



STATE INFRASTRUCTURE STRATEGY

▼ JUNE 2022

The Department of State Development, Infrastructure, Local Government and Planning connects industries, businesses, communities and government (at all levels) to leverage regions' strengths to generate sustainable and enduring economic growth that supports well-planned, inclusive and resilient communities.

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Cover: Cross River Rail Tunnel under construction
(Source: Cross River Rail Delivery Authority)

Contents

▼ Foreword	5
▼ Introduction	6
▼ Queensland's infrastructure framework	10
▼ Stakeholder partnerships and industry development	14
▼ How this strategy was developed	17
▼ Queensland context	18
▼ Infrastructure vision	20
▼ Infrastructure objectives	20
▼ Queensland's infrastructure focus areas	21
▼ Cross-government	35
▼ Digital and innovation	47
▼ Transport	55
▼ Energy	63
▼ Water	71
▼ Health	79
▼ Education and training	87
▼ Justice and public safety	95
▼ Arts, culture, recreation and tourism	103
▼ Social and affordable housing	111
▼ Measuring success	118

A photograph of a man sitting on a rocky shore, playing a didgeridoo. He is wearing a dark blue t-shirt and shorts. The background shows a beach, the ocean with some people swimming, and a city skyline with several high-rise buildings under a clear sky. In the foreground, there are large green plants with long, thin leaves.

Acknowledgement of Country

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) acknowledges the First Nations peoples in Queensland: Aboriginal and Torres Strait Islander peoples and their connections to the lands, winds and waters we now all share. We pay our respect to Elders, past, present and emerging.

We also acknowledge the continuous living culture of First Nations Queenslanders – their diverse languages, customs and traditions, knowledges and systems. We acknowledge the deep relationship, connection and responsibility to land, sea, sky and Country as an integral element of First Nations identity and culture.

The Country is sacred. Everything on the land has meaning and all people are one with it. We acknowledge First Nations peoples' sacred connection as central to culture and being.

We acknowledge the stories, traditions and living cultures of First Nations peoples and commit to shaping our state's future together. DSDILGP recognises the contribution of First Nations peoples and communities to the State of Queensland and how this continues to enrich our society more broadly.

Playing the didgeridoo at Jellurgal (Burleigh Headland) on the traditional lands of the Yugambeh language group and Kombumerri peoples (Source: Tourism and Events Queensland)

FOREWORD

Queensland is emerging strongly from the COVID-19 pandemic, thanks to our successful health response and Queensland's COVID-19 Economic Recovery Plan that invested in infrastructure to support our communities and drive economic growth.

Infrastructure remains a critical component of our social and economic recovery. The pandemic has taught us that significant change will continue to occur – presenting us with a golden opportunity to adopt new, innovative and more collaborative approaches to address our infrastructure needs. Our *State Infrastructure Strategy 2022* sets out to do just that.

We consulted widely on a draft strategy to help shape this document, which sets out a 20-year vision for infrastructure to boost productivity, create jobs and improve livability. Five infrastructure focus areas have been specifically chosen to take forward this vision.

The first focus area will build on our state's potential to become a **renewable energy superpower**. We are already investing in initiatives like the \$2 billion Queensland Renewable Energy and Hydrogen Jobs Fund to meet our 50 per cent renewable energy target by 2030. This strategy sets out our infrastructure priorities to realise Queensland's lower-carbon future and become a leader in advanced manufacturing, including key renewable energy equipment.

We will build a powerful **legacy from the Brisbane 2032 Olympic and Paralympic Games** which sets us up for two decades of opportunities and benefits. With the right planning in place, there is potential to harness up to \$8.1 billion in economic and social benefits by showcasing Queensland to the world, attracting investment, diversifying and strengthening local supply chains and catalysing long-term growth. Key investments will provide lasting benefits to our communities through improved transport infrastructure and new and revitalised sporting venues.

As the most decentralised mainland state in Australia, **connecting our regions** is essential to address the growing digital divide across Queensland to ensure our communities and businesses remain healthy, connected and prosperous. This strategy focuses on improving statewide connectivity in partnership with the Australian Government and telecommunication providers, setting out the steps the Queensland Government will take to achieve better digital outcomes for Queenslanders.

We're also focussed on **creating livable communities** by planning and delivering the right infrastructure to ensure Queenslanders of all ages and abilities have access to health, education, housing, transport and other community services – which, in turn, supports economic growth and prosperity. This means sustainable and resilient planning for population growth, particularly in South East Queensland, and ensuring that needs are met in our regional communities.

This strategy also sets out actions to **drive the performance of our infrastructure program**, building on previous work to lift the quality of planning and improve delivery. It also encourages digitisation across the infrastructure lifecycle and includes working with industry to develop a roadmap to improve productivity.

Through smart, innovative and collaborative infrastructure planning and investment, we will maximise opportunities for our future and make Queensland an even greater place to live, work, invest or visit.



**The Honourable
Anastacia Palaszczuk**

Premier and Minister for the
Olympics



**The Honourable
Steven Miles MP**

Deputy Premier and Minister
for State Development,
Infrastructure, Local Government
and Planning and Minister
Assisting the Premier on
Olympics Infrastructure

INTRODUCTION

Queensland has one of the strongest economies in the nation, an enviable lifestyle and highly livable communities. But with more and more people choosing to call our state home, we need to be equipped to meet emerging challenges and embrace opportunities head on. The *State Infrastructure Strategy 2022* (the strategy) presents a clear vision of the Queensland Government's infrastructure requirements over the next two decades. It sets out our objectives for infrastructure and the priority actions that will drive the future we want for Queensland.

The advent of the internet, online shopping, electric vehicles and rooftop solar are just some of the significant changes we have seen over the past 20 years. In the coming two decades, we will see even more transformational change as emerging industries cement themselves in our economy, we adapt to our changing climate and increasingly severe weather events, and our population ages and grows exponentially. Accordingly, we must change and evolve the way we plan, deliver and manage our infrastructure.

Queensland is capitalising on the opportunities ahead. In 10 years we'll be hosting the Brisbane 2032 Olympic and Paralympic Games and we'll be well on our way to securing our future as a renewable energy superpower, generating 50 per cent of our electricity from renewables. We are investing over \$50 billion in infrastructure over four years from 2021–22 to support our communities and boost the state's prosperity. We will also deliver Regional Infrastructure Plans across the state to help identify opportunities to sequence and prioritise our investments.

The strategy sets out to align infrastructure investment across agencies to help inform industry and other levels of government and supports the six economic recovery priorities of Queensland's COVID-19 Economic Recovery Plan. It promotes place-based infrastructure planning, working closely with industry and the broader community to leverage their experience and knowledge. We will do more with less, driving performance and tackling complex issues, while providing infrastructure that meets the changing needs of our population and industries.

The strategy will be revised every four years to continue to guide and reflect the evolving nature of infrastructure. It covers 10 infrastructure classes (including a cross-government one), with priority actions to deliver on our objectives.

INFRASTRUCTURE CLASSES



Cross-government

Common priorities across infrastructure classes, covering industry and productivity, governance, place-based planning and resilience and sustainability.



Digital and innovation

Digital technology/infrastructure, mobile networks, fixed-line and satellite broadband services, data, digital infrastructure approaches (e.g. digital twin) and innovation precincts and places.



Transport

Roads, bridges, busways, railways, light rail, ports, airports, ferry connections, cycleways, shared paths, transport operational infrastructure, maritime infrastructure, shared mobility and other passenger transport solutions.



Energy

Generation, transmission, distribution and storage infrastructure.



Water

Dams and weirs, desalination plants, water and wastewater treatment plants, and pipelines.



Health

Hospitals, primary health care centres, neighbourhood and community centres, ambulance stations and supporting digital technologies.



Education and training

Education facilities from early childhood education and care through to tertiary education and training.



Justice and public safety

Detention centres (including correctional facilities, youth detention centres and police watchhouses), courthouses, and other police, fire and emergency, and disaster management services infrastructure.



Arts, culture, recreation and tourism

Art galleries, performing arts centres, cultural centres, museums, sporting fields/complexes, accommodation, attractions, walking trails, national parks and campgrounds.



Social and affordable housing

Social and affordable housing owned and/or managed by government and community housing providers and the private sector.

KEY ELEMENTS OF THE STRATEGY

VISION

The Queensland Government's 20-year vision for infrastructure.

We will drive collaborative state infrastructure planning to boost productivity, grow our economy and create jobs throughout the state. Infrastructure planning and delivery will leverage opportunities to improve the livability of our communities and capitalise on innovation to build a strong, sustainable and resilient Queensland.

OBJECTIVES

The four objectives we are trying to achieve.



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches

INFRASTRUCTURE FOCUS AREAS

The areas the Queensland Government will focus on in the medium-term to deliver its infrastructure vision and objectives.



Renewable energy superpower



Building a Brisbane 2032 legacy



Connecting our regions



Creating livable communities



Driving infrastructure performance

INFRASTRUCTURE CLASSES

Ten infrastructure classes with state-significant priorities for each, to realise opportunities and address challenges for Queensland into the future. Of these, the cross-government infrastructure class cuts across all others with priorities to improve the overall performance of the state's infrastructure.

MEASURING SUCCESS

The success of the strategy will be assessed against the four objectives with ongoing monitoring and reviewing.

RECOVERING FROM COVID-19 AND STRENGTHENING OUR RESILIENCE

Economic impacts

The Queensland Government's nation-leading response to the COVID-19 pandemic demonstrated the state's ability to continue on a path of recovery and growth and emerge stronger than before. During the height of the pandemic in April – May 2020, employment fell by a record 205,100 persons.¹ By February 2022 though, employment had risen to 152,700 persons above pre-pandemic levels (March 2020).² The extent of our recovery has exceeded expectations.

While sectors such as aviation, tourism, hospitality, retail, and international education have been hit hard, Queenslanders uniting to recover have given us the head-start we need to excel.

COVID-19, trade tensions and global economic shocks have illustrated the interconnectedness of Queensland's regional economies as well as their exposure to global trade conditions.

Agriculture and mining have experienced fluctuating global trade conditions, with some agriculture sectors affected by seasonal workforce shortages.

The impact of the pandemic along with geopolitical trends has disrupted international and domestic supply chains and highlighted the need to build local capacity for goods and services and build in resilience and market diversity in international supply chains.



Cross River Rail Construction
(Source: Cross River Rail Delivery Authority)

Queensland's recovery plan

The pandemic necessitated a swift, coordinated response from government to protect our health, economy and our communities. In 2020 the state government delivered *Queensland's COVID-19 Economic Recovery Plan* in response to the health and economic crisis. The success of this plan centred around its six economic recovery priority areas which committed support, stimulus and reform that sustained economic growth and jobs.

