



NT Infrastructure Plan and Pipeline **2023** **BARKLY**

Acknowledgement of Country

Infrastructure NT acknowledges the Traditional Owners and Custodians across the Northern Territory and their connection to country.

We pay our respects to their communities and Elders – past, present and emerging.



Above: Tennant Creek High School. Credit: Department of Territory Families, Housing and Communities.

Cover: Mary Ann Dam, Tennant Creek. Credit: Department of Territory Families, Housing and Communities.



Barkly

The Barkly is genuine outback Australia, a vast land of brilliant blue skies, iconic rock formations and strong Aboriginal heritage and cultures.

The Barkly region:

- > is known for its million acre cattle stations
- > is home to Tennant Creek, known as the site of the last gold rush in Australia during the 1930s
- > has one of the highest solar irradiance resources in the world.

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Major industries and growth sectors in the Barkly



Resources



Agribusiness

The Barkly region is the second largest local government area in Australia with an area of approximately 323 000 square kilometres. The region stretches from the old Telegraph Station at Barrow Creek in the south to the historical droving township of Newcastle Waters in the north.

Tennant Creek and Elliott (the second largest urban centre for the region) service the region's homelands, pastoral stations, localities and communities that are spread across the large distances. Most of the region's population lives in the regional service centre of Tennant Creek, which is just over 1000 kilometres south of Darwin and 500 kilometres north of Alice Springs.

Despite its remote location, the region is well connected by road to Central Australia via the Stuart Highway and to Queensland by the Barkly Highway and to the rest of the Territory's regional centres by air and rail.

The Barkly Region is home to 10 Aboriginal language groups who are custodians of the region. Aboriginal people represent 66% of the region's population of 6025, with strong Aboriginal leadership and representation by land councils, Aboriginal Community Controlled Organisations, Traditional Owners and Registered Native Title Body Corporate groups. The Barkly region has a young population, with about 39% aged 24 years or younger.

The Barkly is a resource-rich region with comparative advantages for future economic growth in priority sectors such as mining, gas, agribusiness and tourism.

The Barkly region is known for its resources in particular its gold mining heritage. With its vast deposits of critical minerals and gold across the region, and others in the eastern Barkly region, this industry has the potential to contribute significantly to economic growth.

Renewable energy is an emerging industry in the region. The Barkly region receives one of the highest levels of solar radiation on the continent. There are opportunities to produce both solar energy and clean hydrogen in the region. The Territory's renewable potential has been recognised by SunCable's \$35 billion Australia-Asia Power Link project. AAPowerLink is a world first, transformational renewable energy project providing a pathway to a new export industry.

The Barkly Region has access to the key factors of production required for large scale agribusiness development including cattle and food production. Agribusiness in the region contributes \$159 million to the economy. An agribusiness hub is being developed in Tennant Creek to generate additional economic opportunities from the region's pastoral activity.

Compared to other regions, the Barkly is lesser known as a tourist destination, however it is important to the drive tourism sector. The Barkly is most frequently visited by travellers touring between regions of the Territory. Aboriginal cultural experiences include Nyinkka Nyunyu Art and Culture Centre, the Karlu Karlu (Devil's Marbles) and pioneering history is showcased at the Battery Hill Mining Centre. With its highly rated Aboriginal art and cultural centre and unique historical and heritage experiences, tourism and creative arts are emerging industries in the region.

In 2019, the Australian and Northern Territory governments and the Barkly Regional Council signed the Barkly Regional Deal. The implementation of initiatives under the \$84.7 million Barkly Regional Deal is well underway. The 10-year deal includes \$45.4 million from the Australian Government, \$30 million from the Territory Government and \$3 million from Barkly Regional Council. The deal is focused on working with Barkly communities and Aboriginal homelands to design and deliver a range



Construction



Tourism



Renewables

of initiatives that aim to improve the productivity and liveability of the Barkly region by stimulating economic growth, improving social outcomes and supporting local Aboriginal leadership.

The Deal includes transforming the Barkly Business Hub to deliver a 'one-stop-shop' to support local business and skills development. It also includes constructing the Barkly student boarding facility for secondary school children and the Barkly youth justice accommodation facility, which will provide an alternative to detention for young people in the region.

Challenges and opportunities

- Increase housing supply to meet current and future social and industry demands in the regions. Scarcity of housing is a significant barrier to attracting and growing new industry and supporting existing private sector employers to grow or diversify.
- Improve socio-economic equality to promote sustainable economic growth in the region.
- Improve access to social infrastructure in the communities to attract workers and visitors and to create equity within communities.
- Improve management of natural resources, including water, to cater for increased industry and development.
- Timely access to land to make the most of upcoming opportunities.
- Maintain and improve existing road transport routes to improve flood immunity and support industry projects located in remote areas including Barkly Tablelands and Western Davenport.
- Increased bandwidth and redundancy in the network are essential to ensure sufficient regional digital connectivity to support liveability and economic growth across a broad range of industries.



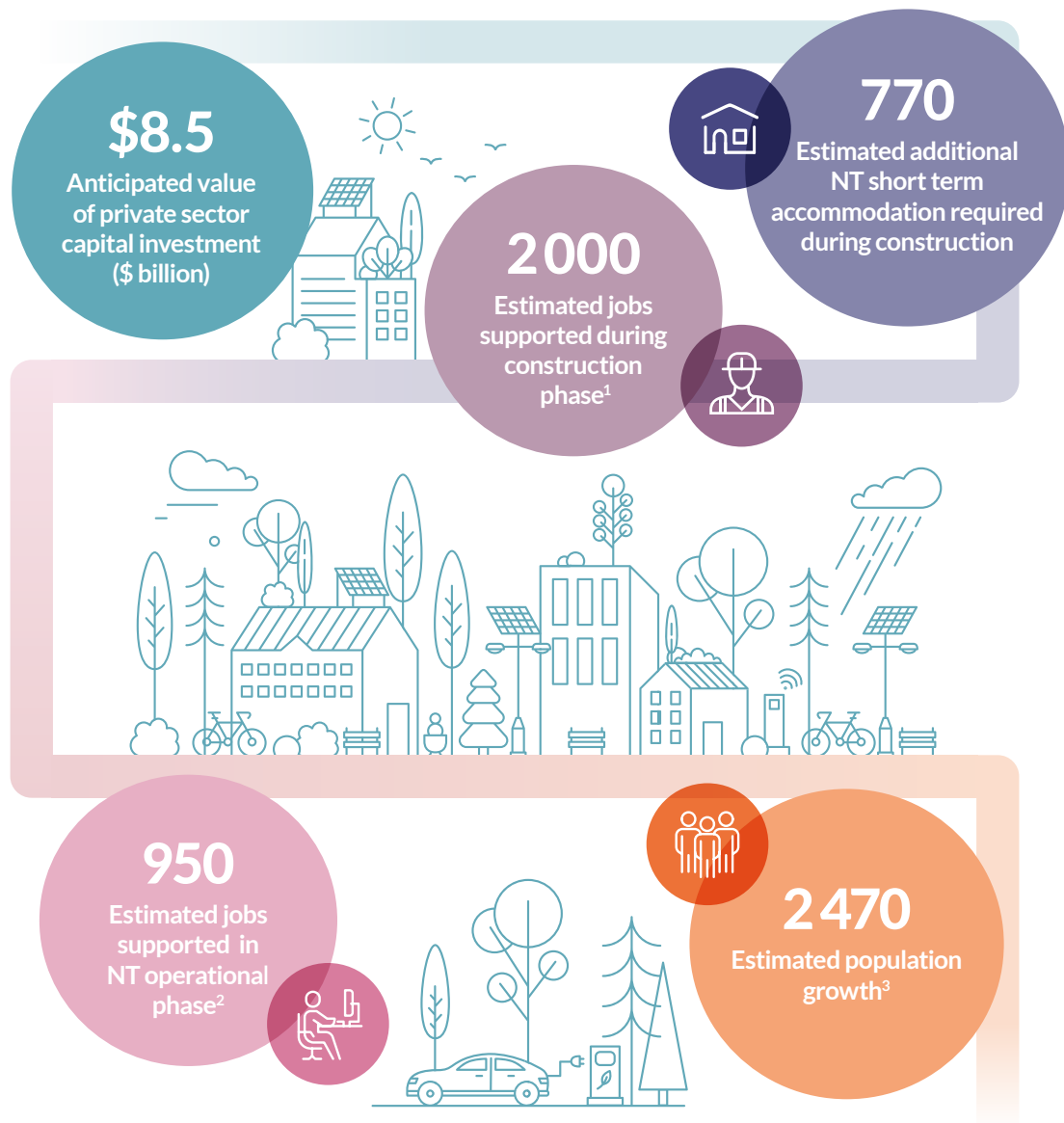
Above: Wutunugurra communications tower. Credit: Telstra.

