re-purpose old clinic to education facility and upgrade staff accommodation		✓			•			•		  Provide housing and training opportunities for government employees who deliver health services in remote communities
Renovate/expand general practice, telehealth, outpatient clinic area, and primary health care corridor		✓			•				•	  Improve service delivery, health outcomes and support population growth
Ali Curung Health Centre expansion		✓			•				•	  Improve service delivery, health outcomes and support population growth
New Health Education Facility and temporary staff accommodation in Ali Curung, Epenarra, Alpururulam (Lake Nash)		✓			•			•	•	  Provide housing and training opportunities for government employees who deliver health services in remote communities
Refurbish Health Centres – Corella Creek, Illuwurru, Tara (Neutral Junction)		✓			•				•	  Improve service delivery, health outcomes and support population growth

	Prospective Contribution						Indicative Sequencing			
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Katherine										
New Health Centres – Beswick, Binjari, Borroloola, Bulman, Jilkminggan, Kalkarindji, Pigeon Hole, Pine Creek, Timber Creek, Urapunga (Rittarangu)	✓	✓			80			•	•	 Improve service delivery, health outcomes and support population growth
Refurbish Health Centres – Amanbidji (VMO included), Barunga, Bulla, Lajamanu (Hooker Creek), Mataranka and Minyerri		✓			24				•	 Improve service delivery, health outcomes and support population growth
Katherine Hospital upgrades – computed tomography (CT) room – air-conditioning – ward refurbishments		✓			•			•	•	 Upgrade hospital facilities to improve service delivery, health outcomes and support population growth
Aged care services in the Katherine region	✓				•			•		 Provide specific aged care services to improve health outcomes and enable people to remain in their community
East Arnhem										
New Health Centres in Alyangula, Angurugu, Gapuwiyak, Numbulwar and Ramingining	✓	✓			32			•	•	 Improve service delivery, health outcomes and support population growth
Complete Gove District Hospital fire safety systems and Emergency Department upgrades	✓	✓			14	9				 Upgrade hospital facilities to improve service delivery, health outcomes and support population growth
Gove District Hospital replacements – generator – main switchboard – chilled water air handling unit	✓	✓			•			•	•	 Upgrade hospital facilities to improve service delivery, health outcomes and support population growth
Milyakburra (Bickerton Island) Health Centre refurbish		✓			•				•	 Improve service delivery, health outcomes and support population growth

	Prospective Contribution				Total Estimated Cost (\$m)		Indicative Sequencing			Key Drivers
						Funding (\$m)				
Project	AG	NTG	LG	PRIV		2017- 18	2018- 19	Medium Term (3-5 Years)	Longer Term (6- 10 Years)	
Top End Rural										
New Health Centres at Adelaide River, Belyuen, Gunbalanya, Jabiru, Palumpa (Nganmarriyanga), Pirlangimpi	✓	✓			48			•	•	 Improve service delivery, health outcomes and support population growth
Health Centre expansion at Maningrida and Peppimenarti		✓			•			•	•	 Improve service delivery, health outcomes and support population growth
Nguiu renal unit expansion and refurbishment		✓			•				•	 Deliver renal services to improve health outcomes
Refurbish health centres at Julanimawu (Nguui), Nauiyu, Milikapiti, Minjilang, Wadeye (Port Keats), Warruwi, Woodcupuldiya		✓			•				•	 Improve service delivery, health outcomes and support population growth
Palmerston and Litchfield										
Complete the construction of the 116 bed Palmerston Regional Hospital	✓	✓			169	49				 Deliver a new hospital to improve service delivery, improve health outcomes and support population growth
Palmerston Renal Services expansion – 30 bed renal patient accommodation unit		✓			9			•		 Deliver renal services to improve health outcomes
Batchelor new health centre		✓			8				•	 Improve service delivery, health outcomes and support population growth
Palmerston expand oral health services		✓		✓	4			•		 Improve service delivery, health outcomes and support population growth
Palmerston Regional Hospital hydrotherapy pool		✓			3		3			 Improve service delivery and health outcomes
Palmerston Super clinic – upgrade air-conditioning and refurbishment		✓			•			•		 Improve service delivery, health outcomes
Palmerston new ambulance station		✓			•			•		 Improve service delivery, health outcomes and support population growth

	Prospective Contribution					Indicative Sequencing				
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Darwin										
Royal Darwin Hospital – Positron emission tomography (PET) scanner and cyclotron	✓	✓			18	18				  Enable Territory cancer patients to undertake detection and treatment services closer to home
New Health Headquarters – office accommodation for the Department of Health and Top End Health Services – Clinic 34 additional office space and renovations		✓			16			•		  Facilitate the co-location of Territory Health staff
Royal Darwin Hospital multi-storey car park		✓			12	12				  Improve access to the hospital for patients, carers and staff
Royal Darwin Hospital 36 bed cognitive care facility		✓			11			•		  Improve service delivery, health outcomes and support population growth
Nightcliff Renal Facility replace or refurbish and increase number of chairs		✓			10	10				  Deliver renal services to improve health outcomes
Alan Walker Cancer Care Centre – 12 chemotherapy chair expansion		✓			5	5				  Improve service delivery, health outcomes and support population growth
Royal Darwin Hospital – refurbishment on-site staff accommodation		✓			5			•		  Provide accommodation for government employees who deliver health services
Darwin and Palmerston renal services expansion – Home Therapies Unit		✓			4			•		  Consolidate existing functions to deliver renal services to improve health outcomes
Royal Darwin Hospital upgrades – wards, autoclave surgical, intensive care, theatre, patient and staff lift refurbishment, pharmacy, biomedical, loading dock, waste handling, chilled water reticulation, electrical distribution boards, engineering services, medical imaging, kitchen, medical records and equipment stores		✓			•			•	•	  Upgrade hospital facilities to improve service delivery and health outcomes
Replacement of Tamarind Centre		✓			•				•	  Improve service delivery, health outcomes and support population growth
Alan Walker Cancer Care Centre and Barbara James House refurbishments		✓			•				•	  Deliver quality care services for cancer patients