- 1 Safeguarding our health** – protect the health and wellbeing of Queenslanders
- 2 Backing small business** – the backbone of our economy
- 3 Making it for Queensland** – businesses and industry make, grow and export more products
- 4 Building Queensland** – drive substantial investment in economic and social infrastructure
- 5 Growing our regions** – strong regions that attract people, talent and investment
- 6 Investing in skills** – ensure Queenslanders have the skills to find jobs and career paths

Thanks to the success of this plan, Queensland's employment is above pre-pandemic levels. This strategy builds on our economic recovery which underscored the importance of well-planned and delivered infrastructure.

Infrastructure's role in our recovery

Infrastructure supports jobs. Fast-tracking projects, where possible, has stimulated construction jobs in the short-term, while investing in productive, economic infrastructure is positioning us for future success.

As Queensland continues to transition from shorter-term support and stimulus to enhancing the state's productivity and competitiveness, prudent infrastructure planning, delivery and investment is vital. Provision of the right infrastructure, as directed by this strategy, will support sustainable economic growth and private investment.



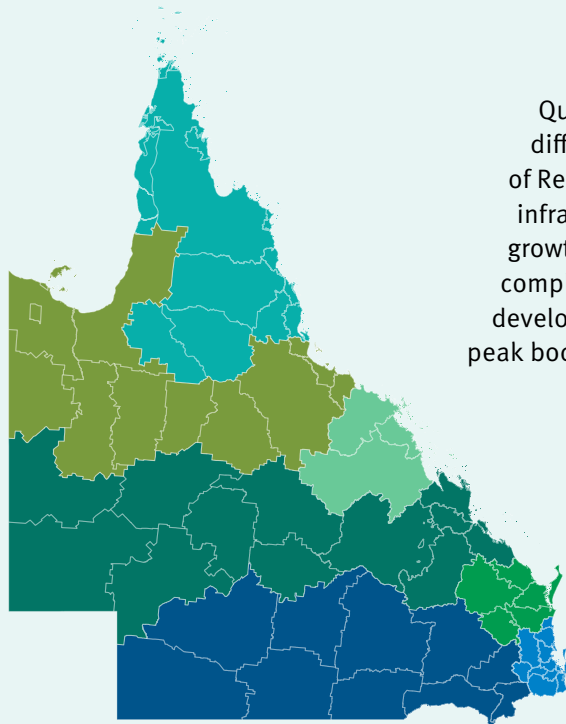
Elim Road, Hopevale (Source: Queensland Reconstruction Authority)

QUEENSLAND'S INFRASTRUCTURE FRAMEWORK

State Infrastructure Strategy

This strategy is built on the understanding that our regions are unique but we are stronger together. It provides an overarching framework that will enable all parts of Queensland to thrive.

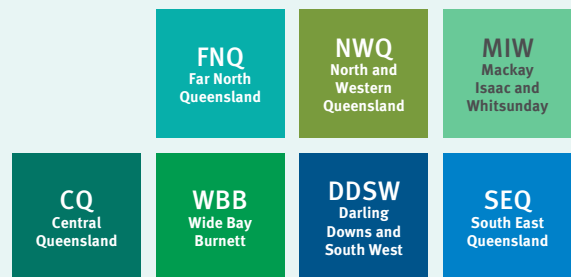
It sets the statewide priorities for infrastructure, providing a framework for how government will plan and invest in infrastructure over the next 20 years. These whole-of-state priorities drive portfolio and regional infrastructure planning. Developed with infrastructure providers and informed by industry and the community, this strategy aligns priorities across agencies while also seeking partnerships with other levels of government and the private sector. This strategy supports Queensland's economic recovery over the longer-term, aligning with *Queensland's COVID-19 Economic Recovery Plan*.



Map 1: Regional Infrastructure Plan regions

Regional Infrastructure Plans

Queensland is a diverse state and its different regions have different priorities. Supporting the strategy, the introduction of Regional Infrastructure Plans recognises the significant role infrastructure plays in catalysing regional economic recovery, growth and livability. Drawing on this strategy's priorities, and complementing statutory regional plans, these plans are being developed in consultation with regional stakeholders (industry, peak bodies and government) through a place-based approach to help prioritise regionally significant infrastructure needs.



Queensland Government Infrastructure Pipeline

The Queensland Government Infrastructure Pipeline (QGIP) demonstrates the government's commitment to statewide and regional priorities through a regularly updated pipeline of planning investment and proposals. The QGIP provides industry with visibility of the whole-of-government infrastructure pipeline, creating confidence and enabling workforce planning.



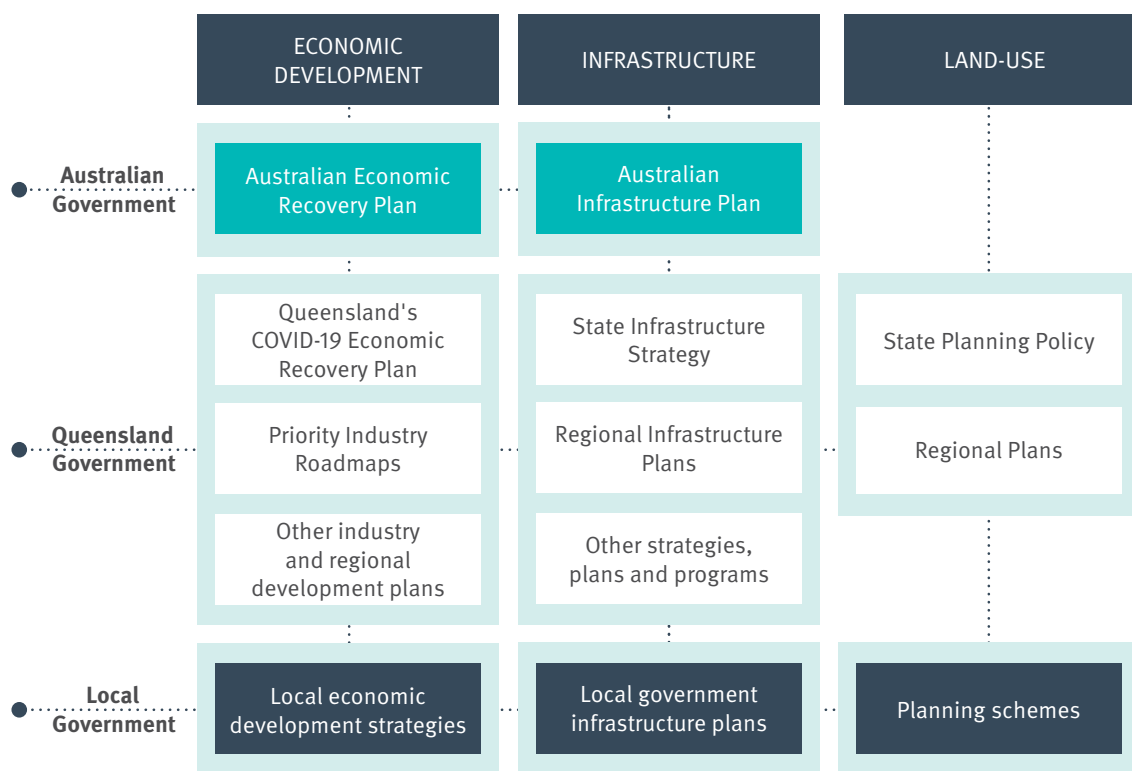
New Generation Rollingstock (Source: Department of Transport and Main Roads)

Alignment and integration of infrastructure planning

Importantly, the state government’s infrastructure planning is integrated with work undertaken by other levels of government. It is also integrated with other types of planning and coordination, delivered through areas such as the Office of the Coordinator-General and Economic Development Queensland, acknowledging infrastructure is an enabler of residential and industrial development and broader industry and economic development.

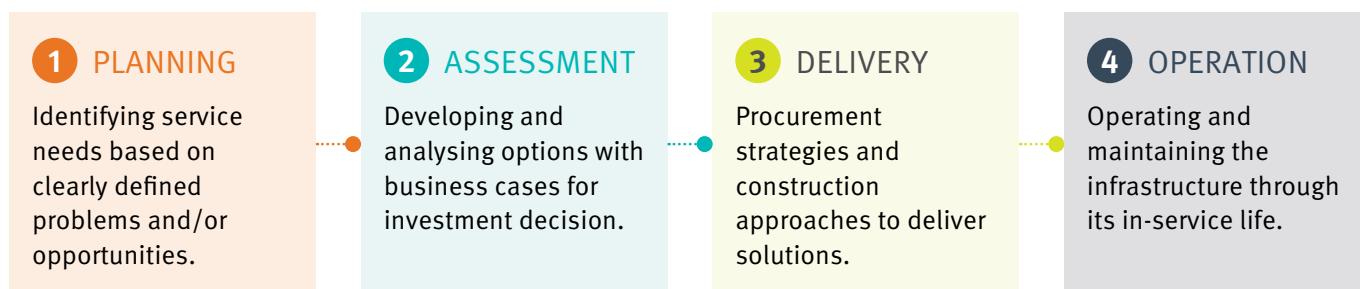
For example, at the state level, the Regional Infrastructure Plans align with statutory land-use Regional Plans and together can provide direction for local government planning. Continuing to improve the integration of infrastructure, land-use planning, and economic development helps support population growth, protect and enhance our natural environment, support emerging economic opportunities and respond to changing infrastructure needs.

The diagram below illustrates these relationships.



Rigorous infrastructure proposal development

The priorities outlined in this strategy and our Regional Infrastructure Plans will inform the development of proposals and projects across the four phases of the infrastructure lifecycle:



STAKEHOLDER PARTNERSHIPS AND INDUSTRY DEVELOPMENT

Working together is critical to achieving our best. That’s why this strategy serves as not just a roadmap, but also an invitation to partner with us in building the Queensland we all want to see.

Beyond the broader community, these key stakeholders include other levels of government, the infrastructure and construction sectors, potential investors and key industries that utilise state infrastructure to remain competitive.

This strategy provides a shared infrastructure agenda that responds to objectives common to government, industry, and the community. This is essential to lifting productivity, harnessing innovation, building resilience, maintaining the value of natural assets, and ensuring infrastructure delivery represents good value-for-money.

Working with other levels of government

The state government is one of many infrastructure providers that delivers the services used by Queenslanders every day (see figure below).

For example, driving to work involves seamless travel across local, state and federally funded roads. When turning on a tap, water can travel from state-owned dams through local government-owned pipes. The partnerships across all three levels of government are critical for providing our essential services.

The strategy is a framework to engage all tiers of government. Infrastructure productivity is enhanced when state, local and national infrastructure plans, priorities and investments align. This strategy gives infrastructure providers clarity about the state’s priorities and is central to the coordination of infrastructure planning across jurisdictions. The SIS is intended to both influence but also consider the Australian Government’s priorities, including those of Infrastructure Australia and its *2021 Australian Infrastructure Plan*.