Investment portfolio

The total Barkly investment portfolio has a direct impact on economic and population growth. It is important to understand the magnitude of economic and population growth to inform the enabling infrastructure plan.

Infrastructure NT has worked closely with Investment Territory to determine the total investment portfolio. This analysis determined the following total investments anticipated for the Barkly region, subsequent jobs, accommodation needs and population growth.

Analysis is based on Investment Territory 2022–2023 Progress and Outlook: May 2023

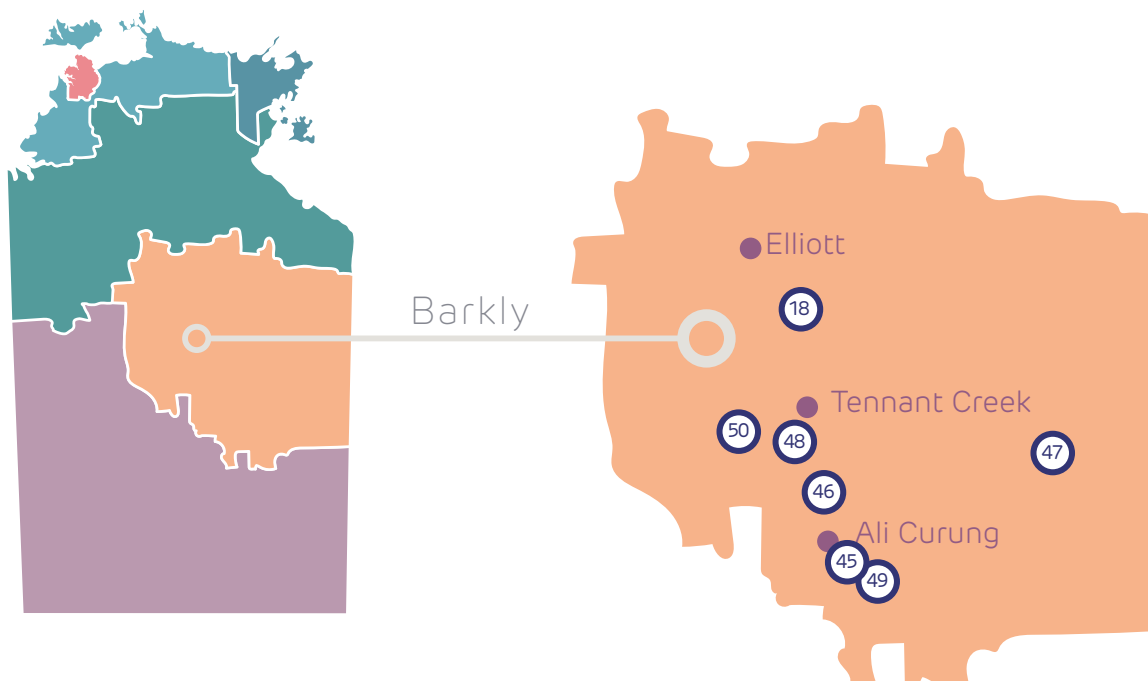


Note 1: Includes direct and indirect where provided by proponents

Note 2: Includes direct and indirect where provided by proponents in the NT only

Note 3: Based on 2.6 multiplier (ABS average persons per household NT regional)

Note: Numbers are approximate over 10 years. Further refined analysis is ongoing.



KEY

● Town/city

① Project

Locations are indicative

TERRITORY-WIDE PROJECTS

- | | |
|-------------------------|---|
| ④ DCI data centres | ①⑥ Northern Territory freight and logistics capacity improvements (regional logistics hubs) |
| ⑤ Inlingo Network Unite | ①⑦ Northern Territory remote community power generation program |
| ⑥ HyperOne | ②⑦ Aurizon – Railway service expansion |
| ⑦ NEXTDC | |

Nationally significant

The following projects, programs and proposals identify and articulate the infrastructure investment that will impact the national economy or achieve national policy objectives and outcomes.

Digital industries

4 5 6 7

Digital



Education



Health



Lifestyle



Connectivity in northern Australia will be faster and more reliable and resilient following the launch of Darwin’s first ever direct connection to the global network of high-capacity subsea telecommunications cables.

Vocus’ Darwin-Jakarta-Singapore Cable (DJSC) system is a major leap forward in Australia’s global connectivity, bridging the digital divide and unlocking new opportunities for growth, innovation and development in the Northern Territory.

The 7700 kilometres DJCS cable system was completed following deployment of a final 1000 kilometre cable, which linked Vocus’ existing North-West Cable System, running from Port Hedland to Darwin, to its Perth-based Australia-Singapore Cable – resulting in the first international submarine cable connection into Darwin.

The cable was supported by a \$7.9 million investment from the Northern Territory Government as part of its Terabit Territory strategy.

The project is a significant milestone towards Darwin becoming a major digital hub for the region. It will provide substantial direct and indirect benefits for northern Australia by supporting the connectivity needs of local businesses and communities with more reliable communications. This will benefit a wide range of stakeholders from remote Indigenous communities through to resource operators in the Pilbara by providing low-latency connectivity directly into Asia and enable locals to connect on a global scale.

The cable will also enhance the resilience and security of Australia’s international cable network, ensuring uninterrupted and reliable connectivity, including during natural disaster and faults on other cables. This will provide businesses, governments, and individuals with greater confidence and assurance that their communication needs will be met – even in challenging circumstances.

The launch of the Darwin-Jakarta-Singapore Cable will deliver 40 terabits per second of internet capacity between Australia and Asia and pave the way for new data centres in Darwin to put us on the map as a key digital hub.

Further large scale networks are in development.