	Prospective Contribution						Indicative Sequencing			
				Funding (\$m)						
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Darwin continued										
Royal Darwin Hospital – Upgrade of services and facilities – Boiler House (and steam plant) – Centre for Disease offices – Tuberculosis Clinic		✓			•			•		 Upgrade hospital facilities to improve service delivery and health outcomes
Royal Darwin Hospital review and rationalise campus leading to refurbishments and possible replacement of buildings for: – Critical Medical Systems Server – Mental Health – Drug and Alcohol Rehabilitation – Forensic Pathology – Mortuary and Bereavement Centre		✓			•			•		 Upgrade hospital buildings to improve service delivery and health outcomes

Housing



HOUSING

Safe, secure and affordable housing is fundamental to people's wellbeing so they can raise healthy families, work and contribute to the Northern Territory economy.

It's critical for our economy that we unlock the housing market so people will invest in the Territory and call it home.

Having a good home leads to good education, good health and good outcomes for the community.

Planning to ensure that suitable land is identified for efficient residential development long into the future is critical. We need to meet the continued demand for traditional low density houses on individual lots, and increase the choices in housing types, both on higher density more compact urban residential lots and a range of rural lifestyle lots.

We need to plan not just in our cities but also in our most remote areas, and across the housing continuum from homelessness, transient support and crisis accommodation to social housing, affordable rentals and home ownership options.

Support is offered at each point of the housing continuum from funding the non-government sector to supporting a range of crisis, short term, transitional and longer term accommodation options, to managing 12 000 dwellings for public housing.

Challenges

The most significant infrastructure shortage and social issue impacting on Territorians is the lack of sufficient decent affordable housing in remote communities.

There is a total of 73 remote communities, 43 town camps and more than 500 homelands over 1.3 million square kilometres in the Northern Territory. The distance of some of these communities from regional centres provides a challenge to building housing infrastructure, including increased freight costs and transport access.

The Northern Territory has the highest homelessness rate in the nation, which places a strain on other social service providers.

Homelessness varies from people living in overcrowded dwellings, particularly in remote areas, to people in urban centres sleeping rough. Overcrowding impacts on the health of people in remote and regional communities.

The Northern Territory has a very high volume of public housing dwellings compared to other states in Australia, for example 6.2 per cent of overall housing stock is public housing in Darwin, compared to other capital cities where the average is 3.2 per cent.

Many regional centres have experienced growth and development in recent years, resulting in an increase in population and a subsequent increase in housing demand, impacting on housing affordability.

Opportunities

The Northern Territory Government is rolling out a 10-year program to spend \$1.1 billion on remote housing.

The program will involve building new homes under HomeBuildNT, a focus on repairs and maintenance as well as the Room to Breathe program that will fund new living spaces in



existing homes in remote communities. The project focusses on extensions to existing homes to reduce overcrowding, while creating local jobs.

People in remote communities want to be more involved in designing, delivering and managing new housing. Involving local people in the design stage allows the housing to reflect the cultural as well as physical needs of the community. More housing matched to need can be provided through redeveloping old housing, building new houses and leasing to provide flexibility in delivering housing.

A key opportunity to increase housing diversity is to use undeveloped or underdeveloped sites in established areas. There are infrastructure efficiencies associated with more compact urban forms and infill residential development, particularly on underutilised land close to existing transport networks and community or commercial facilities.

Integrating new and existing residential development to maintain character and create a cohesive society that meets the diverse needs and aspirations of all sectors of our community are important.

The Northern Territory encourages a diverse range of housing types to cater for changing demographics (including single person households and an ageing population), to meet increasingly diverse community aspirations and minimise the impacts of development on established areas.

Investment needs

Significant investment in infrastructure is needed in the housing sector to:

- reduce homelessness
- provide public and affordable housing in urban and remote areas of the Northern Territory
- add housing stock to the rental and first home buyer housing market
- provide homes for people living in remote communities.

Priority Projects

- **\$1.1 billion remote housing program** over 10 years to deliver:
 - Room to Breathe program to extend living spaces
 - HomeBuildNT program to build new houses in remote communities
 - Repairs and maintenance on existing houses in remote communities.
- **Additional Government Employee Housing**, including for locally recruited employees, to support service delivery.

Key objectives			
Sustainable housing supply, considering affordability, to meet the needs of Territorians now and in the future.	Sustainable communities where the housing system supports communities to grow and prosper.	Sustained wellbeing for people with a housing system that supplies the right options to the right people at the right time.	Offer an affordable and accessible housing system for eligible Territorians.