The transparency of the priority actions outlined in the strategy and delivered through government investments as reported in the QGIP will support local governments in forward infrastructure planning. Regional Infrastructure Plans provide a mechanism for local governments to advise on the availability and form of state infrastructure to support regional priorities and aspirations, and foster investment partnerships to drive regional economies.

	TRANSPORT					WATER			ARTS AND RECREATION			EDUCATION AND HEALTH				JUSTICE AND PUBLIC SAFETY			ENERGY	DIGITAL	HOUSING							
	State, local and toll roads	Busways	Heavy and light passenger rail	Maritime and sea ports	Cycleways	Regional water supply (source, treatment, transport)	Local water supply	Sewerage	Stormwater management	Conservation areas	District and local parks	Cultural and sporting	Universities/research facilities	Technical and further education	Schools/kindergartens	Hospitals	Primary/community-based care	Ambulance	Police	Fire and emergency services	Law courts	Correctional facilities	Electricity (generation/transmission/distribution)	Gas	National Broadband Network	Other telecommunications	Social and affordable housing	
Australian Government	●	●	●	●	●	●				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Queensland Government	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Local Government	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Private sector	●		●										●	●	●	●	●						●	●	●	●	●	●

Note: This diagram reflects the predominant levels of government or sectors responsible for different types of infrastructure, however, this isn’t exhaustive and there are exceptions to this (e.g. Public-Private Partnerships). Queensland Government includes government-owned corporations, statutory authorities and boards. Local government includes sub-regional entities with multiple local governments as shareholders. Private sector may include not-for-profit organisations.

Working with the private sector

The private sector has a vital role in ensuring the delivery of the strategy's vision and objectives. We partner and work closely with it in delivering state infrastructure and services, including through utilising a range of vehicles. While the infrastructure and construction sector is a critical delivery partner, driving innovation, many essential services are also provided directly by private companies such as private health providers or renewable energy generators.

Working closely to grow and support other industries also enables us to help achieve our shared aspiration to grow the economy and international competitiveness. Understanding industry priorities helps us better invest in productive infrastructure. In forming these partnerships, governments and investors globally are increasingly looking at Environmental, Social and Governance criteria when making investment decisions, and Queensland is no exception.

It's an exciting time to be investing in, and growing an industry in Queensland. The Queensland Government has identified many priority and emerging industry sectors to drive economic growth and diversification. Investments in priority industries will need to shift with demand and opportunity, and where appropriate, be guided through 10-year roadmaps and dedicated industry development strategies/plans. Some industries include aerospace, defence, resources, hydrogen, screen industry and tourism.

In addition to directly investing in state infrastructure, the state also invests in a range of programs or specific projects to support the private sector through industry and regional development, skills development, or research and innovation. This helps develop an emerging industry or supports the transformation or ongoing competitiveness of more established industries. As an example, industry partnerships are central to the \$3.34 billion Queensland Jobs Fund, which brings together current flagship industry development programs to boost the state's industry footprint, create jobs and strengthen the economy.

The Queensland Government also invests in infrastructure with the private sector and other levels of government. For example, the \$40 million Queensland Recycling Modernisation Fund is jointly funded with the Australian Government to accelerate critical infrastructure projects in our waste management and resource recovery industries.

Through these partnerships with the private sector, regional economies can thrive with competitive industries supported through the alignment of infrastructure and industry development strategies. The infrastructure framework and delivery governance outlined in the strategy aims to drive more strategic infrastructure partnerships between government and the private sector to realise industry development priorities. Regional Infrastructure Plans will provide a place-based focus for highlighting what is needed to support regional industries.



Building Cross River Rail (Source: Cross River Rail Delivery Authority)

Working with the community

The Queensland Government is committed to doing more with our social infrastructure, collaborating across sectors (government, community, philanthropy and industry) to enable more multi-purpose, accessible facilities that provide a range of integrated and streamlined services at a single location.

Effective social and economic infrastructure brings communities together and improves community wellbeing through careful design and multi-sector partnerships. These partnerships are critical to support the unique needs of each community, with the Queensland Government one of many social infrastructure and service providers.

The state partners with and supports the community sector, drawing upon its expertise to deliver strategic planning, integrated services, co-location and shared-use of government facilities, along with grants and funding assistance. This includes partnering with philanthropic organisations to better enhance community connections by providing local access to world-class facilities that enable families to access the right services at the right time and in the right place. As examples, the Community Infrastructure Investment

Partnership program has invested in not-for-profit organisations, while the Queensland Schools Planning Reference Committee collaboratively reviews demand for state and non-state schools.

The Queensland Government has also committed to a new way of working with Aboriginal and Torres Strait Islander Queenslanders through the Statement of Commitment to reframe the relationship with government. *Tracks to Treaty* gives effect to this commitment through *Local Thriving Communities* and *Path to Treaty*. Through the implementation of *Local Thriving Communities* the Queensland Government is working with each community's unique strengths, embracing existing leadership structures including Indigenous councils and community leaders. This aims to enable Local Decision-Making Bodies as the key point of engagement with the Queensland Government, empowering communities to influence the design and delivery of services, maximising opportunities for local service and industry partnerships and driving the right investment to make communities stronger. *Path to Treaty* provides a once in a generation opportunity to come together and negotiate a new way of working in partnership.

▼ CASE STUDY

FamilyLinQ – Integrated social infrastructure supporting our local communities

FamilyLinQ is a partnership between the state government and The Bryan Foundation (a philanthropic organisation) to deliver Queensland's first two integrated school-based hubs to enhance health, education and life outcomes for children and their families.

These purpose-built hubs will be integrated into school community life and feature a soft-entry place to connect families to government services. Co-designed with partner organisations, the hubs will deliver a pipeline to government, social and community services that remain flexible and evolve as local needs change.

Each hub offers early years, schooling, health, wellbeing and family services, and provides adult training opportunities to build future skills for school community members.

Well-planned and integrated social infrastructure results in more accessible, adaptable and well-used facilities that bring people together, responding to changing local needs and supporting healthy, happy and livable communities.

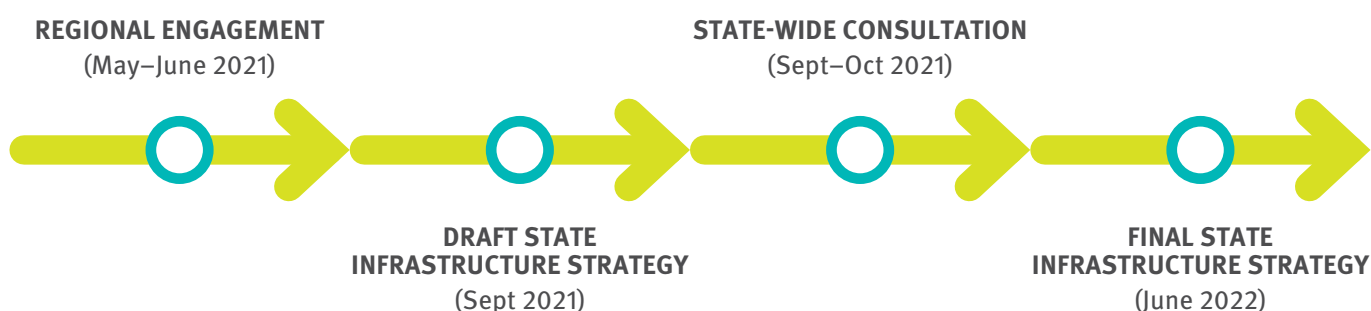


Yarrabilba Family and Community Place

▼ HOW THIS STRATEGY WAS DEVELOPED

Stakeholder engagement has been fundamental to shaping this strategy, which has been developed through regional workshops, online engagement, and consultation on a draft strategy.

These consultation activities throughout 2021, together with research and expert advice, helped build a rich picture of challenges, opportunities, and priorities for infrastructure across Queensland now and into the future. The strategy has also been developed in partnership with infrastructure delivery agencies within Queensland Government.



270
stakeholders
attended
**13 regional
workshops**



200
responses
from
**online
engagement**



Over
90
**online
and written
submissions**

- ▼ Supporting **industry growth and diversification** through partnerships, capitalising on regional opportunities, emerging technologies and preparing for the skills of the future
- ▼ Importance of **data, new technologies and digitisation** to drive better infrastructure outcomes
- ▼ Advocacy for **regional and remote communities** and their service needs to enhance livability to attract and retain residents and workforces
- ▼ Partnering with our **local infrastructure and construction** sector to leverage opportunities for innovation and better collaboration, while supporting its development, resilience, capacity and productivity
- ▼ Support for creating a **Brisbane 2032 legacy** expanding beyond Brisbane and across Queensland.

Stakeholders were very supportive of the draft's overarching objectives and focus areas, with feedback invaluable in amending priority actions.

While Queensland is a large and diverse state economically, socially and environmentally, our wide-ranging engagement and consultation highlighted some common aspirations for Queenslanders:

- ▼ Advocacy for **sustainability**, zero net emissions, renewables, green and blue infrastructure, sustainable and resilient infrastructure, tackling waste, and developing a circular economy
- ▼ Enhanced **connectivity** – both digital and transport – bridging the digital divide between our cities and regions, and providing connections for freight and passengers, and better end-of-line connectivity
- ▼ Responding to current **housing** pressures and the importance of housing affordability, diversity and accessibility, in addition to social housing, and how these contribute to livability



SIS engagement workshop

QUEENSLAND CONTEXT

Thanks to Queenslanders' united efforts, we have a chance to capitalise on our strong response to the COVID-19 pandemic.

Queensland's modern, vibrant economy is worth more than \$360 billion.³ The state's economic recovery from the COVID-19 pandemic is well established. In fact, Queensland's economy has bounced back faster than the rest of Australia and recovered more jobs than any other state or territory.⁴ We've secured the head-start we need to build a better future – now we can build on it.

Long-term infrastructure planning is essential to ensuring our economy remains globally competitive and our diverse communities across our large, decentralised state have access to the services they need. Long-term infrastructure planning will also ensure that infrastructure is designed, delivered and operated with as minimal impact on the environment as possible.

Queensland's internationally renowned natural environment is one of our greatest assets. It makes our state a great place to live and visit, however natural disasters and the impacts of climate change present ongoing risks to our natural and built environments. We also need to ensure that our infrastructure is ready to support Queensland's future economy as the world decarbonises to achieve zero net emissions.

Our infrastructure planning and delivery approaches will be influenced by a range of global, national and regional trends. The implications of some of these trends are already evident. Others will continue to evolve and require an agile approach to address changing circumstances and capitalise on new opportunities.