HyperOne’s \$1.5 billion data super highway will be Australia’s first hyper scale national fibre network, currently proposed to incorporate 3 routes connecting Darwin to:

- Adelaide, stage 1, (through the spine of the Northern Territory)
- Brisbane (along the Barkly Highway via Townsville)
- Perth (via a subsea connection).

HyperOne’s planned network, once complete, will comprise over 20 000 kilometres of new high speed fibre cable across Australia including approximately 2200 kilometres through the Territory, capable of carrying over 10 000 terabits per second.

Hawaiki Nui is a 26 000 kilometre submarine cable connecting New Zealand, Australia, Indonesia, Singapore and the United States.

With a design capacity of 240 terabits, the Spatial Division Multiplexing (SDM) cable system will include up to 20 fibre pairs and link Singapore, Jakarta, Darwin, eastern Australia, the South Island of New Zealand, Hawaii and Los Angeles. The cable is intended to be ready for service in 2027.



Inligo Network Asia Connect (ACC-1) Cable 1 is a privately funded international subsea cable connecting Darwin to South East Asia (Singapore, Medan, Jakarta, Makassar, Dili, Manado and Guam), Japan and the United States. The ACC-1 Cable has 16 fibre pairs with a combined capacity of circa 256 terabits per second. The network will support a minimum of 40×400 gigabit per second wavelengths per fibre pair. This new system will provide an alternate, low latency, high capacity transmission service path between customers in Sydney, Canberra, Melbourne, Adelaide and Darwin with connections into South East Asia and the north Pacific, all delivered on a unified optical platform across the terrestrial and subsea cable systems.

Inligo Network Unite Cable System (Unite) is a private terrestrial fibre network, which will provide additional links:

- Phase 1 is a new link between Darwin and Adelaide
- Phase 2 will extend links from Adelaide to Melbourne, Canberra and Sydney
- Possible subsequent phases are a branch connecting to Papua New Guinea (with potential opportunities to connect Nhulunbuy and Groote Eylandt).

Unite will connect directly into Inligo's ACC-1 Cable system.

The total integration between the international ACC-1 Cable system and the domestic Unite terrestrial system will provide customers seamless connectivity between Darwin, South East Asia, Japan and the United States while also enabling connectivity to the southern capitals, all on the one, fully integrated platform. This functionality will provide Darwin based data centre operators and their customers the shortest routes available into South East Asia and southern Australia, opening up new industries supported by the leading edge connectivity provided by ACC-1 and Unite.

NEXTDC will construct its \$80 million premium grade (D1) data centre in the Darwin CBD. This centre is the key enabler of the Territory Government's Digital Territory Strategy that is aimed at positioning Darwin as a highly competitive location to maximise growth and investment in the local digital economy.

DCI is developing a TIER-Ready III, secure cloud edge data centre, called DRW01, able to support an IT load of up to 10 megawatt with the initial development on a 2.7 hectare site in the Darwin, Palmerston and Litchfield region with an option to expand to 5 hectares. DCI recognises the Northern Territory's position as the digital gateway to Australia's forward-facing defence and space industries, as well as Asia to the north. Darwin is a strategic location in Australia and has already created a digital ecosystem with key elements such as a renewable energy, international and Australia-wide network connectivity.

“All digital highways lead into or through Darwin and that will equal jobs of the future, while growing our digital industry. Driving digital investment in the Territory will open the door to new opportunities for advanced manufacturing, data-centres and cloud-based computing services for Territorians and investors.”

Northern Territory freight rail and logistics capacity improvements (Regional logistics hubs) 16



Logistics and supply chains are fundamental to supporting the viability of projects key to the Northern Territory's economic growth. They also have significant employment and investment impacts in local communities.

Community resilience and social benefits will result from improved local supply chains for consumer and essential goods. This will support the living standards in remote and regional towns needed to support growth and the delivery of private projects.

Improving rail efficiency and intermodal capacity in supply chains will support the NT Government's objective to achieve a \$40 billion economy by 2030 by developing mining, agriculture and energy projects.

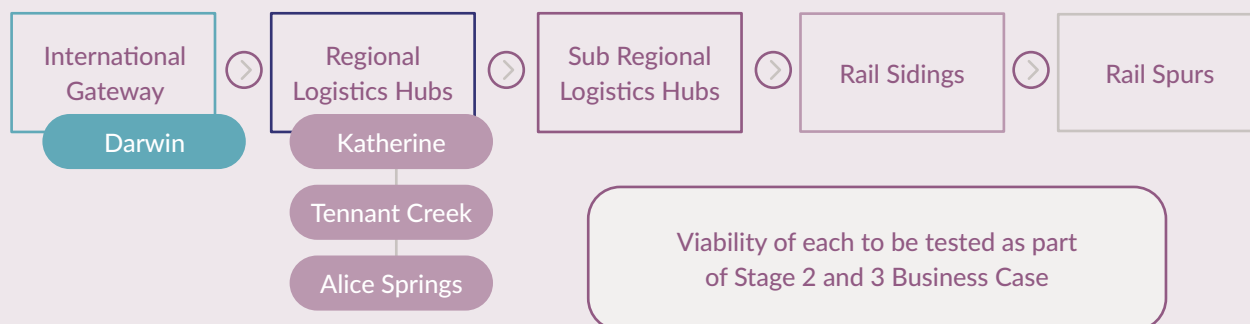
The Northern Territory Government is implementing actions to ensure logistics support rather than constrain industry and economic growth.

The Northern Territory Government has established a solid evidence base of demand for freight and supply chain capacity across agribusiness, minerals and energy, manufacturing, defence, digital and social sectors and is working with the Australian Government and the private sector to meet this demand.

Increases in capacity of port, rail, road, storage and warehousing will be needed to facilitate the growing freight task.

In the Northern Territory's larger communities across the main freight corridor, regional logistics hubs will be developed to consolidate, store and transfer freight between road and rail networks between project and port. These regional logistics hubs will include:

- community distribution facilities to increase resilience in supply chains to distribute food and essential supplies across remote Northern Territory
- skills training facilities to provide real employment opportunities in these communities
- waste recycling facilities, which are essential to enabling a circular economy across the Northern Territory
- strategic staging facilities to enable laydown areas at strategic sites and more capacity and flexibility across the National Land Transport Network
- fuel facilities to enable hub and spoke logistics arrangements to reduce constraints on the road transport industry.



These regional logistics hubs will create the focal points for an increasingly efficient and resilient supply chain to foster a range of benefits.

- **Economy:** every project and development across the Northern Territory relies on transport of goods for construction, production and trade. The time and cost efficiency of this transport flows through to every sector of the economy.
- **Community:** a resilient transport network results in less frequent and less impactful disruption of supply chains. Increasing the proportion of freight that can travel by rail reduces the interface between private road users and heavy freight vehicles.
- **Environment:** reducing the distance freight travels and utilising the optimal freight mode contributes to reducing greenhouse gas emissions.