HOUSING SNAPSHOT

Remote Housing Program to spend \$1.1 billion over 10 years:



In Remote Areas Since 2008



1189
new houses built

998
homes upgraded



\$18.9 million

in grant money was provided to

16 non-government
organisations

to provide **52 services**

to homeless Territorians in 2015–16



2929
homes refurbished and rebuilt



HOUSING

	Prospective Contribution						Indicative Sequencing				
				Funding (\$m)							
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers	
Territory Wide											
HomebuildNT – construct new housing – \$1.1 billion Remote Indigenous Housing program		✓			500	50	50	•	•		Reduce overcrowding in remote communities
Government Employee Housing – \$1.1 billion Remote Indigenous Housing program		✓			200	10	10	•	•		Improve access to housing for government employees who deliver government programs in remote communities
Room to Breathe Program – \$1.1 billion Remote Indigenous Housing program		✓			200	20	20	•	•		Reduce overcrowding in remote communities
Repairs and maintenance – \$1.1 billion Remote Indigenous Housing program		✓			200	20	20	•	•		Maintain existing infrastructure
Urban Public Housing rolling program		✓			200	20	20	•	•		Provide safe, secure and affordable housing for people on low incomes
Remote Indigenous Housing – new housing, upgrades, and asbestos removal	✓				48	39					Reduce overcrowding, improve housing conditions and health outcomes in remote communities
Government Employee Housing – new housing and upgrades	✓				19	11					Provide housing for government employees who deliver programs in remote communities



A lesser figure in the 2017-18 and 2018-19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution						Indicative Sequencing			
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Central Australia										
New houses – Arlparra (Utopia), Mutitjulu, and Wilora	✓				24	13				 Provide safe and secure housing to support population growth and improve health outcomes
Upgrade houses – Imanpa, Laramba, Santa Teresa and Willowra	✓				15	7				 Improve health outcomes through ongoing maintenance of existing dwellings
Yuendumu demolish and construct houses	✓				1	1				 Provide safe and secure housing to support population growth and improve health outcomes
Construct new defence houses and upgrade existing defence houses	✓				•	•				 Provide supportive housing for defence personnel and their families
Barkly										
Demolish and construct houses – Ampilatwatja, Borroloola, and Wutunugurra	✓				21	20				 Provide safe and secure housing to support population growth and improve health outcomes
Alpururulam new houses and upgrades	✓				8	4				 Provide safe and secure housing to support population growth and improve health outcomes
Upgrade dwellings – Ali Curung and Tennant Creek	✓				6	4				 Improve health outcomes through ongoing maintenance of existing dwellings
Katherine										
New houses and upgrades – Binjari, Jilkminggan, Minyerri, Ngukurr, Pigeon Hole, Robinson River, Wadeye, Kalkarindji and Yarralin	✓				52	48	•			 Provide safe and secure housing to support population growth and improve health outcomes
Demolish and construct houses – Amanbidji, Barunga, Beswick, Bulla, Lajamanu and Rittarangu	✓				16	14				 Provide safe and secure housing to support population growth and improve health outcomes
Roper Gulf staff housing for local government employees			✓	✓	10			•		 Provide housing for government employees who deliver government programs in remote communities
Construct new defence houses	✓				•	•				 Provide supportive housing for defence personnel and their families

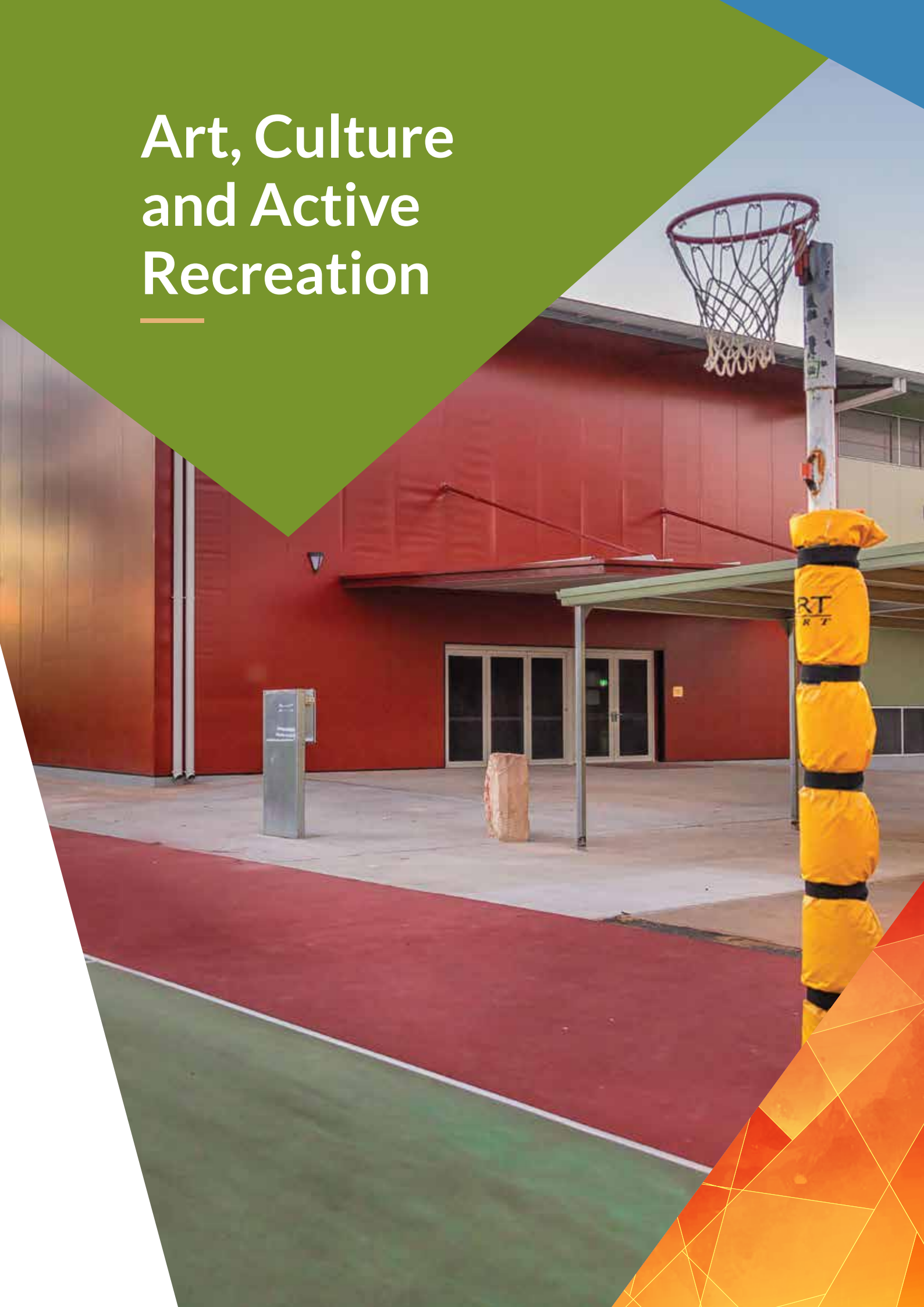
	Prospective Contribution						Indicative Sequencing			
						Funding (\$m)				
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
East Arnhem										
Galiwinku Cyclone Lam rebuild	✓	✓			39	36				 Cyclone disaster housing recovery
New houses and upgrades – Angurugu, Galiwinku, and Umbakumba	✓				33	19				 Provide safe and secure housing to support population growth and improve health outcomes
New houses – Gapuwiyak, Gunyangara, Ramingining, and Yirrkala	✓				17	16				 Provide safe and secure housing to support population growth and improve health outcomes
Gunyangara new employee accommodation and replace community housing	✓				6	6				 Provide housing for government employees who deliver government programs in remote communities
Top End Rural										
New houses and upgrades – Bathurst Island (Wurruyiyanga), Gunbalanya, Maningrida, Milikapiti and Pirlangimpi	✓				32	25				 Provide safe and secure housing to support population growth and improve health outcomes
Belyuen demolish and construct dwellings	✓				3	3				 Provide safe and secure housing to support population growth and improve health outcomes