Where we are now

Community

- ▶ Population growth trends disrupted by COVID-19 and the closure of national borders.^{5,6}
- ▶ Almost 73 per cent of the state's population lives in South East Queensland (SEQ).⁷
- ▶ At 30 June 2021, more than 1.5 million Queenslanders lived in regional and remote areas outside of SEQ, a land area encompassing 98.7% of the state.⁸
- ▶ Queensland is home to Australia's second-largest Aboriginal and Torres Strait Islander population. Despite progress, there is still significant disparity in life outcomes between Aboriginal and Torres Strait Islander peoples and non-Indigenous Queenslanders.⁹
- ▶ COVID-19 transformed how and where we work, how we purchase goods and services, and how we interact with each other across our communities, including accelerating digital adoption.^{10,11}



Trends, opportunities and challenges

- ▶ Continuing demographic changes driven by more people aged over 65.¹²
- ▶ "Work from anywhere" is driving regionalisation.¹³
- ▶ While Queensland's growth rate has slowed during the pandemic, it had the fastest growth rate of all jurisdictions.¹⁴
- ▶ Changing approaches to city design as collections of villages and embracing neighbourhoods, including reimagining CBDs as innovation centres.^{15,16}
- ▶ Reframed relationship with First Nations peoples in Queensland through *Tracks to Treaty*, which includes the Local Thriving Communities and *Path to Treaty* reforms, and also the *National Agreement on Closing the Gap*.¹⁷
- ▶ Businesses, industry and community have been adapting in response to COVID-19.
- ▶ Cross-government collaboration and partnerships to drive shared-use approaches that enable more integrated, multi-functional and cost-effective social infrastructure.



Future infrastructure planning considerations

- ▶ Infrastructure that responds to the unique needs of communities and regions, including for particular cohorts, such as First Nations peoples, people with disability, and other Queenslanders.
- ▶ Population growth and changes in population structure will impact utilities (water, energy, telecommunications), housing affordability and social infrastructure requirements for health, education, sport and recreation, training and transport.
- ▶ Additional health, technology and mobility solutions to meet the needs of our ageing population and people with disability.
- ▶ Digital and transport connectivity supporting livability, amenity, labour mobility and service delivery across Queensland.
- ▶ Co-location of innovation, entertainment, sport and recreation, and cultural precincts and smart design of city spaces.



Where we are now



Trends, opportunities and challenges



Future infrastructure planning considerations

Economy



- ▶ Queensland's economic growth has generally exceeded the national average over the past two decades, driven by stronger population growth, a resources investment boom and associated upturn in LNG exports.
- ▶ COVID-19 has had far-reaching impacts on the Queensland economy, particularly services industries and those industries exposed to global trade conditions.¹⁸
- ▶ Queensland is leading the nation's economic recovery, growing faster and recovering more jobs.¹⁹
- ▶ Industry roadmaps and strategies for priority sectors are driving economic diversification.²⁰

- ▶ Continued transition from a historically resources-based economic growth towards more broad-based growth. Increased specialisation in industries including mining, agriculture and manufacturing.
- ▶ Technology will drive new industries and disruptive business models with economy-wide implications, including the growth of science-based industries.²¹
- ▶ Innovation and research infrastructure, including universities, will support industry development and economic diversification.
- ▶ Changing energy mix driving electrification and decarbonised industries such as green manufacturing and hydrogen.²²

- ▶ Technology will influence infrastructure solutions (e.g. remote work and distributed work centres, while on-demand transport and autonomous vehicles are likely to impact levels of urban congestion).
- ▶ Infrastructure and construction sectors will adopt new technology to unlock productivity, such as digital approaches throughout the asset lifecycle.²³
- ▶ Embracing new approaches to regulation and service delivery for infrastructure.²⁴
- ▶ Infrastructure enables productivity gains across industries, and supports their development and transformation (e.g. for new economy minerals).
- ▶ Innovative approaches to infrastructure planning, delivery and financing will be essential to meet the infrastructure costs of the future.

Environment



- ▶ Queensland is Australia's most disaster-affected state. Since 2011, we have been impacted by more than 90 disaster events, with more than \$17.2 billion spent on recovery and reconstruction of damaged essential public infrastructure.
- ▶ Half of the species living in Queensland are unique to the state.
- ▶ Queensland is home to 72 per cent of Australia's native bird species, 85 per cent of its native mammals and just over 50 per cent of the country's native reptiles and frogs.²⁵
- ▶ Queensland is home to five World Heritage areas: K'gari (Fraser Island), Gondwana Rainforests, the Great Barrier Reef, Riversleigh and the Wet Tropics.
- ▶ The Great Barrier Reef has an economic, social and icon asset value of \$56 billion. It supports 64,000 jobs and contributes \$6.4 billion to the Australian economy.²⁶
- ▶ Home to the four largest sand islands in the world.

- ▶ Frequency and scale of natural disasters and severe weather to increase due to climate change. The cost of natural disasters to the state is estimated to be \$18.3 billion per year by 2050.²⁷
- ▶ Society is becoming increasingly environmentally conscious.²⁸
- ▶ Queensland Government targets of zero net emissions by 2050 and generating 50 per cent of energy from renewable sources by 2030.²⁹
- ▶ Communities are understanding their role in the production and future of waste, recycling and remanufacturing. Waste is becoming an economic commodity and can be used to create jobs and growth.

- ▶ Reducing infrastructure vulnerability to future hazards and risks.
- ▶ Infrastructure that is more sensitive to the natural environment and increasing recognition of the value of green and blue infrastructure.
- ▶ Infrastructure that considers environmental vulnerabilities, including where infrastructure is located, and supports decarbonisation, waste minimisation and resource reuse.
- ▶ Infrastructure that enhances sustainability and resilience through better design and management of both built and natural assets to reduce their environmental impact.

▼ INFRASTRUCTURE VISION

Great infrastructure is the platform for Queenslanders to thrive. From connecting businesses with overseas markets, boosting livability, and enabling the delivery of world-class health and education services – infrastructure is a key enabler of our economy and community.

We recognise the services and outcomes infrastructure facilitates, as well as the role it has in protecting and enhancing our natural environment and supporting the community and economy in adapting to climate change. We also understand the value of good planning.

This section sets out the government’s new infrastructure objectives to deliver on its vision for Queensland. These are embedded in the following chapters, providing more detail on the challenges, opportunities, and infrastructure class priorities.

Our 20-year vision for infrastructure

- ▼ We will drive collaborative state infrastructure planning to boost productivity, grow our economy and create jobs. Infrastructure planning and delivery will leverage opportunities to improve the livability of our communities and capitalise on innovation to build a strong, sustainable and resilient Queensland.

▼ INFRASTRUCTURE OBJECTIVES

ENCOURAGE JOBS, GROWTH AND PRODUCTIVITY

Investment in productive infrastructure will drive industry diversification and unlock the state’s future success. It will improve longer-term economic resilience and growth by reducing input costs for business, enhancing market access and supply chain linkages, unlocking economic opportunities and attracting workers by improving livability. Delivery of a sustainable pipeline of infrastructure will support local jobs and respond to increasing growth pressures in South East Queensland.

DEVELOP REGIONS, PLACES AND PRECINCTS

Place-based approaches to infrastructure planning and delivery will activate specific areas or sectors and create thriving, resilient and livable communities. It will provide conveniently located and accessible services including multi-purpose facilities and mixed-used precincts, and realise the full potential of economic corridors, regional growth precincts, knowledge and innovation precincts and commercial/industrial areas.

Place-based approaches will improve the integration of infrastructure, land-use planning and social and economic development.

ENHANCE SUSTAINABILITY AND RESILIENCE

Sustainability and resilience can be enhanced through the better design and location of built assets and better management of both built and natural assets to reduce their environmental impact. Improving infrastructure resilience and adaptation in response to the increasing impacts of climate change is also vital, given the increasing frequency and scale of natural disasters. Core to this objective is moving to a more sustainable and renewable future including incorporating flexibility to meet changing needs.

ADOPT SMARTER APPROACHES

Smarter approaches will focus on innovation and using data and technology to improve productivity through infrastructure delivery, operation and maintenance. This will include embedding ‘digital by default’ into infrastructure planning and embracing innovative and non-traditional solutions (e.g. better use of existing assets or non-build solutions). Adopting smarter and more innovative approaches can also strengthen evidence-driven decision making.

QUEENSLAND'S INFRASTRUCTURE FOCUS AREAS

Five key focus areas will concentrate our efforts over the medium-term to maximise benefits for Queenslanders and align with the achievement of the four objectives.



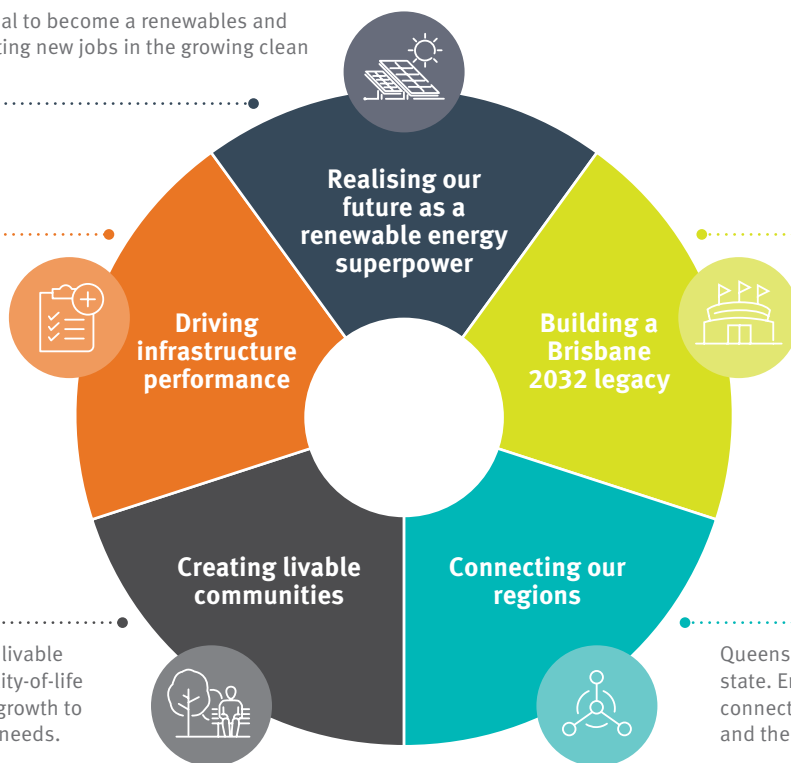
This strategy sets a 20-year vision with underpinning objectives, we need to focus on the medium-term and our pathway to getting there. In 10 years for example, we'll be hosting Brisbane 2032, we'll have passed our 2030 target of 50 per cent energy from renewable generation, and some of our current emerging industries will be much bigger players in our economy.

The government has identified five complementary focus areas to concentrate efforts over the medium-term to maximise benefits for Queenslanders. These focus areas respond to engagement feedback and will provide some of the best return on efforts across the public and private sectors, creating lasting benefits for Queenslanders:

Queensland has the potential to become a renewables and hydrogen superpower, creating new jobs in the growing clean energy economy.