The Australian Government committed \$440 million in October 2022 in planned equity to support the delivery of the network of regional logistics hubs. The Northern Territory and Australian governments recognise the

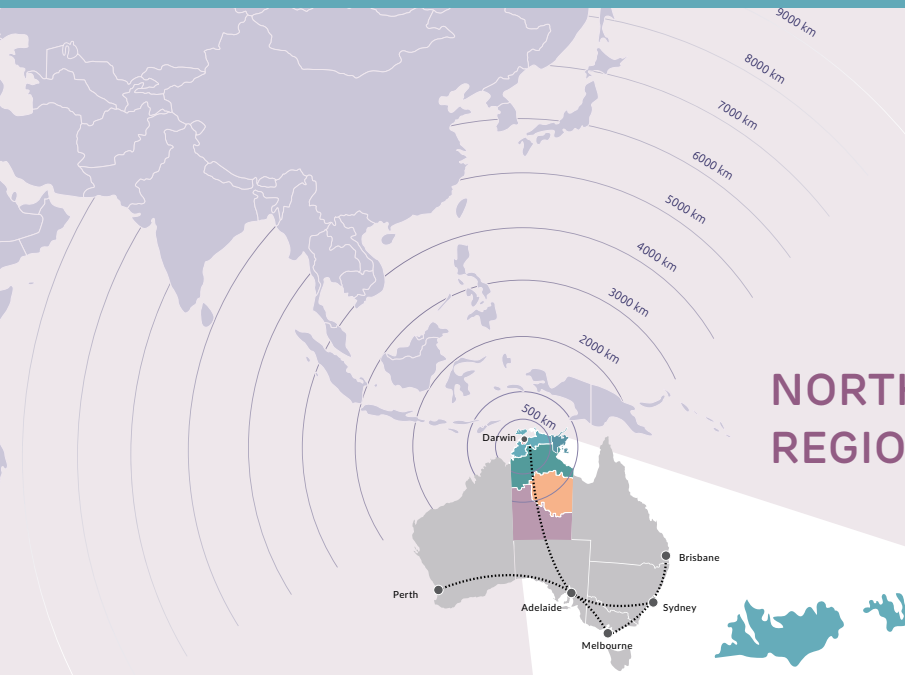
significant opportunity to grow the freight catchment area and increase the proportion of freight transported internationally via Darwin.

The Northern Territory freight rail and logistics capacity improvements Early Stage Proposal (Stage 1) Business Case was provided to and accepted by Infrastructure Australia in 2023 for inclusion on the Australian Infrastructure Priority List. Work is underway to develop the Potential Investment Options (Stage 2) Business Case.

The estimated total investment proposed from projects in mining, minerals and energy industries across the Northern Territory is over \$38 billion. This investment is estimated to support more than 6 000 construction jobs. Much of the investment and employment increase will occur in remote and very remote regions with higher proportions of First Nations people.



Above: Railway crossing. Credit: Department of Infrastructure, Planning and Logistics.



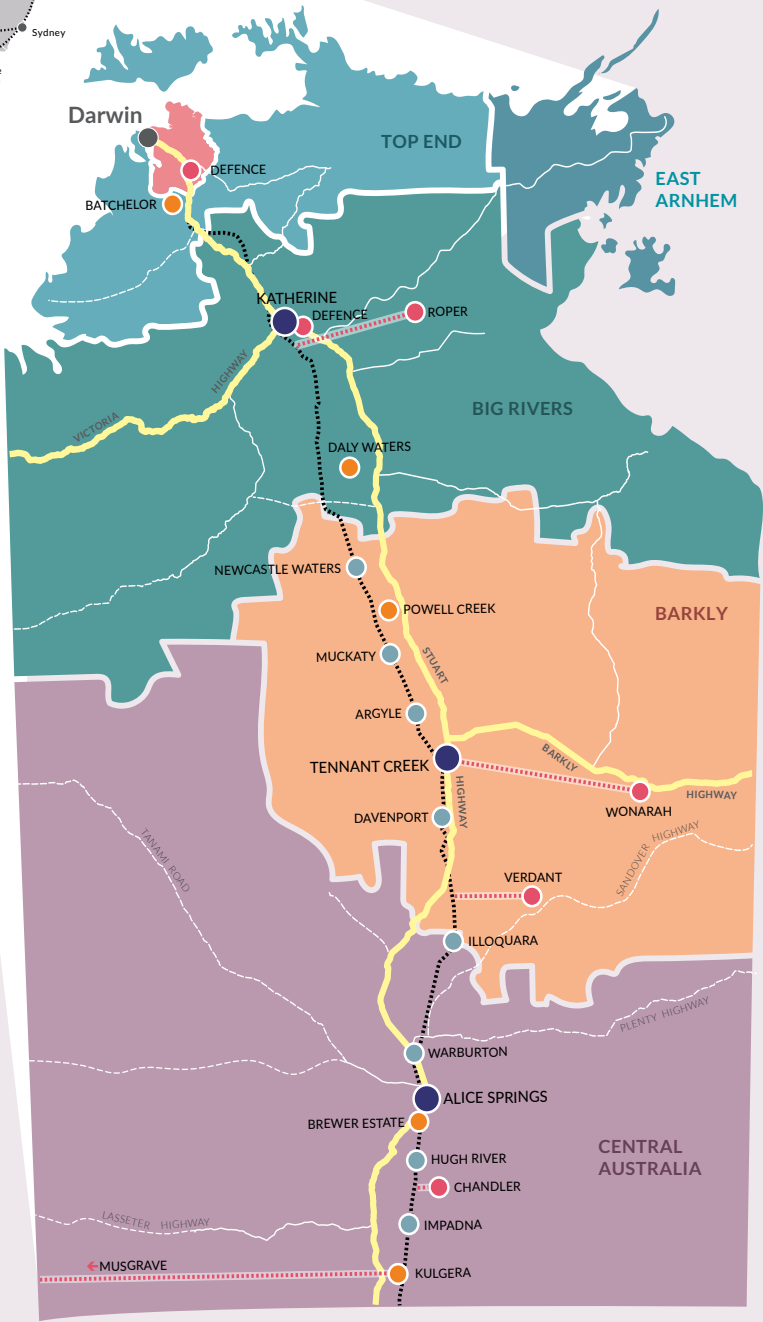
NORTHERN TERRITORY REGIONAL LOGISTICS HUBS

Northern Territory freight rail and logistics capacity improvements (Regional logistics hubs)

KEY

- Regional Logistics Hubs
- Sub Regional Logistics Hubs
- Rail Sidings
- Rail Spurs
- Highways
- Rail Line
- Rail Spur being considered

Disclaimer: This map is to be used as a guide only.



Northern Territory remote community power generation program ⁽¹⁷⁾

Renewables

Solar

Lifestyle

Major Project



The Northern Territory Government, through the Power and Water Corporation's not-for-profit subsidiary Indigenous Essential Services (IES), provides electricity to 72 remote communities and 66 outstations across the Northern Territory.

Power and Water delivers these services through the Department of Territory Families, Housing and Communities on behalf of the Northern Territory Government. This network includes 9093 customer connections across 51 power stations.

Diesel engines are the main technology used to generate electricity for regional and remote communities, with about 25 million litres of diesel used each year.

With the operating costs of transporting diesel to remote communities continuing to increase, the Office of Sustainable Energy is working on strategies to deliver 70% renewable energy penetration to all 72 remote communities.

As the largest isolated off-grid solar program in remote communities, the Solar Energy Transformation Program (SETuP) is a world-first.