Supporting the community with housing choice:

Homelessness	Support accommodation	Social housing	Affordable rental	Private rental	Home ownership
Crisis and emergency accommodation	Transitional and supported accommodation for people at risk of homelessness	Public and community housing	Affordable housing options for low to middle income earners	Opportunities to enter the private housing market	Housing independence and ownership

	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6- 10 Years)	
Project						2017- 18	2018- 19			
Palmerston and Litchfield										
Rosebery, new dwellings at 50 and 52 Wood Crescent		✓			3	2				 Increase availability of public housing
Darwin										
Fannie Bay, 7 Waratah Crescent – residential redevelopment		✓			30		20	•		 Provide innovative medium density housing options
RAAF Darwin – Defence Housing Australia married quarters redevelopment	✓				•	•				 Provide supportive housing for defence personnel and their families
New houses – RAAF Darwin, Lee Point and Muirhead North	✓				•	•				 Provide supportive housing for defence personnel and their families

Art, Culture and Active Recreation



ART, CULTURE AND ACTIVE RECREATION

The Northern Territory has a thriving, imaginative and innovative creative economy and our arts, heritage, culture and recreational lifestyle are some of our best assets.

Aboriginal people, their culture and relationship to the land are acknowledged as key to our cultural identity and cultural economy. With 26 per cent of Territorians speaking a language other than English at home, our cultural diversity is a key strength and characteristic of our identity.

Art and cultural activities deliver cultural, social and economic value to the Northern Territory and our heritage, sports and outdoor lifestyle attracts new Territorians and tourists alike.

Our parks and reserves provide the local community and our visitors with opportunities to immerse in nature, experience culture, value our wildlife and enjoy the serenity of our natural environment.

Sport, fishing and spending time outside is what makes the Territory lifestyle the most liveable and envied. Local, regional and national sporting opportunities develop our young sports men and women while international sporting events inspire and attract new tourism revenue.

Challenges

The Museum and Art Gallery of the Northern Territory at Bullocky Point in Fannie Bay was built in 1981 and is outgrowing its physical infrastructure. Infrastructure for other arts and culture activities have strong links to heritage and require upkeep, such as Browns Mart and the Myilly Point Heritage Precinct in Darwin and the Old Telegraph Station in Alice Springs.

As more sporting bodies pursue closer links to the Northern Territory, such as AFL, Tennis Australia and NRL, there is more pressure for our sporting arenas and facilities to meet higher national and international standards. Smaller volunteer-based clubs have limited

resources to fund their own infrastructure.

As our population and visitor numbers grow, so does the pressure on the capacity and infrastructure at our parks and reserves to provide recreation opportunities while protecting their unique natural value.

Limitations in urban design can hinder safe walking, riding and other recreational pursuits.

Opportunities

Art galleries, museums and cultural centres are spread all over the Northern Territory, through our city, regional centres and remote communities—hosting exhibitions, workshops, festivals and events to showcase the Northern Territory's arts and culture.