Productive infrastructure is a critical enabler to unlock the state's future success.

Infrastructure must plan for livable communities, enhance quality-of-life and provide for population growth to meet diverse and changing needs.



Brisbane 2032 will catalyse long-term, sustainable growth for Queensland's cities and regions.

Queensland is a highly decentralised state. Enhancing the digital and physical connectivity of our regions with Australia and the rest of the world is critical.

Each focus area highlights key priority actions that will be crucial to its success. These priority actions, along with others, are further detailed in infrastructure class chapters later in this strategy.

▼ REALISING OUR FUTURE AS A RENEWABLE ENERGY SUPERPOWER

As the world transforms its energy use, Queensland has the potential to become a renewables and hydrogen superpower, creating new jobs in the growing clean energy economy. Not only will this reduce our greenhouse gas emissions, but these cleaner energy sources will in turn grow and decarbonise industries locally.

Renewable energy will be a key plank in delivering a zero net emissions future with a target for this to provide 50 per cent of the state's power by 2030.

Harnessing our plentiful renewable resources will help generate the jobs of the future, catapulting regional economies into profitable new industries. Increasing our renewable energy generation will facilitate heavy industry to decarbonise, bolstering Queensland's clean, green credentials which in turn will open new industries, new markets and new trading partners.

Storing renewable energy will be vital to reaching our superpower potential. As renewable generation capacity increases, the energy grid needs to integrate the variable output of renewable generation to ensure supply and demand are balanced at all times. Both large and small-scale storage will be needed. This is why the government is investigating the potential for pumped hydro energy storage at Borumba Dam.

As worldwide energy use changes, consumers, trading partners and society are demanding more sustainable and low emissions products and supply chains. Queensland can leverage that opportunity to secure a greater share of the supply chain, by using our natural endowment of new economy minerals, and by manufacturing green hydrogen and key renewable energy equipment like batteries.

Our sunshine state is uniquely positioned to supply demand for green hydrogen – a clean, renewable fuel that can be used in a variety of applications. The potential growth of the green hydrogen industry, coupled with forecast growth in renewable energy generation to assist industry to decarbonise, will see unprecedented demands for supporting infrastructure, including electricity generation, transmission and storage.

Already we are positioning the state as a hydrogen hub, and a leader in advanced manufacturing and the processing of green minerals. The development of the Central Queensland Infrastructure Plan will further cement the state's and Gladstone's hydrogen credentials with a focus on this growth precinct and planning for the infrastructure needed to support industry development.

Work is already underway to support the renewable energy and green hydrogen sector, including the establishment of Queensland's Renewable Energy Zones (QREZ), the *Hydrogen Industry Development Strategy* with the Hydrogen Industry Development Fund, and the \$2 billion Queensland Renewable Energy and Hydrogen Jobs Fund. The QREZ in particular will facilitate coordinated development of multiple renewable generators through strategic network investments to ensure generators are connected in a cost-effective way.






The government's draft Queensland Resources Industry Development Plan (QRIDP) highlights the next wave of demand for new economy minerals which will be critical to manufacturing renewable energy technologies like batteries, solar and wind technologies, and electric vehicles. Common user infrastructure will be critical to support the development of new economy minerals and transformation of our resources sector, and regional manufacturing hubs.

Our training sector is also rising to meet the opportunities offered by minerals processing and renewable energy. The Queensland Government is partnering with industry to deliver facilities and training for growth industries, such as the Queensland Apprenticeships Centre in Beenleigh that is getting a new Hydrogen Training Centre of Excellence.

This strategy sets the direction for further, state investment to unlock further private investment to realise Queensland's low-carbon future, capitalising on the shifts in investment as the costs of renewables and hydrogen decrease. Along with the upcoming Energy Plan our strategy outlines the pathway towards a cleaner, greener energy mix and securing our future as a renewable energy superpower.

Priority actions

Specific priorities to deliver our future as a renewable energy superpower are:

PRIORITY ACTION	SECTION
50 per cent renewable energy target	 Energy
Developing an Energy Plan for Queensland	 Energy
Develop Queensland's Hydrogen Industry	 Energy
Northern, Central and Southern QREZ	 Energy
Capturing the benefits of Queensland's renewables and hydrogen transformation	 Energy



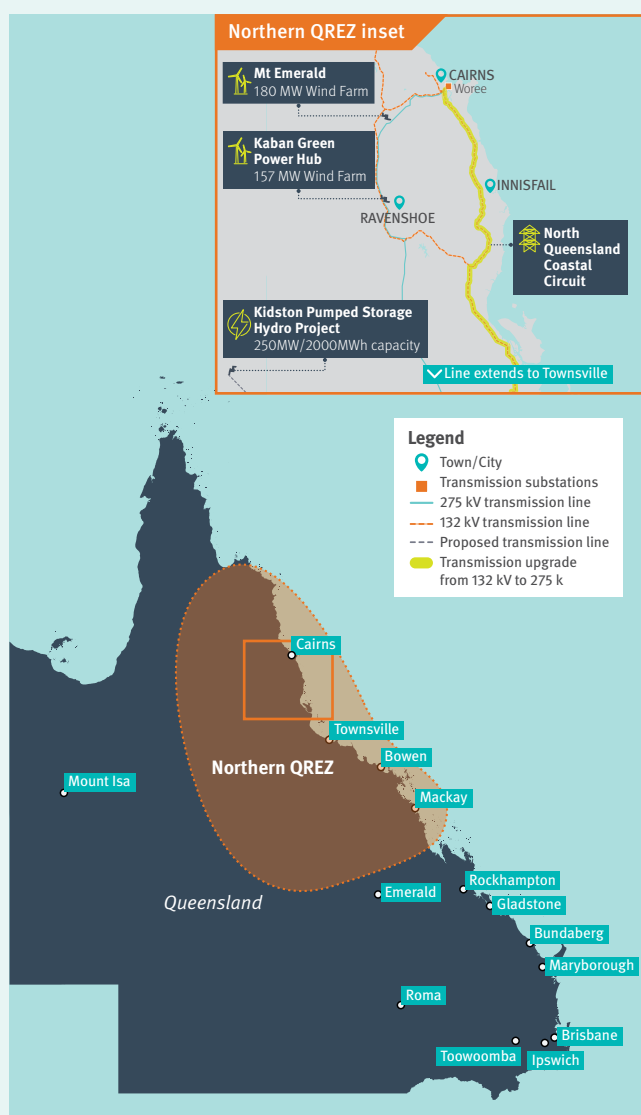
Fueling a hydrogen car

Northern QREZ

The Queensland Government has established three QREZs. Its first major investment in the Northern QREZ – \$40 million to upgrade the transmission network between Cairns and Townsville – will bring new projects to the region, create jobs and deliver more clean energy to Queenslanders. This investment will support the first new project connecting into the Northern QREZ – the 157 megawatt (MW) Kaban Green Power Hub wind farm.

These upgrades will be undertaken by the state-owned transmission network service provider Powerlink. The \$40 million investment will:

- upgrade transmission infrastructure between Cairns and Townsville to convert an existing 132 kilovolt (kV) transmission line to permanently operate at 275 kV
- deliver greater security of supply to Cairns, making the region's network more resilient to cyclones, storms and lightning strikes
- unlock up to 500 MW of additional generation capacity in the grid, starting with Neoen Australia's 157 MW Kaban Green Power Hub wind farm worth over \$370 million
- support a total of 250 near-term construction jobs from the transmission upgrade and wind farm construction, with the potential for hundreds more in the long-term as the region is built to full capacity.



▼ BUILDING A BRISBANE 2032 LEGACY

Our success in securing Brisbane 2032 sets Queensland up for two decades of exciting growth and opportunities. Brisbane 2032 will catalyse long-term, sustainable growth for our cities and regions.

Over the next 20 years, Brisbane 2032 is forecast to generate \$8.1 billion in benefits for Queensland and \$17.6 billion in benefits for Australia. It will also generate approximately 91,600 job years in Queensland and 122,900 job years across the nation. This is anticipated to come from a range of industries including increased depth and breadth of tourism exposure, new and diversified trading partners, an increase in volunteering and a multitude of health benefits. Regional events will showcase our unique regional identities and offerings, driving tourism and event hosting markets.

Brisbane 2032 will showcase all of Queensland, our welcoming residents and thriving economy, our beautiful and diverse landscapes, and our rich First Nations culture. Putting Queensland on the international stage will open new domestic and international tourism markets.

Brisbane 2032 will attract and stimulate investment to further strengthen our local supply chains and benefit local businesses.

The refreshed *Queensland Procurement Policy* prioritises local benefits and creates opportunities for Queensland businesses. In preparing for Brisbane 2032 and its legacy we'll grow our skilled workforce, support education and training that targets new industries and technologies and build capacity and capability throughout Queensland.





We are looking at new ways of working with our Games partners, including innovative procurement practices and engaging markets early, to deliver a successful Games and realise a wonderful legacy.

The development of Regional Infrastructure Plans will also identify other legacy opportunities ensuring Brisbane 2032 delivers for our regions well beyond 2032.

A Brisbane 2032 Olympic and Paralympic Games Legacy Committee is also being established to facilitate community advice on legacy opportunities and to ensure outcomes are maximised. The Committee gives Queenslanders a chance to assess the experiences of past hosts and collectively prioritise what we want to achieve, both in the lead up to the Games, and long after the stadiums empty and the Closing Ceremonies are over.