Delivery of this strategy is also an action under the Territory Government's Climate Change Response and a recommendation of the Territory Economic Reconstruction Commission to transition Indigenous Essential Service communities to renewable-based systems by 2030.

The strategy builds on the success of the Solar Energy Transformation Program (SETuP). The \$60 million program is co-funded by the Territory Government and the Australian Renewable Energy Agency (ARENA) and delivered 10 megawatts of solar generation to 25 remote communities.

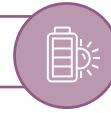
Planning activities are underway to facilitate external investment in renewable remote power systems in communities to maximise opportunities for local industries, create jobs for Territorians and strengthen local skills and expertise.

The Northern Territory Government is progressing detailed analysis of each community to map the optimal renewables development pathway, considering existing energy assets, community aspirations, electricity demand profiles and forecast growth.

In addition to the community focused detailed analysis, the project will identify available land for solar development in each community. It will also include pilot projects and studies to facilitate greater levels of distributed energy supplies and emerging technologies, such as hydrogen and microgrids.

SunCable – the Australia-Asia Power Link 18

Renewables



Solar



Major Project



SunCable is developing the Australia-Asia Power Link (AAPowerLink), a world-leading project harnessing Australia's abundant land and solar energy. AAPowerLink will be one of the world's largest solar farms and battery systems, which will harness solar energy from the Barkly region in the Northern Territory, for 24/7 dispatch to Darwin and Singapore via a 5000 kilometre high voltage direct current (HVDC) transmission system.

SunCable's energy projects will position the Northern Territory as a world leader in intercontinental transmission of renewable

electricity. The AAPowerLink will stimulate the growth of a renewable infrastructure industry in the Northern Territory.









The AAPowerLink will initially provide 800 megawatts (MW) of electrical capacity to the Darwin region and will facilitate the electrification of new and existing industries, supporting large-scale economic development, while reducing greenhouse gas emissions.

The AAPowerLink is a \$35 billion project that will deliver significant strategic, economic and social benefits to the regions in which it will operate. It has the potential to create thousands of jobs, opportunities for local businesses and suppliers, as well as innovation and investment in Australia, Singapore and Indonesia.

Benefits include an estimated \$8 billion in investment in Australia during the 4 year construction period, with most of that spent in the Northern Territory and an estimated 1750 direct construction jobs and approximately 350 long term operational jobs for the 70 year life of the project.

Implementation pathway

The suggested implementation pathway are actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
Nationally significant projects, programs and proposals		
Submit Stage 1 submission (Early Stage Proposal) to Infrastructure Australia for Northern Territory freight rail and logistics capacity improvements	 Reform	 Achieved
Progress Stage 2 submission (Potential Investment Options) and Stage 3 submission (Investment Ready Proposal) to Infrastructure Australia for Northern Territory freight rail and logistics capacity improvements	 Reform	 In progress
Accelerate planning for and delivery of residential, commercial and industrial land	 Reform	 In progress
Support job creation and business growth across the economy through developing waste recycling facilities in the network of regional logistics hubs, reducing the reliance on interstate waste processing and waste going to landfill	 New	 New 2023 in progress

Territory-wide

The following projects and proposals identify and articulate the infrastructure investment that will have a Territory-wide impact including an impact on the Barkly region.

Transport and
Logistics

Rail

Aurizon – Railway service expansion 20



Aurizon, an Australian company with more than 150 years of rail experience, is the nation's largest rail freight business and transports about 250 million tonnes for customers each year. Aurizon brings its scale and capability to the Northern Territory and looks forward to contributing to the NT Government's goal of building a \$40 billion economy by 2030.

In mid-2022, Aurizon invested \$1.4 billion to acquire the One Rail business in the Northern Territory and South Australia, including the Tarcoola to Darwin rail corridor. This investment recognises the strategic value and potential of the business in serving rapidly growing markets for resources, agribusiness, renewable energy and general freight.

The 2240-kilometre Tarcoola to Darwin railway is a nationally significant corridor with direct connection to the Port of Darwin, the closest port to Australia's largest trading partners in Asia. Aurizon is committed to improving the efficiency and capacity of this corridor, with targeted

investment to benefit existing customers and to boost the viability of adjacent agricultural, mineral and energy projects under development.

In the first 12 months of operation, Aurizon has committed investment of more than \$50 million in new assets for the region, as well as preparing plans to increase the number of services along the railway as we respond to increasing customer demand. This also includes the potential opportunity to construct additional passing loops on the rail corridor and to build additional capacity in the Darwin/Berrimah rail terminal at the port.

As well as supporting customer growth and development of regional projects, these investments have the flow-on benefits of increasing local employment and supporting local communities and business. More than 80% of Aurizon's nationwide workforce of 5800 employees live and work in regional communities.



Above: NT railway near Alice Springs. Credit: Department of Infrastructure, Planning and Logistics.

Enabling infrastructure plan

The enabling infrastructure plan for across the Territory lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Access road upgrades to barge landings and all-weather aerodromes	50	Improve all weather air and sea access to support accessibility, visitor growth and community safety	0-15
Across the Territory upgrade and new bores	•	Support improved water management	0-10
Aerodrome and airstrip upgrades	30	Support connectivity and improve all weather access to improve community safety, accessibility and support future growth	0-15
AFLNT facilities upgrade to support growth in girls and womens football	1	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Football ovals install lighting	4	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Logistics Network continued expansion	•	Enable economic development by improving supply chains and transport	0-10
Mobile and/or broadband services	33	Enable connectivity and create digital opportunities	0-10
National highways bridge upgrades	40	Improve flood resilience and support accessibility, connectivity and amenity	0-10
Network of fast charging points for electric vehicles at key tourist and rural locations	5	Enable economic development and population growth through tourism led economy	0-10
Park facilities to enhance experience and access for visitors with limited mobility	•	Support accessibility, connectivity and amenity for all visitors	0-10

• indicates value is either commercial in confidence or to be confirmed.

Timeframe					
0-5	0-5 Years	0-10	0-10 Years	0-15	0-15 Years
5-10	5-10 Years	10-15	10-15 Years	15+	15+ Years

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Rail passing loops	•	Enable economic development by improving supply chains, processing and transport	0-10
Remote Infrastructure Fund upgrade 40+ community facilities to support AFL	200	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-10
Tennant Creek to Darwin common user infrastructure corridor	•	Support the continued development of our regions by providing an infrastructure corridor to enable future services including gas, water, communications and other utilities	0-5
Territory Parks develop new visitor hubs in the Top End, Savannah Gulf, Barkly and Central Australia regions	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-15
Territory Parks two-wheel drive access improvements	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-15
Territory Parks water security projects	•	Ensure water security to enable commercial opportunities	0-10
Territory Schools air-conditioning mechanical and electrical upgrades	50	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15
Upgrade roads to communities	•	Improve all weather access to support accessibility, growth and community safety	0-15

Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
Territory-wide		
Plan for regional waste facilities	 Reform	 In progress
Develop options to ensure that entry level and affordable housing are in the market, including options to accelerate market participation by community housing providers	 Reform	 In progress
Complete Infrastructure Audit	 Reform	 Achieved