Central to the cultural stories told through these centres is one of the oldest cultures of the world. Linking places where Aboriginal art and culture are celebrated will create an Indigenous Arts Trail to showcase the hidden gems of our local art economies.

A Museums Master Plan for Darwin will be developed to prioritise and provide a framework and direction to develop cultural infrastructure in the Darwin city area.

More infrastructure attracts more people, with more than 69 000 people attending



events at the Darwin Waterfront in 2015–16 – 10 000 more than the previous year – attracted by new events, venues and activities including the historic Bombing of Darwin Harbour facility on Stokes Hill Wharf.

Over \$20 million has been spent on projects to develop and invigorate both Casuarina Coastal Reserve and Litchfield National Park and has helped increase visitor numbers to about 3.5 million per year. The opportunity exists to further invest in park infrastructure to continue growth in visitor numbers.

Supporting local, national and international sports provides opportunities to upgrade infrastructure to higher standards. Upgrades to the TIO Stadium and tennis facilities in Darwin helped host AFL and NRL fixtures, international cricket and the Davis Cup. The new indoor netball centre in Alice Springs will attract national netball games, as will the planned centre in Darwin.

Upgraded facilities can be used to host the Arafura Games in Darwin and Masters Games in Alice Springs while providing state of the art facilities for our sporting community. More than \$16.3 million in one-off grants for sports infrastructure for our local volunteer-based sporting clubs, including regional tennis centre, lawn bowls, cycling and riding for the disabled were awarded in 2015–16.

Bush sports and cultural events provide many benefits for improved health outcomes, education, community well-being, economic development, and local training to employment of remote and regional Territorians.

Investment needs

Investment in infrastructure for arts, culture and active recreation is needed to:

- provide sporting infrastructure that meets national and international standards and develops the local sporting community
- upgrade infrastructure and roads to our parks and reserves to increase visitor access
- develop state-of-the-art and innovative arts and cultural venues and facilities, informed by industry and community needs
- develop multi-purpose facilities that can be shared to maximise use and share costs.

Priority Projects

- **Iconic National Indigenous Arts Trail** – create a world-class arts trail linking Aboriginal arts and cultural centres, with \$10 million each for art galleries in Katherine, Tennant Creek and Arnhem Land and \$6 million for regional and remote gallery enhancements.
- **Warren Park Redevelopment** – develop a new sporting complex as the home of rugby league at Warren Park, Marrara.
- **Netball Stadium** – expand Marrara Sporting Complex to build a new indoor stadium for year round competition.
- **Recreational fishing infrastructure program** – \$50 million to deliver boat ramp, car park, CCTV and toilet facilities at fishing destinations across the Territory.

Key objectives				
Recognise the value and benefit of arts and culture, particularly Aboriginal art and culture.	Embrace diversity and access for everyone.	Develop a coordinated approach to facility investment and planning.	Expand opportunities for recreation in parks and reserves while protecting their natural and cultural value and assets.	Improve facility and space planning, provision and sharing to maximise the benefits of sport and recreation events.

ART, CULTURE AND ACTIVE RECREATION SNAPSHOT

23 leading arts organisations + 23 festivals

supported by the NT Government, delivering an estimated



1900

exhibitions, workshops,
festivals and events across the NT

to audiences of more than

420 000

in 2015-16



32

public libraries
across the NT

one in three Territorians
are library members

NT Government supported:

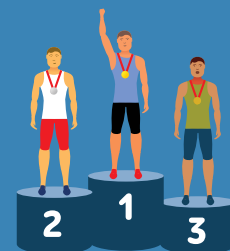


460 athletes

including 16 scholarships

twelve

national and
international sporting
events in 2015-16



Darwin Waterfront attracted in 2015-16



126 300

to the wave lagoon



69 800

people attended 245 events

59 peak sporting
bodies



87

parks and reserves covering
50 069 km² of land and water

32

ranger
stations

3.5 million
park visitors each year

ART, CULTURE AND ACTIVE RECREATION

	Prospective Contribution				Total Estimated Cost (\$m)	Funding (\$m)		Indicative Sequencing		Key Drivers
	AG	NTG	LG	PRIV		2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	
Territory Wide										
Recreational fishing infrastructure program including: Shady Camp, Dundee Beach, Corroboree Billabong, Middle Arm, Dinah Beach, Channel Island, Manton Dam and Nightcliff		✓			50	10	10	•		 Enhance recreational fishing and the Territory's reputation as a world class fishing destination
Oval upgrades, including lighting in urban, regional and remote areas		✓	✓		27	9	9	•		 Enhance liveability through improved recreation facilities
Motor sports infrastructure upgrades across the Territory		✓			23	7	7	•	•	 Provide safe and functional environments for sporting participants and attendees
Upgrade community art galleries, art centres, museums, libraries and keeping places		✓			6	•	•	•		 Enhance liveability through improved community facilities
Parks – walking and mountain bike trails		✓		✓	1	1				 Enhance recreational facilities
Regional towns and remote community local projects – reseal internal roads and improve street lighting – enhance tourism and playground facilities – develop walking trails and camp sites – cemetery upgrades		✓	✓		•	•		•	•	 Deliver small local projects that generate local jobs and skills training and enhance liveability, health and community outcomes in regional towns and remote communities
New civic centres across the regions		✓	✓		•			•		 Enhance delivery of local community services
Central Australia										
Iconic National Indigenous Art Gallery		✓		✓	50			•		 Exhibit and preserve Aboriginal art and culture
Alice Springs CBD Revitalisation (potential Regional City Deals)*	✓	✓	✓	✓	25	•	•	•		 Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy
Neville Shute Public Library development	✓	✓	✓		•				•	 Expand services to meet increased demand
Iconic National Indigenous Cultural Centre		✓		✓	20			•		 Exhibit and preserve Aboriginal art and culture
Alice Springs sporting infrastructure upgrades		✓	✓		6	6		•	•	 Provide safe and functional environments for sporting participants and attendees
Alice Springs Aquatic and Leisure Centre upgrades			✓		1			•		 Enhance liveability through improved recreation facilities