Priority actions

Some key priority actions to support our Brisbane 2032 legacy are:

PRIORITY ACTION	SECTION
Brisbane 2032 climate positive Games infrastructure	 Cross-government
Optimising Brisbane 2032 infrastructure and legacy	 Arts, culture, recreation and tourism
Planning for Brisbane 2032	 Transport
Introducing Digital Twins	 Digital and innovation

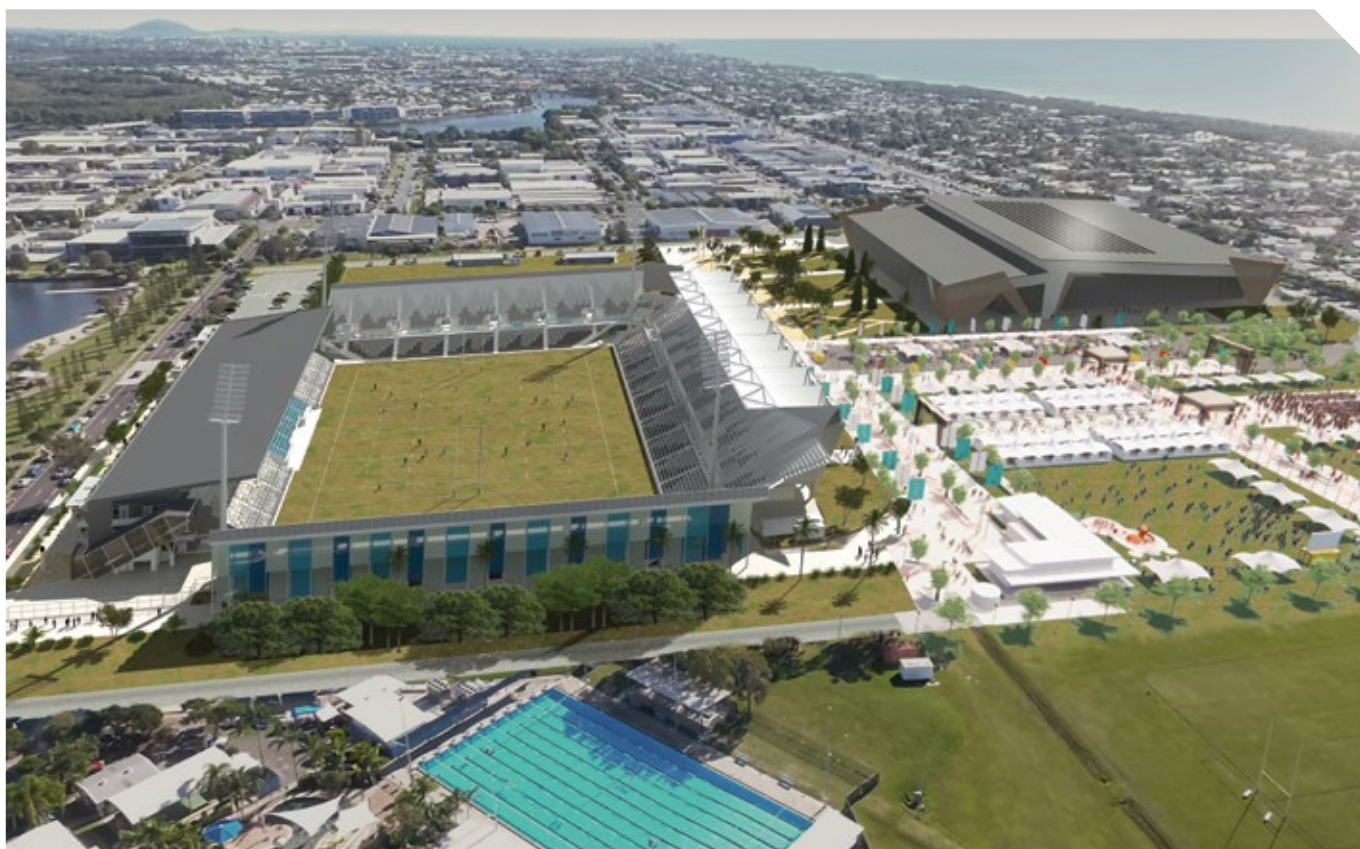
Infrastructure's contribution to a climate positive Games

The Queensland Government and its Games Partners have committed to deliver a climate-positive Brisbane 2032. This means minimising Brisbane 2032 carbon emissions as much as possible, offsetting more than 100 per cent of any remaining emissions and leveraging Brisbane 2032 to influence and create change. A climate positive Games will inspire action towards Queensland's renewable energy and emissions reduction targets and provide a platform to showcase our future focused economy globally. Brisbane 2032 has also committed to a range of social and environmental sustainability measures relevant to infrastructure.

World leading energy efficiency for the built environment, zero net waste and 100 per cent renewable energy for construction and operations will be part of the climate positive Games. Brisbane 2032 infrastructure will also be resilient and incorporate technologies supporting other aspects of low carbon operations, for example, electric vehicle charging infrastructure leaving a legacy of low-cost, low-impact infrastructure.

Digital and innovation opportunities

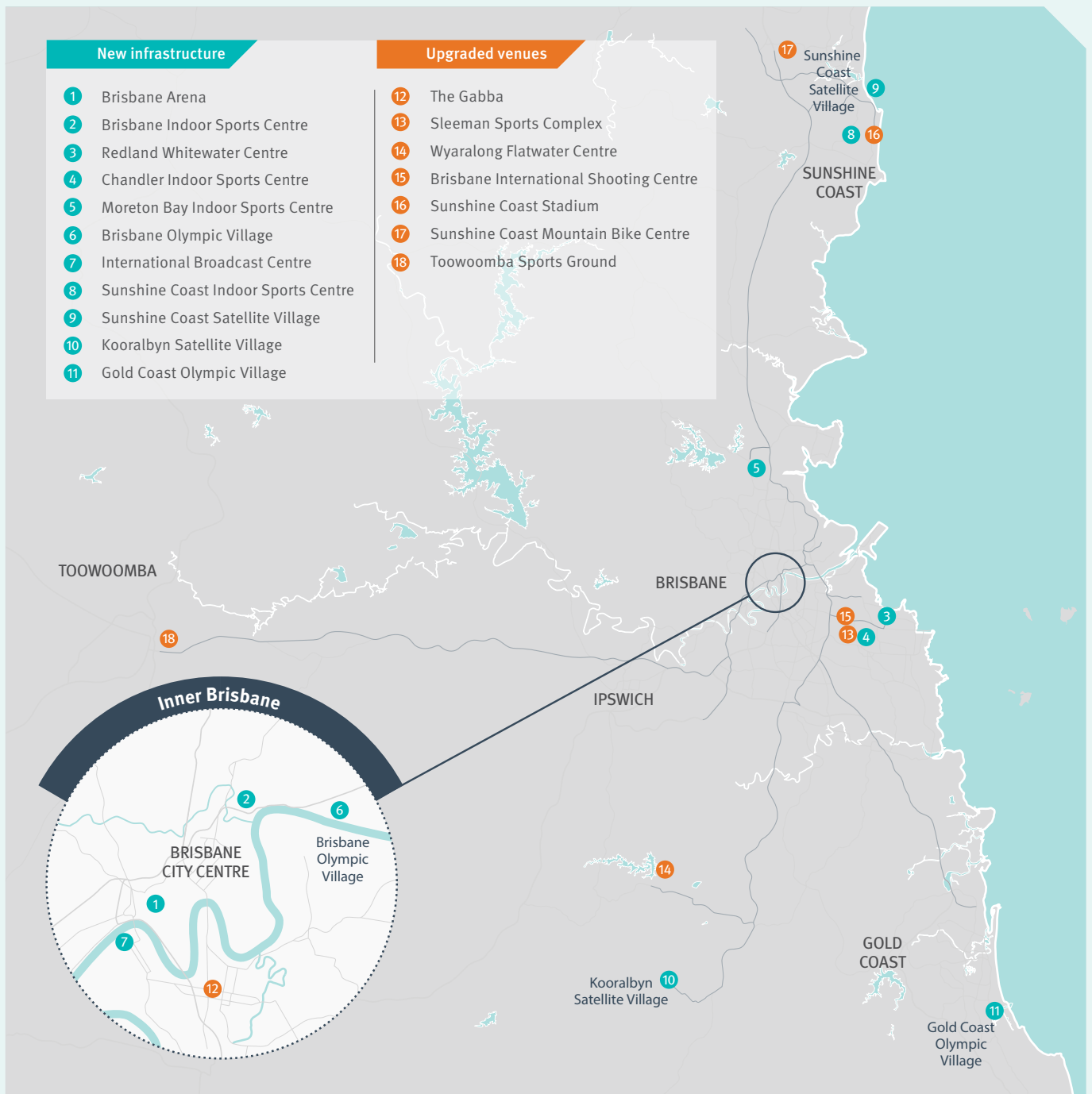
The Queensland Government is committed to embracing a 'digital by default' approach to infrastructure which is why we are investigating the development of a digital twin workbench which could provide an authoritative digital map of the real world. With opportunities to couple this with infrastructure and precincts required for Brisbane 2032, this could introduce a step change for infrastructure in Queensland by utilising predictive modelling to better forecast demand, plan and deliver the right infrastructure. We will also work with our infrastructure and construction sectors to use Brisbane 2032 as an opportunity to improve productivity, embed innovative practices and support a healthy, inclusive and diverse workforce.



Planned Sunshine Coast Indoor Sports Centre (Source: Sunshine Coast Council)

Brisbane 2032 Master Plan

The Brisbane 2032 Master Plan outlines 37 competition venues and additional training venues across Queensland and interstate along with four villages and non-competition venues such as the International Broadcasting Centre. Although most competition venues (84 per cent) will be existing or temporary, several new or significantly upgraded venues will also help set the stage for Brisbane 2032. These will leave a lasting legacy of improved access to facilities for community sport, attract major events and increase sporting and volunteering participation.



Brisbane 2032 new and upgraded venues

New venues and significant upgrades

The legacy-led Brisbane 2032 Master Plan includes six new venues that align with long-term development plans and anticipated growth patterns of the region. Four of these are new indoor sports centres that will function as 9-12 court community sporting facilities to be used both before and after Brisbane 2032, providing a strong legacy for SEQ. These are modelled on the highly successful Coomera Indoor Sports Centre, built for the Gold Coast 2018 Commonwealth Games. In all, these new centres will contribute more than 40 new, multi-use court spaces across the region.

The new Redlands Whitewater Centre will be incorporated into a broader adventure sports precinct with other activities, and provide year-round community use and a swift water rescue training facility for emergency personnel.

Brisbane Arena will replace the ageing Brisbane Entertainment Centre to attract a greater variety of events, improving Brisbane's tourism potential, and stimulating renewal of the western edge of the city centre.

All of the new venues and significant upgrades provide an incredible opportunity to leave an enduring community and high-performance sport legacy of Brisbane 2032. They will provide communities with lasting facilities to host community sport, attract major events and increase sporting and volunteering participation.



An artist's impression of a redeveloped Gabba

Olympic villages

Athletes and team officials will be housed in four villages in SEQ. The Brisbane Olympic Village will be in the Northshore Hamilton Priority Development Area (PDA) in Brisbane, and the Gold Coast Olympic Village at Robina will service Gold Coast venues. These villages will provide a mix of residential and complementary uses, increasing supply and diversity of housing in growth areas of the state.

The Sunshine Coast Satellite Village, to be located in the mixed-use Maroochydore City Centre PDA, will become residential dwellings to house the Sunshine Coast's growing population following Brisbane 2032. A further Satellite Village for rowing and canoe (sprint) athletes and team officials will be near Wyaralong Dam, the venue for these events. Athletes and team officials for Olympic football preliminaries will also be accommodated in Cairns, Townsville and Toowoomba using existing or planned short-term accommodation.

Transport infrastructure

Cross River Rail, the Brisbane Metro and the Gold Coast light rail will provide the anchor for public transport improvements in SEQ. These significant existing investments will be complemented by further investments to increase the capacity and resilience of our transport systems. This includes the Gabba metro station committed to under the SEQ City Deal. During Brisbane 2032 public and active transport will be critical to provide the public with easy, accessible, safe and hassle-free transport to events and also contribute to a climate positive Brisbane 2032. The Queensland Government will be working with industry partners and local governments to deliver a low emissions public transport fleet, and safe and accessible transport facilities, services, and precincts.