Infrastructure pipeline

The following is a list of committed Territory-wide projects, funded by either government or the private sector.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across all regions upgrade critical water tanks	15.2	1.5	6.0	•	Support population growth by improving access to quality water
Across all regions water main replacement	14.4	2.9	4.5	•	Support population growth by improving access to quality water
Across all regions water services minor works	33.0	13.0	15.0	•	Support population growth by improving access to quality water
Alice Springs to Darwin corridor (Stuart Highway) road safety improvements	62.3		50.0	•	Increase road capacity, safety, support accessibility, connectivity and amenity
Community Housing Provider housing projects	7.0	•			Provide safe, secure and affordable housing for people on low incomes
Community Housing Provider redevelopment projects	4.4	4.4			Provide safe, secure and affordable housing for people on low incomes
Digital Connectivity Program	7.5	•	•	•	Enabling connectivity and creating digital equality
Government Employee Housing Build Program	186.0	48.0	30.0	•	Provide Government employees with safe, secure and appropriate housing while performing duties in remote locations
Government managed Remote Women's Safe House upgrades and remote play equipment	1.4	1.0			Support vulnerable people by improving community service facilities
Homeland housing and infrastructure upgrade program	77.0	•	•	•	Capital grant to upgrade ageing infrastructure to support communities
Homeland Learning Centres infrastructure upgrades	1.0		1.0		Upgrade ageing infrastructure to support the continued delivery of quality education
Indigenous Essential Services asset replacement	84.0	21.0	21.0	•	Support remote communities by improving essential services efficiency

A lesser figure in the 2023–24 and 2024–25 columns than in the Total column indicates either previous year expenditure or expenditure in outer years.

• indicates value is either commercial in confidence or to be confirmed.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Indigenous Essential Services capital improvements	21.0	7.0	7.0		Support remote communities by improving essential services efficiency
Indigenous Essential Services headworks to support development	70.0			•	Support population growth by increasing land availability
Information communications technology (ICT) cabling upgrades in schools	8.0	1.0			Enable connectivity and create digital opportunity
Infrastructure to support Territory Families, Housing and Communities remote services expansion	11.3	11.2			Improve outcomes for children and families
Mobile oral health dental unit replacement	0.7	0.7			Strengthen liveability by improving infrastructure to support oral health services
Planning works to support the development of land infrastructure planning, concept development and detailed design	41.0	4.0	4.0	•	Enable economic development and population growth by increasing land availability
Power Networks augmentation and capital projects	164.0	43.0	36.0	•	Asset renewal to support growth, compliance and improve service efficiency
Public Housing new builds	8.5	•			Provide safe, secure and affordable housing for people on low incomes
Rail upgrades to support growth	•	25.0	25.0	•	Maintenance to maximise existing supply chain and transport infrastructure
Regional Logistics Hubs	440.0	10.0	50.0	•	Enable economic development by improving supply chains and transport
Remote Women's Safe House upgrades managed by Non-Government Organisation (NGO)	1.6	•			Capital grants to support vulnerable people by improving community service facilities
Replace critical asset elements in various hospitals, remote health clinics, schools and police stations	20.0	•	•	•	Ensure a safe and healthy work environment and best practice in the delivery of government services
Road Safety Program, including intersection upgrades, improvements for pedestrian safety, street lighting, truck parking bays, rest areas	267.0	15.0	80.0	•	Support connectivity, regional development and safety by improving key arterial and secondary roads

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Roads to Recovery Program targeted local road upgrades	24.7	•	•		Enhance road infrastructure to support accessibility, connectivity, safety and amenity
Security enhancements to police facilities	9.0	2.0	2.0	•	Support the continued delivery of quality police services
Targeted road safety projects, local roads and community infrastructure shovel ready projects	67.5	20.0	7.6		Australian and Northern Territory governments supporting infrastructure construction jobs across the Territory
Territory Schools air-conditioning mechanical and electrical upgrades	4.0	2.0			Upgrade ageing infrastructure to support the continued delivery of quality education



Above: Barkly Highway culverts. Credit: Department of Infrastructure, Planning and Logistics.

Regionally significant

The following projects, proposals and programs identify and articulate the infrastructure investment that will have an impact on the Barkly region.

Agribusiness

Aboriginal Land Economic Development Agency (ALEDA) Project 45

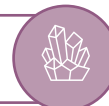


The Aboriginal Land Economic Development Agency (ALEDA) Project is a pilot program to validate an economic development model for Aboriginal land. The project proposes to establish agribusiness developments at 6 sites located within the Mataranka (Sturt Plateau) and Ali Curung (southern Barkly) areas and

produce a range of crops. The 6 sites will be leased from Traditional Owners and then sub-leased to commercial farm operators to generate economic benefits for the Traditional Owners and employment opportunities for local Aboriginal people.

Ammaroo Ammonium Phosphate Fertiliser Project – Verdant Minerals Ltd 46

Minerals



Agribusiness



Major Project



The Ammaroo Project is located approximately 200 kilometres south-east of Tennant Creek in the Northern Territory's Georgina Basin. The Ammaroo phosphate deposit was first discovered in 2011 and is now the largest Joint Ore Reserves Committee (JORC) compliant phosphate resource in Australia and one of the largest undeveloped phosphate resources in the world.

The project is a phosphate rock mine with processing of phosphate rock concentrate

that can be exported or feed an integrated ammonium phosphate production operation – open cut strip mining operations, with dry and wet beneficiation to produce phosphate rock concentrate. An integrated sulphuric acid and phosphoric acid plant would enable the phosphate rock concentrate to be locally processed into phosphoric acid and combined with small scale ammonia production and granulation to enable the integrated manufacture of approximately 1 million tonnes per annum of ammonium phosphate fertilisers.

Minerals

Agribusiness

Avenira Limited's Phosphate Rock Mine and Yellow Phosphorous Plant ⁽⁴⁷⁾



The Wonarah phosphate project is located in the Barkly region, halfway between Three-ways and the Queensland border, adjacent to the Barkly Highway and Northern Gas Pipeline. Avenira recently signed a mining agreement with the Arruwurra Aboriginal Corporation, creating a strong framework to share in the economic and social benefits from the project on Arruwurra lands.

A Mining Management Plan (MMP) was recently approved by the Northern Territory Minister for Mining and Industry for a 5 000 tonnes per annum (tpa) test pit and the first stages of a 35 000 tpa direct shipping ore (DSO) operation. A MMP will soon be lodged to extend the duration of the DSO operation.

Mining rate and duration will depend on the prevailing and predicted economic conditions.

A second phase of the project is to build a yellow phosphorous plant at Wonarah to provide an efficient feedstock for the thermal phosphoric acid plant in Darwin and an export product.

Wonarah has existing Environmental Impact Statement approvals for a high rate of DSO production and operation of thermal furnaces streamlining the pathway to development and production.

Phosphate is traditionally used in agricultural fertiliser, and is increasingly in demand for use as a critical active material used within an electric vehicle battery or energy storage battery.