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

	Prospective Contribution				Total Estimated Cost (\$m)		Indicative Sequencing			
						Funding (\$m)				
Project	AG	NTG	LG	PRIV		2017- 18	2018- 19	Medium Term (3-5 Years)	Longer Term (6- 10 Years)	Key Drivers
Barkly										
Tennant Creek Art Gallery extensions – connect the Iconic National Indigenous Arts Trail		✓		✓	10		10			 Provide opportunity for increased visitor numbers and length of stay in the Territory
Purkiss Reserve upgrades		✓		✓	5	5				 Improve amenity for sporting participants and attendees
Katherine										
Katherine Art Gallery extensions – connect the Iconic National Indigenous Arts Trail		✓		✓	10		10			 Provide opportunity for increased visitor numbers and length of stay in the Territory
Ngukurr multi-purpose sporting complex			✓		5				•	 Provide safe and functional environments for sporting participants and attendees
Ngukurr multi-purpose centre			✓		3		•			 Enhance delivery of local community services
Roper Gulf Regional Council Office upgrade and new Victoria Daly Regional Council Office			✓		3	•		•		 Enhance delivery of local community services
Borroloola multi-purpose sporting complex upgrade			✓		2		•			 Provide safe and functional environments for sporting participants and attendees
Revitalisation of Katherine Hot Springs		✓	✓	✓	1		•			 Enhance the visitor experience and increase length of stay
Katherine – Community Centre		✓			1		•			 Enhance liveability through improved community facilities
Beswick water park			✓		1			•		 Enhance liveability through improved recreation facilities
Develop arts and craft centre in Numbulwar				✓	1					 Enhance delivery of local community services
East Arnhem										
East Arnhem Art Gallery extensions – connect the Iconic National Indigenous Arts Trail		✓		✓	10		10			 Provide opportunity for increased visitor numbers and length of stay in the Territory
Numbulwar and Borroloola combined business centres			✓	✓	3			•		 Enhance delivery of business and community services

	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6-10 Years)	
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers
Top End Rural										
Fogg Dam Conservation Reserve – works to dam wall		✓			1			•	•	 Maintenance to maximise existing infrastructure
Palmerston and Litchfield										
Arts and Cultural Performing Arts Centre in Palmerston			✓		4		4			 Enhance liveability through new community facilities
Litchfield Aquatic Centre		✓	✓		•			•		 Enhance liveability through new recreation facilities
Palmerston swimming pool		✓	✓		•			•		 Enhance liveability through improved recreation facilities
Freds Pass upgrades		✓	✓		•			•	•	 Enhance liveability through improved community facilities in line with the Freds Pass Master Plan
Upgrade facilities in Palmerston Water Park, Berry Springs and Howard Springs Nature Parks		✓			•				•	 Enhance liveability through improved community facilities
New library facility in the Litchfield Municipality	✓	✓	✓		•				•	 Expand library services to meet increased demand
Darwin										
Darwin CBD Revitalisation (potential City Deals) – redevelop State Square – connect Darwin Waterfront and Cullen Bay – activate laneways – boardwalk between new Westin luxury hotel and Lameroo Beach – New Darwin Museum*	✓	✓	✓	✓	100	•	•	•	•	 Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy
Rugby League Facility at Warren Park		✓			25	25				 Provide facilities for the growth of Rugby League
Netball Facility upgrades at Marrara Sporting Complex		✓			10	10				 Construct a new indoor stadium to enable all year round competition

	Prospective Contribution						Indicative Sequencing					
						Funding (\$m)						
Project	AG	NTG	LG	PRIV	Total Estimated Cost (\$m)	2017-18	2018-19	Medium Term (3-5 Years)	Longer Term (6-10 Years)	Key Drivers		
Darwin continued												
Darwin Entertainment Centre Air-conditioning			✓		6			•			Enhance liveability through improved entertainment facilities	
TIO Stadium upgrades		✓			6	6			•		Improve stadium facilities and provide for women's AFL	
Museum and Art Gallery of the Northern Territory upgrades		✓			5	1	•	•	•		Provide for the preservation and exhibition of the Territory's art and cultural history	
Darwin Velodrome track upgrade		✓			2	2					Provide safe and functional environments for sporting participants and attendees	
Marrara Sporting Complex upgrades to track, surfaces and seating		✓			•	•		•			Provide safe and functional environments for sporting participants and attendees	
NT Rugby Union facility upgrades		✓			•			•			Provide safe and functional environments for sporting participants and attendees	
Leanyer Recreation Park upgrades to car parking and play areas		✓			•			•			Enhance liveability through improved recreation facilities	

* City Deals between the three tiers of government will make our cities better places to live in and do business. Through City Deals, governments, industry and communities will develop collective plans for growth and commit to the actions and investments needed to implement them.

Digital



DIGITAL

Digital technology is the key to economic development through access to global markets and to combat the isolation and remoteness for people living in many parts of the Northern Territory.