▼ CONNECTING OUR REGIONS

Queensland is the most decentralised mainland state in Australia. Families, friends and businesses live, work and socialise across thousands of kilometres. Connecting our regions – digitally and physically – with Australia and the rest of the world is critical.

Digital connectivity underpins economic productivity and innovation, reduces isolation and supports people and businesses to access online markets and services. Many regional communities can have difficulties accessing online services and doing business as the digital divide grows between regional and metropolitan areas.

Addressing these gaps in affordability, quality and reliability will help regional communities flourish in the digital economy and retain and attract more people to visit or live and work in regional areas.

Many Queensland industries are already embracing the digital economy to create new jobs, develop new industries and improve our lifestyle. The Queensland Government is also working with First Nations peoples to meet digital inclusion targets under the National Agreement on Closing the Gap. The effectiveness of education and training, healthcare, public safety, transport and other services, and economic opportunities, directly depend on establishing infrastructure to bridge the digital divide.

Action led by the Australian Government and NBN Co over the coming years will be critical to avoid the digital divide widening in Queensland. The Queensland Government will work with responsible parties to ensure rural and regional Queenslanders are not left behind as speeds in metropolitan areas accelerate at a much faster rate than the rest of Queensland.

While Australian Government action is critical, Queensland is establishing a single point of coordination to develop our digital infrastructure and improve connectivity in regional communities.

The development of the Digital Infrastructure Plan will establish priorities to help bridge the digital divide and enhance network coverage, performance and reliability.

The Queensland Government is exploring ways to improve connectivity in regional and remote Queensland. This may include unlocking opportunities to increase market competition, harnessing existing digital infrastructure or helping to attract network investment. More personalised and easily accessible digital services from government will also continue to be a focus.

Sustainable and effective transport infrastructure is also fundamental to functioning communities, providing essential goods and services, and connecting people to jobs, business opportunities, social networks and the natural environment. Strengthening our transport networks to improve access to freight, national and global markets and international gateways is vital to grow the economic prosperity of our regional communities.

This strategy supports efficient use of existing transport assets and appropriate investment in infrastructure to support our growing population, grow our industries and market competitiveness, and ensure the effective operation of our supply chains. The \$13 billion Bruce Highway Upgrade Program – the largest road infrastructure project ever delivered in Queensland – will improve the reliability, safety, flood resilience and capacity of the highway between Brisbane and Cairns. Ensuring the reliability of the transport network is a key government priority to improve connectivity for all Queenslanders, no matter where they live.

Regional Infrastructure Plans are being progressively released from 2022 and will take forward the objectives and intent of this strategy. These plans enable a more place-based approach and better align infrastructure planning and investment with the unique priorities of each region including better connecting our regions.

Further information and priorities to connect our regions can be found in the cross-government, digital and innovation, transport chapters.






Digitally connected regions

The Queensland Government is exploring opportunities to improve connectivity in regional and remote Queensland and help reduce the digital divide. This includes:

- ▶ Delivering a statewide Digital Infrastructure Plan to identify needs and provide strategic direction for investment decision-making.
- ▶ Co-investing in digital infrastructure (funding and in-kind investments) with the Australian Government and industry to help drive a competitive market and improve the business viability of regional and remote areas for retail and wholesale telecommunication service providers.
- ▶ Investigating opportunities to use new and emerging technologies as key enablers.
- ▶ Co-ordinating demand and delivery among Queensland Government agencies to leverage government buying power.
- ▶ Leveraging existing government-owned digitally enabling assets and policies to simplify infrastructure deployment.

Priority actions

Specific priority actions that will help deliver on our commitment to connect our regions are:

PRIORITY ACTION	SECTION
Developing Regional Infrastructure Plans	 Cross-government
Developing a Digital Infrastructure Plan	 Digital and innovation
Bridging the digital divide	 Digital and innovation
Inland Freight Route Investment Strategy	 Transport
Improving freight reliability and efficiency	 Transport



Digital connectivity driving agTech innovation (Source: Department of Agriculture and Fisheries)

▼ CREATING LIVABLE COMMUNITIES

Infrastructure must plan for livable communities, enhance our quality-of-life and provide for population growth to meet diverse and changing needs. Healthy, livable communities are safe, inclusive and accessible, resilient to our changing climate, and provide a sense-of-place and belonging.

Our highly decentralised state means each community has a distinctive character with diverse economies and lifestyles, requiring adaptable infrastructure and service delivery approaches. This might mean improving service accessibility in regional areas or keeping pace with population growth in SEQ, including unlocking land supply to increase housing. Our place-based approach to infrastructure means we meet the needs of communities, supporting our diverse population and economies, and helping close the gap on cultural disadvantage. As an example, more than one in six Australians has a disability. Accessible and inclusive infrastructure enables Queenslanders with disability to find and maintain employment and social connection and to live independent lifestyles. By delivering the right infrastructure in the right place we can help all Queenslanders access world-class health, education and training, housing and other community services to make our state even more livable.

As our population grows and ages, demand for health services is expected to increase significantly. This presents challenges in providing equitable access across rural and remote communities and growing cities. The health sector is also experiencing unprecedented technological advances with new service delivery approaches. For example, virtual care hubs are supporting the remote delivery of clinical services. Built infrastructure including hospitals, health and community centres and ambulance stations, together with digital technologies, remain critical enablers to deliver quality and convenient services.

All children deserve a great start. Having access to quality early years and schooling infrastructure supports life-long learning and can instil positive outcomes. Our education facilities are at the heart of our communities and play a critical role from early learning through to training and higher education. That is why the Queensland Government is investing in world-class education and training facilities, through the \$2.6 billion Building Future Schools Program.

This strategy includes actions to maximise the benefits of shared infrastructure and partnerships to improve access to social and community services. The Queensland Government invests in Neighbourhood and Community Centres to provide safe places to connect and access a range of services.



Livable community

Better outcomes for families and businesses come through investment in strategically-located, mixed-use precincts. For example, school-based integrated hubs can deliver improved health and educational services – under one roof. Benefits multiply when facilities are safe, co-located and integrate with public and active transport and green space.

The government is increasing the supply of social and affordable housing by almost 10,000 dwellings over the first eight years of the Queensland Housing Strategy 2017–2027. This is supported by the \$2.9 billion investment in the *Queensland Housing and Homelessness Action Plan 2021–2025*. We will continue to explore innovative approaches to support diverse housing supply, including social and affordable housing. This includes investigating new funding, financing and service arrangements, and supporting diverse housing supply through Queensland’s planning framework.

Our transport network is evolving as our cities and regional areas grow, with more provision for walking, cycling, mobility scooters, e-scooters and other rideables. This strategy boosts traditional modes while also prioritising emerging technologies and new service models, such as Mobility as a Service, to shape and integrate our transport system to meet service demand.








Access to nature plays a crucial role in sustaining livable communities with far-reaching health and wellbeing benefits. First Nations peoples have a special relationship and connection to country which is invaluable to our collaborative management of

blue and green infrastructure, including protected areas. Integrated planning can also ensure access to natural places is included in demand management strategies, and service delivery approaches for existing and new health, education and training, and justice infrastructure.

Priorities supporting livable communities are included in the cross-government, transport, health, education and training, justice and public safety, arts, culture, recreation and tourism, and social housing chapters.

Priority actions

Specific priority actions that will help deliver on our commitment to create livable communities are:

PRIORITY ACTION	SECTION
Livable communities	 Cross-government
Prioritising infrastructure planning for growth areas	 Cross-government
Movement and place framework	 Transport
Meet growing demand for health services	 Health
Building future schools	 Education and training
Developing partnerships for active places and spaces	 Arts, culture, recreation and tourism
Increasing social housing supply	 Social and affordable housing

Place-based planning for social infrastructure

The Department of State Development, Infrastructure, Local Government and Planning is exploring ways to achieve more collaborative and integrated social infrastructure outcomes across a range of stakeholders to benefit communities. This aims to progress a social infrastructure reform agenda by:

- ▶ co-developing models for funding/investing in social infrastructure
- ▶ addressing systemic barriers to collaborative social infrastructure planning and delivery
- ▶ partnering with key stakeholders and fostering multi-sector partnerships/research alliances

- ▶ building cross-sectoral capability and advocating place-based planning to drive better community outcomes.

This aligns with the Queensland Government’s Strategy for Social Infrastructure (SSI) which adopts a place-based approach and sets the long-term direction for the planning, design, location and use of facilities such as our hospitals and schools. The SSI promotes innovative social infrastructure approaches to address growth and seize the opportunities of change through forward thinking and planning that supports healthy, thriving and connected communities.

▼ DRIVING INFRASTRUCTURE PERFORMANCE

It is critical that we not only prioritise what we build, but also examine the way we plan, fund, deliver and maintain those assets, and what our future construction sector could look like.

Investment in productive infrastructure will unlock the state's future success, delivering on the \$50 billion infrastructure guarantee while making better use of the more than \$250 billion in existing state infrastructure³⁰. This pipeline of infrastructure investment provides a significant opportunity to drive productivity, efficiency and better community outcomes. An infrastructure sector that is more innovative and productive will see these investments and assets achieve even more for Queenslanders.

Infrastructure systems are complex and interconnected. For example, digital and transport infrastructure are essential to access and operate schools and hospitals. A systems-based approach to planning, underpinned by broader community outcomes such as livability, sustainability and resilience, will deliver a more efficient, productive and coordinated infrastructure program with broad social and economic benefits.

The Queensland Government is continuing to optimise the performance of the infrastructure program through a suite of cross-government actions that support integration and builds on earlier work. This lifts the quality of business case planning and improves the quality and sequencing of project delivery. Queensland's Infrastructure Proposal Development Policy guides the assessment and assurance of proposals to ensure a rigorous approach is applied to capital planning and proposal development to support robust investment decisions.

The Deputy Premier and Infrastructure Minister, along with his department, are also lifting the profile of infrastructure. There is a focus on infrastructure strategy and reform, including ensuring infrastructure delivery remains on target. The infrastructure department has a holistic overview of current and future infrastructure commitments, based on ongoing monitoring, analysis and reporting on capital planning and delivery performance.

We are improving how we build, operate and maintain our assets, and making informed decisions through better use of data and digital technologies. Transitioning to digital by default across asset lifecycles will improve productivity, and mitigate risks associated with design, delivery and operations of our assets. This includes implementing asset management systems, improving information management, data sharing, and exploring digital twins for asset maintenance and optimisation.

The infrastructure sector is made up of multi-national organisations, smaller local contractors, peak bodies, both private and public entities and a diverse array of trades and professions. It is dominated by the construction sector which is Queensland's third largest employer (employing 230,100 people³¹) and contributed \$27.3 billion to our economy in 2019–20.³² However, productivity growth in the sector is declining,³³ requiring a step change in the way we plan, design, construct, manufacture and operate infrastructure to improve performance and efficiency.