Minerals

Rover Project – Castile Resources ⁽⁴⁸⁾



The Rover Mineral Field, which contains the Rover 1 Mining Project, is 100% owned by Castile Resources Ltd (Castile) and is located approximately 75 kilometres south-west of Tennant Creek in the Northern Territory. A pre-feasibility study for the Rover 1 Mining Project, completed in December 2022, strongly supported the feasibility of the project. The proposed development consists of an underground mine, accessing 3 loads (Jupiter,

Jupiter Deep and the Western Zone) and a 500 000 tonnes per annum processing facility, producing 4 products – gold doré, copper (99%), cobalt (99%) and a high-grade coal washing magnetite (96.4%).

A bankable feasibility study has commenced and is expected to be completed in 2024. Castile is concurrently progressing project approvals and licensing. Construction is expected to occur in 2025.

Singleton Farm project – Fortune Agribusiness Funds Management Pty Ltd 49

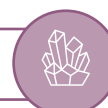


The proposed Singleton Farm involves 3300 hectares of annual and perennial crop production, accommodation for workers and supporting infrastructure. The project will provide significant expansion of the NT fruit and vegetable sector with benefit to the regions and communities through enhanced employment opportunities and wider economic benefits.

From construction through to production, Singleton Farm will create and sustain over 420 direct and indirect full time equivalent jobs, provide employment and training for local people and business opportunities for existing and new contractors and service providers.

A shortlist of 7 crop options have been identified including mandarin, table grape, dried grape, onions, avocado, muskmelon and jujube.

Tennant Creek Central Gold Mill – Tennant Mining 50



Tennant Mining is a gold and copper focused resource company with an exploration portfolio of tenements that includes the Tennant Creek Goldfield. Tennant Mining's suite of gold assets includes Nobles Nob and Juno, as well as Mauretania and Chariot, which are part of the Northern and Southern Project Areas respectively (joint ventures with Emmerson Resources). Tennant Mining is developing a

central processing plant at its Nobles Nob project site, located around 14 kilometres south-east of Tennant Creek to process ore from across other mine sites in the Tennant Creek region. In the medium term, Tennant Mining plans to develop its copper-gold Warrego asset near Tennant Creek to help meet the growing demand for copper, as the world transitions to a net zero carbon future.

Enabling infrastructure plan

The enabling infrastructure plan for the Barkly region lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Across the region additional health staff accommodation	•	Strengthen liveability by improving infrastructure to support health services	0-10
Across the region new or refurbished health clinics	•	Strengthen liveability by improving infrastructure to support health services	0-15
Across the region new remote health education facilities	•	Strengthen liveability by improving infrastructure to support health education services	0-15
Across the region Remote School Renewal Program	•	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Alekarenge School new early years pre-school incorporating a Families as First Teachers space and new administration building	7	Strengthen early years learning and engagement of students and parents	0-5
Ali Curung new police complex including housing and Emergency Services (NTES)/ NT Fire and Rescue Service (NTFRS) storage structure	21	Support the continued delivery of quality police services in remote communities	0-10
Ali Curung refurbish council staff housing, visitor accommodation and depot shed	1	Support council operations by providing housing for local government employees in remote communities	0-5
Ali Curung upgrade football field	1	Enhanced liveability through improved community recreation facilities	0-5
Alpurrurulam ablutions, BBQ, fencing and playground with shade	1	Enhanced liveability through improved community facilities	0-5
Alpurrurulam install critical drinking water infrastructure	6	Support population growth by improving access to quality water treatment systems	0-5
Alpurrurulam new police complex	19	Support the continued delivery of quality police services in remote communities	0-5

• indicates value is either commercial in confidence or to be confirmed.

Timeframe					
0-5	0-5 Years	0-10	0-10 Years	0-15	0-15 Years
5-10	5-10 Years	10-15	10-15 Years	15+	15+ Years





Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Alpurrurulam School replace classrooms	2	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Alpurrurulam short term safe house	1	Support vulnerable people by improving community service facilities	0-5
Ampilatwatja cemetery fencing, council workshop and depot upgrade	1	Support council operations	0-5
Ampilatwatja new sport and recreation building	1	Enhanced liveability through improved community recreation facilities	0-5
Ampilatwatja upgrade sewer network	8	Improve liveability through the provision of adequate water systems	0-5
Ampilatwatja water park and BMX track	1	Enhanced liveability through improved community recreation facilities	0-5
Arparra upgrade football oval	1	Enhanced liveability through improved community recreation facilities	0-5
Austral Downs Road upgrade selected sections	15	Increase road capacity, safety, support accessibility, connectivity and amenity	0-15
Barkly Stock Route improve road standard	25	Support economic development of the cattle industry	0-10
Canteen Creek new dental clinic within health centre	1	Strengthen liveability by improving infrastructure to support oral health services	0-5
Elliott council staff housing	1	Support council operations by providing housing for local government employees in remote communities	0-5
Elliott Jim Rennie Reserve Master Plan	3	Enhanced liveability through improved community facilities	0-5
Elliott new police complex	19	Support the continued delivery of quality police services in remote communities	0-5
Elliott police housing	2	Support the continued delivery of quality police services in remote communities	0-5
Elliott regional town development residential and commercial/industrial land release	20	Enable economic development and population growth by increasing land availability	0-5
Elliott School integrated early learning facility	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Epenarra/Kurundi Road upgrade selected sections	10	Enhanced liveability through improved roads	0-15

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Karlu Karlu (Devil's Marbles) upgrade campground and overnight visitor amenities	12	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Kunjarra/The Pebbles seal access from Stuart Highway	9	Improve accessibility, supporting the tourism industry	5-10
Sandover Highway sealing selected sections	22	Support community access and the cattle industry	0-10
Tablelands Highway continue widening the seal from one lane to 2 lanes in conjunction with pavement rehabilitation works	80	Support economic development of the cattle industry	0-15
Tennant Creek Airport workers accommodation	•	Improve airport services to support accessibility, visitor growth and tourism	0-5
Tennant Creek animal management facility	1	Support council operations, community services, generate local jobs and skills training	0-5
Tennant Creek council staff housing	2	Support council operations by providing housing for local government employees in remote communities	0-5
Tennant Creek Court House upgrades	5	Strengthen equitable access by improving infrastructure to support judicial services	0-10
Tennant Creek High School STEAM (science, technology, engineering and mathematics) centre	8	Contemporary educational infrastructure to support growth in population and student enrolments	0-5
Tennant Creek Hospital upgrades	•	Strengthen liveability by improving infrastructure to support health services	0-15
Tennant Creek Lake Mary Ann caravan park development	3	Enhanced liveability through improved community facilities	0-5
Tennant Creek new emergency service facility including visiting officer quarters	7	Support the continued delivery of quality police services in remote communities	0-15
Tennant Creek Power Station battery energy storage system	5	Asset renewal to support growth, compliance and improve service efficiency	0-5
Tennant Creek Primary School install lift for accessibility	1	Contemporary educational infrastructure to support students with additional needs	0-5
Tennant Creek Primary School replace early years classroom block	4	Contemporary educational infrastructure to strengthen early years learning and engagement of students	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Tennant Creek Speedway upgrades	3	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-15
Tennant Creek visitor accommodation	•	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-10
Wonarah Trial Pit	•	Meet global demand for critical minerals used for new and emerging technologies	0-5
Wonarah Direct Shipping Ore (DSO) Operation	•	Meet global demand for critical minerals used for new and emerging technologies	0-5
Wonarah Yellow Phosphorous Plant	•	Meet global demand for critical minerals used for new and emerging technologies	5-10
Wutunugurra (Epenarra) new dental clinic within health centres	1	Strengthen liveability by improving infrastructure to support oral health services	0-10
Wutunugurra football oval ablution block	1	Enhanced liveability through improved community facilities	0-5
Wutunugurra new women's centre	1	Support vulnerable people by improving community service facilities	0-5

Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
Barkly		
Continue to progress planning of the Mount Isa to Tennant Creek rail link	 Reform	 In progress
Undertake infrastructure planning to enable major private sector projects	 Reform	 In progress

Infrastructure pipeline

The following is a list of committed projects, funded by either government or the private sector, for the Barkly region.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across the region HomeBuild new homes	38.5	8.3	3.5	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region residential infill lots, design and construct power and water infrastructure, upgrades and network extensions to service nominated infill lots	7.7	0.2	0.2	•	Enable economic development and population growth through expanded utilities networks for new land development
Across the region residential subdivision planning, design and construction	2.0	0.2			Enable economic development and population growth through expanded utilities networks for new land development
Across the region Room to Breathe home extensions	8.8			•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Ali Curung Aerodrome seal and line mark airstrip	2.5		2.4		Support connectivity and improve all weather access to improve community safety and to support future growth
Ali Curung child and family centre (Starting Early for a Better Future)	0.5	•			Strengthen early years learning and engagement of students and parents
Alyawarre Arlparra Utopia ranger hub including office, shed, visiting staff accommodation, staff accommodation, meeting space, ablutions block	2.1	2.1	•		Enhanced liveability through improved Central Land Council services to remote Aboriginal communities
Ampilatwatja refurbish basketball court	0.4	•			Enhanced liveability through improved community facilities
Barkly youth work camp	3.6	3.1			Improve outcomes for young people in detention, their families and the community
Government Employee Housing	•	•			Increase housing options for Government employees in regional areas in partnership with private sector through the Barkly Regional Deal
Murray Downs School upgrade ablutions	0.5	•			Upgrade ageing infrastructure to support the continued delivery of quality education

A lesser figure in the 2023–24 and 2024–25 columns than in the Total column indicates either previous year expenditure or expenditure in outer years.

• indicates value is either commercial in confidence or to be confirmed.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
New weather radar	15.0	•			Improve road and air travel safety and support agricultural, pastoral, transport and mining industries through the Barkly Regional Deal
Purkiss Sporting Reserve upgrades	7.9	3.0			Improve amenity for sporting participants and attendees
Tennant Creek Airport enabling infrastructure for new patient transfer facility including taxiway and apron extension	•	•			Improve airport facilities to support accessibility to health services
Tennant Creek High School student boarding accommodation	16.0		16.0	•	Contemporary educational infrastructure to support rural and remote students through the Barkly Regional Deal
Tennant Creek Hospital staff accommodation	3.2	3.2			Strengthen liveability by improving infrastructure to support health services
Tennant Creek industrial land release	10.0	9.7			Enable economic development and population growth by increasing land availability
Tennant Creek new bike path with lighting	2.0	•			Enhanced liveability through improved community facilities
Tennant Creek new watch house	11.5		11.5	•	Support the continued delivery of quality police services in remote communities through the Barkly Regional Deal
Tennant Creek Nyinkka Nyunyu Art and Culture Centre	10.0	7.0			Value, preserve and expand art and cultural places, through the Arts Trail Gallery Extension Program
Tennant Creek residential land release	5.0		5.0	•	Enable economic development and population growth
Tennant Creek to Townsville corridor	85.6		40.0	•	Roads of Strategic Importance - economic enabler and key national freight route between the Territory and Queensland
Tennant Creek visitor experiences including gold rush and ore mining interpretive displays	4.4	3.4			Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
Tennant Creek visitor park	9.7		9.7	•	Provide safe, affordable and sustainable temporary housing options for mobile Territorians through the Barkly Regional Deal
Tennant Creek weighbridge and office at landfill site	0.4	•			Support council operations and community services

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Tennant Creek, 7 and 9 Noble Street construct 8 2-bedroom townhouses	3.0	3.0			Provide a variety of contemporary residential options
Utopia Art Centre upgrade	2.8	2.8	•		Community led response to improve economic development and liveability through the Aboriginal Benefits Account
Utopia Footy Oval new surface, baseball diamond, male and female change rooms, viewing stands, electronic score board and siren	8.5	•	•	•	Community led response to improve community engagement, amenity and liveability through the Aboriginal Benefits Account
Utopia Homelands projects	1.2	1.2	•		Community led response to improve community engagement, amenity and liveability through the Aboriginal Benefits Account
Warrego Tailings Project reprocessing of old tailings dams to produce magnetite concentrate	48.0	48.0			Meet global demand for minerals



Above: Tennant Creek. Credit: Department of Territory Families, Housing and Communities.

NT Infrastructure Audit

Reliable infrastructure is a vital part of maintaining and improving our quality of life. It provides us with essential services we rely on like transport, energy, water and telecommunications, as well as social infrastructure such as hospitals and health centres, schools, policing and parks and access to goods and services.

In 2022 and 2023, Infrastructure NT conducted a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making. The outcomes of the audit focus attention on the investments and reforms that will improve our living standards and local and national productivity.

The revealed a number of potential infrastructure needs for the Barkly region. Where these needs were already in the planning phase, they have been included in the Enabling Infrastructure Plan or Infrastructure Pipeline tables in this document. The remaining Barkly region audit items are listed below. These potential infrastructure needs are for projects that could be considered for possible inclusion in the Plan and Pipeline over time as scoping, feasibility analysis and business case development determines viability. Industry, business and community stakeholders are encouraged to let Infrastructure NT know if they progress with planning and delivery of those needs and proposals.



Transport and Logistics

- Tennant Creek recycling plant



Land

- Tennant Creek headworks upgrades and expansion



Social Infrastructure

- Across the region community controlled early childhood facilities
- Across the region community controlled health facilities
- Across the region community controlled housing
- Ali Curung sport and recreation hall and upgrade football field
- Alpururulam skate park, playground with shade, basketball court and play equipment
- Ampilatwatja ablution block, basketball court enclosure, refurbish basketball court, BMX track and water park
- Ampilatwatja art centre and meeting place
- Arlparra artists hub and gallery
- Elliott shaded recreation facilities and ablutions
- Purkiss Reserve sporting upgrades
- Tennant Creek construct Staunton oval, walking path and bowling club green
- Tennant Creek government and industry housing
- Tennant Creek sports hub facility
- Tennant Creek Hospital renewal
- Tennant Creek Ranger hub
- Tennant Creek wave pool
- Utopia oval upgrades, score board, change rooms, lights and softball upgrades
- Vocational Education and Training facilities in schools

The Barkly region is one of 6 regions in the Northern Territory.

To download the full NT Infrastructure Plan and Pipeline or the NT Infrastructure Audit visit

<https://infrastructure.nt.gov.au>





Above: NT rail line. Credit: Department of Infrastructure, Planning and Logistics.

About Infrastructure NT

Infrastructure NT is the Northern Territory's infrastructure body. Infrastructure NT undertakes strategic infrastructure planning and development that co-ordinates and aligns infrastructure needs with economic and population growth.

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