Whether it is in an urban area, a remote community, a cattle station, mine or tourist site, telecommunications infrastructure connects us to the world.

Once connected, all Territorians can take advantage of social services delivered online including education and health, as well as generate business and become part of the Northern Territory's and the global economy.

Technology and innovation can transform how services are provided and how infrastructure is used by communities and our key industries, including mining, agribusiness and tourism.

The quality of telecommunications service across the Northern Territory is mixed, with generally good services in cities and lower to poor quality services in rural and remote areas.

Challenges

While the National Broadband Network is expected to reduce service disparities in the next five years, governments and industry will need to work together to ensure telecommunications infrastructure keeps up with changing technology.

A key challenge will be rolling out open access to fixed-line broadband and mobile services particularly to benefit remote and rural areas.

Market forces and the private sector providers will ensure demand for services is met in urban areas, but parts of rural and remote Northern Territory will continue to require government assistance to access similar services.

The NBN is accessed via satellite in remote areas, which impacts on the reliability of the service and limits capability. Weather conditions, including heavy rain and bushfires, reduces the reliability of satellite services.

Installing telecommunications infrastructure in the Northern Territory is more costly than in most other states due to the distances, topography and climate. The high cost, in combination with low population, provides a disincentive to commercial investment.

Opportunities

Overcoming geographic challenges is necessary to enable the roll out and expansion of telecommunications infrastructure in the Northern Territory.

Increasing access to the same digital services as urban centres and connecting people in remote communities is a step towards closing the gap of Aboriginal disadvantage. High quality telecommunications services reduce the need for long distance travel, improve safety for residents and travellers, inspire innovation and create a feeling of 'connectedness' to the rest of the world.

Twelve remote communities will receive new or additional telecommunications services as part of a three year \$30 million funding agreement between the Northern Territory Government and Telstra. The co-investment model will see mobile and broadband services installed in – Titjikala, Umbakumba, Bulman, Weemol, Minyerri, Kaltukatjara, Yarralin, Manyallaluk, Ali Curung, Timber Creek, Barunga and Santa Teresa.

The new services are life changing for the people living in these remote communities who will be able to access online services



provided by the Northern Territory Government including telehealth, online learning through distance education, licensing and motor vehicle services.

Additionally, six more mobile sites will be installed by Telstra in remote communities as well as 12 micro-cell mobile sites by Optus as part of the Australian Government's Mobile Black Spot Programme.

Access to mobile technology suits the mobile lifestyle of Territorians and provides opportunities to grow local business activities and compete on the global stage.

Innovation is born out of necessity, and the Centre for Appropriate Technology is using its Aboriginal workforce to build and install 30 mobile phone hotspots around the Northern Territory to amplify weak mobile phone signals without using power. The hotspots extend a mobile phone signal by about 30 kilometres from a mobile phone tower and will service areas where it is too costly to install telecommunications infrastructure.

The first mobile hotspot site was installed on the Boggy Hole Road in Central Australia, next to Finke National Park, to provide coverage as a safety measure for tourists.

The Northern Territory is undertaking a highly complex program to reform information and communications technology for public health services across the Territory, which will replace the core clinical systems, implement wi-fi networks in all health facilities and improve the delivery of telehealth services to remote residents. The Northern Territory will become the first

jurisdiction in Australia where public health clinicians can access full digital client records regardless of their geographic location.

The police communications system is being upgraded to a digital radio service to provide vital information to police and other government frontline services, such as park rangers, wherever they are in the field across the Northern Territory.

Investment needs

Investment in digital technology is needed to:

- improve telecommunications access for Territorians, particularly in rural and remote communities
- close the gap between Aboriginal and non-Aboriginal Territorians
- encourage technology innovation from the private sector
- connect Territory businesses, regardless of location, to local interstate and global markets.

Priority Projects

- **Telstra and Northern Territory Government telecommunications co-investment program** – continue to fund the roll out of telecommunications infrastructure to remote communities.
- **Mobile hotspots program** – improve mobile access by better using existing mobile telecommunications infrastructure.
- **Radio communications** – upgrade and modernise radio transmission infrastructure in the Territory to support emergency and other frontline services.

Key objectives			
Telecommunications that deliver long-term benefits to urban, rural and remote communities across the Territory.	Realising the value of government data holdings through sharing a broader range of data with industry and the community to enable the development of new business and services.	Fostering investment, innovation and digital skills through agile responses to new technology and market opportunities.	Integrating online and over the counter services to make it cheaper and easier for community and businesses to interact with government.

DIGITAL SNAPSHOT

Telstra mobile phone coverage and planned telecommunication infrastructure



DIGITAL

	Prospective Contribution				Total Estimated Cost (\$m)	Indicative Sequencing				Key Drivers
	AG	NTG	LG	PRIV		Funding (\$m)		Medium Term (3-5 Years)	Longer Term (6-10 Years)	
Project						2017-18	2018-19			
Territory Wide										
Mobile and/or broadband (ADSL) services (possible joint funding co-investment program)		✓		✓	50				•	 Expand mobile services to improve connectivity
Police, Fire, Emergency Services Radio network upgrade		✓			12	7	5			 Comply with the Australian Communications and Media Authority legislative changes which require a move to new radio frequencies
Department of Health – mobile workforce strategy		✓			2	2				 Improve health service delivery
Mobile hotspots installations		✓			1	•		•		 Improve regional and remote connectivity
Central Australia										
Mobile and Broadband (ADSL) services: Ali Curung, Kaltukatjara, Santa Teresa, and Titjikala (joint funding Telstra/NTG co-investment program)		✓		✓	15	15				 Expand mobile services to improve connectivity
Katherine										
Mobile and Broadband (ADSL) services: Barunga, Manyallaluk, Timber Creek, Bulman, Minyerri, Weemol, and Yarralin (joint funding Telstra/NTG co-investment program)		✓		✓	12	12				 Expand mobile services to improve connectivity
East Arnhem										
Mobile and Broadband (ADSL) services: Umbakumba (joint funding Telstra/NTG co-investment program)		✓		✓	3	3				 Expand mobile services to improve connectivity
Top End Rural										
Undersea fibre optic cable between Darwin and the Tiwi Islands		✓			9		5	•		 Improve regional and remote connectivity
Palmerston and Litchfield										
Smart Cities Technology – adopt intelligent IT systems		✓	✓		2	2				 Improve interface between local government and the community
Darwin										
State Square redevelopment – establish NT Data Centre		✓			6			•		 Enhance data collection, storage and distribution

A lesser figure in the 2017–18 and 2018–19 columns than in the Total Estimated Cost column indicates either previous year expenditure or expenditure in outer years, in some instances beyond the 10 year term.

BIBLIOGRAPHY

- Australian Bureau of Statistics, *Labour Force Survey*, November 2016 (catalogue number 6291.0)
- Australian Bureau of Statistics, *Tourist Accommodation, Australia, 2015-16* (Catalogue number 8635.0 Table 8)
- BITRE, *Airport Traffic Statistics – International seats are estimated by Tourism NT*
- Darwin Waterfront Corporation, *Annual Report 2015-16*
- Department of Education, *Annual Report 2015-16*
- Department of Health, *Annual Report 2015-16*
- Department of Housing, *Annual Report 2015-16*
- Department of Infrastructure, *Annual Report 2015-16*
- Department of Mines and Energy, *2015-16 Annual Report*
- Department of Primary Industry and Fisheries, *Annual Report 2015-16*
- Department of Primary Industry and Fisheries, *Northern Territory Rural Industries and Fisheries Economic Outlook 2015*. Estimates for 2015-16
- Department of Sport and Recreation, *Annual Report 2015-16*
- Department of Transport, *Annual Report 2015-16*
- Infrastructure Australia, *Australian Infrastructure Plan* February 2016
- Northern Territory Government Economic Development Framework, *Our Economic Future* May 2017
- Northern Territory Government Infrastructure Strategy May 2017
- Northern Territory Government, *Invest in Australia's Northern Territory*
- Northern Territory Government, *Vibrant NT, Arts and Culture in the Northern Territory*
- Northern Territory Police, Fire & Emergency Services, *2015-16 Annual Report*
- NT Cattlemen's Association. T. Hayes, Territory Economic Summit Darwin – Agribusiness session, 29 March 2017
- NT Farmers, *Economic Profile of Plant Based Industries in the Northern Territory 2015*
- Parks and Wildlife Commission Northern Territory, *Annual Report 2015-16*
- Power and Water Corporation, *2016-17 Statement of Corporate Intent*
- Power and Water Corporation, *Annual Report 2015-16*
- Power and Water Corporation, *Darwin Region Water Supply Strategy 2013*
- Tourism NT, *2015-16 Progress Summary – Tourism Vision 2020*
- Tourism NT, *Annual Report 2015-16*
- Tourism Research Australia's (TRA), National and International Visitor Surveys
- Tourism Research Australia's (TRA), State Tourism Satellite Account 2014-15

ACKNOWLEDGEMENTS

The Darwin Central Business District image (page 2 and 3) was captured by David Silva – Silva Photographics.

The Alice Springs images of the Larapinta roundabout (inside front cover), Larapinta School (page 59), solar panels (page 65), Supreme Court (page 87), hospital (page 93), and netball centre (page 111) were captured by Lisa Hatsimihail – Lisa Hatsimihail Photography.

The cattle yard image (page 35) was reproduced with the kind permission of the NT Cattlemen's Association.

The Watarrka Walks Information Shelter image (page 41) was reproduced with the kind permission of the Parks and Wildlife Commission.

The remaining images in this publication are reproduced with the kind permission of the Land Development Corporation, Power and Water Corporation, NT Police, Fire and Emergency Services, Alice Springs Desert Park and Department of Primary Industry and Fisheries.



Published by the Department of Infrastructure, Planning and Logistics

© Northern Territory Government 2017

E: infrastructureplan.NTG@nt.gov.au

T: +61 8 8999 4743

Web page: <https://dipl.nt.gov.au/publications>

Address: PO Box 61, Palmerston NT 0831

This work is available for your use under a Creative Commons CC BY 4.0 International Licence, with the exception of the Northern Territory Government logo and images. Creative Commons Attribution 4.0 International Licence is a standard form licence agreement that allows you to copy, communicate and adapt this work provided that you attribute the work to the Northern Territory Government (Department of Infrastructure, Planning and Logistics) and abide by the other licence terms <https://creativecommons.org/licenses/by/4.0/>



The material contained in this document is made available for your use, but the Northern Territory Government and its employees do not guarantee that the document is without flaw of any kind and therefore disclaims all liability for any error, loss or other consequence that may arise from your use. The document is made available on the understanding that the Northern Territory Government is not providing professional advice, and that users exercise their own skill and care with respect to its use, and seek independent advice as necessary.

ISBN: 978-0-9946294-1-8