Our workforce is the foundation of the infrastructure sector, and Queensland is competing both nationally and globally for skilled labour. To make Queensland's infrastructure sector a preferred industry of choice we need an inclusive and diverse workforce with health, safety and wellbeing at its heart. This demands workplaces that appeal to a more diverse range of people by continuing to increase the participation of women, Aboriginal and Torres Strait Islander peoples and people from migrant or refugee backgrounds. Implementing training and education programs will also help meet the future skills required to deliver the infrastructure Queensland needs.



Cross River Rail Construction (Source: Cross River Rail Delivery Authority)

Priority actions

Specific priority actions that will help deliver on our commitment to drive infrastructure performance are:

PRIORITY ACTION	SECTION
Performance through leadership	 Cross-government
Infrastructure Productivity and Workforce roadmap	 Cross-government
Embed more collaborative approaches with industry	 Cross-government
Data-driven infrastructure planning for regions	 Cross-government
Introducing Digital Twins	 Digital and innovation

Infrastructure productivity roadmap

Keeping the infrastructure and construction sectors competitive and resilient requires new ways of working to increase productivity, improve project outcomes and value for money, and to grow the industry. A productive and growing infrastructure and construction sector can be achieved by focussing on the three key areas of Driving Productivity, identifying and implementing opportunities for Sector Innovation, and working with the sector to Build the Workforce.

Developing an Infrastructure and Construction Productivity and Workforce roadmap will guide and facilitate productivity and growth, drive innovation and improve workplace attraction, retention, and the culture of the infrastructure and construction sectors. The roadmap will draw together a collection of separate initiatives that will guide and facilitate the productivity of the sector.



Innovation in construction (Source: Cross River Rail Delivery Authority)





▼ CROSS-GOVERNMENT

Carseldine Village



CROSS-GOVERNMENT

OVERVIEW

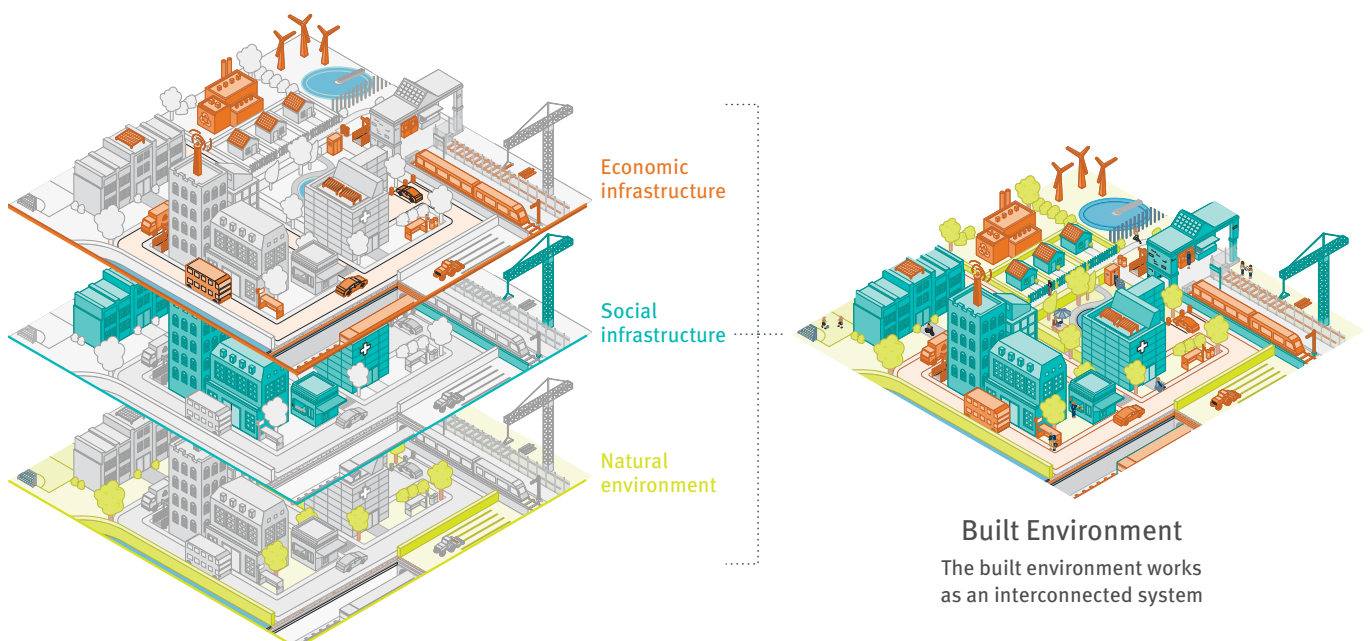
Infrastructure planning and delivery is costly and complex, meaning it typically has a long lead time and even longer life. To ensure this significant investment in time and resources is well spent, it is important that government focuses on continuous improvement, coordinated planning and delivery, and appropriate engagement with partners and stakeholders. We should be continually raising the bar to drive and optimise the performance and outcomes of each infrastructure investment and the industry more broadly.

This chapter sets out the state government's cross-sectoral priorities to improve the overall performance of its infrastructure program and the performance of its existing assets. It considers the following four key themes common to the lifecycle of infrastructure development as well as the links and interdependencies between the different infrastructure classes, and links to land-use planning and industry development.

- ▶ Working with industry and improving productivity
- ▶ Enhancing governance
- ▶ Infrastructure planning with a focus on place
- ▶ Resilience and sustainability

It also considers the current and emerging trends described by Infrastructure Australia in the *2021 Australian Infrastructure Plan* and interests in reforms shared by both government and industry. It outlines a range of priority actions that are shaped by the current landscape of economic recovery, place-based planning and climate change.

The cross-government priority actions in this chapter emphasise the interrelated nature of the other infrastructure classes in this strategy. These don't operate in isolation, they form part of an interconnected system that supports industries and communities across Queensland. The diagram below illustrates how this interlinked system of social and economic infrastructure interacts with the natural environment to form our built environment. This highlights the need for continued coordination with our infrastructure to address some of the pressing challenges we are facing in Queensland including addressing climate change, responding to population pressures and increasing our resilience.



*Interconnected infrastructure systems*³⁴



James Street, Brisbane (Source: Tourism and Events Queensland)



CROSS-GOVERNMENT

WORKING WITH INDUSTRY AND IMPROVING PRODUCTIVITY

The Queensland Government’s infrastructure pipeline is more than \$50 billion over four years from 2021–2022.

We need to ensure infrastructure sector capability and capacity is maximised to deliver this significant investment to grow the economy and support the broader Queensland community. Enhanced productivity and innovation in operations including greater use of data and digital technologies, will better equip the infrastructure sector to deliver projects that support the strategy’s vision for infrastructure as a driver of economic growth.

We don’t need to do this on our own. Our industry partners are seeking opportunities to invest in Queensland and to collaborate on infrastructure projects. Private sector participation in infrastructure planning, financing and delivery can complement government funding and bring innovation, and technical and practical expertise to proposals and projects. By working closely with industry, we will identify where and how these partnerships can provide the best outcomes and support our infrastructure and construction sectors.

▼ CHALLENGES

Declining productivity

Productivity growth in Australia’s infrastructure and construction sectors has failed to keep pace with other sectors. To support the efficient delivery of the state government infrastructure pipeline, it is crucial that actions are taken across the sector to improve productivity, facilitate growth, create new jobs and make the Queensland construction industry an attractive sector to work.



Market capacity

Significant infrastructure investments to support economic recovery across Australia and globally, along with other factors, are creating market capacity constraints which could continue into the medium term. Impacts include workforce availability and capability, and sufficient and reliable supply of material and equipment for project needs, such as timber and quarry material.



Cost of infrastructure

Infrastructure is costly, but well planned and responsive infrastructure makes our state more productive and improves our quality of life. We can gain efficiencies by involving the private sector through greater due diligence and increased commercial discipline concerning the design, construction and operation of projects. While private sector involvement can bring additional risks and costs, these can be mitigated by ensuring the right projects are selected, contracts are designed to share risk, and service needs are aligned with public and private sector outcomes.



▼ OPPORTUNITIES

Improved collaboration for infrastructure outcomes

Aligning community service needs with private sector opportunities can assist the Queensland Government to achieve better infrastructure outcomes for the community. Supporting more private sector partnerships in service need analysis, infrastructure delivery and operations promotes innovation and leads to both improved community and environmental outcomes.



Increased gender diversity, First Nations, skilled migrants and refugee participation

The infrastructure sector is dominated by men. In Queensland, around 15 per cent of all people employed by construction firms are women, with less than five per cent being women in trade and labouring roles.³⁵ Female participation is growing, and industry leaders are seeking to make workplaces more inclusive and diverse. Increasing participation rates of First Nations peoples is occurring and the Queensland Indigenous (Aboriginal and Torres Strait Islander) Procurement Policy provides a framework for further increases. The construction sector is one of the strongest drivers of First Nations peoples’ jobs growth over the last decade and requires continued focus and support for young apprentices. The construction sector also offers opportunities and pathways to better utilise the skills and experience of skilled migrants and refugees.



PRIORITY ACTIONS

1 Infrastructure Productivity and Workforce roadmap (DSDILGP)



Develop a roadmap to guide government and industry efforts to support the infrastructure and construction industry to enhance productivity, enable opportunities to assess, re-design and harness efficiencies, drive growth and address market capacity issues to ensure Queensland remains competitive and an attractive place to invest.

Developed with industry, the roadmap will aim to position the industry as a good place to work and improve diversity and participation rates of underrepresented groups such as women and First Nations peoples.

2 Setting our priorities for private investment (DSDILGP)



The government recognises the important role the private sector plays in investing in infrastructure and will work closely with industry to identify and advance infrastructure opportunities that are suitable and would benefit from private investment.

3 Enabling longer-term pipeline development (DSDILGP, QT)



Progressively build a longer-term view of infrastructure proposals to inform the Queensland Government Infrastructure Pipeline, improve coordination and sustain regional jobs, and identify opportunities for early market engagement. This work will include enhanced, longer-term capital planning (five to ten years) by agencies and Government Owned Corporations, and the development of a capital planning pipeline.

4 Embed more collaborative approaches with industry (DSDILGP)



Work with the Infrastructure Industry Steering Committee (IISC) as a primary industry engagement mechanism to identify opportunities to embed more collaborative approaches into infrastructure optioneering and delivery across the Queensland Government, building on the best practice of other jurisdictions and international experience. For example, collaborative contracting and early market engagement.

5 Develop a common user infrastructure framework (QT, DSDILGP)



Develop a common user infrastructure framework to inform future investment in the delivery of shared assets to support the development of new and existing industries where this investment delivers net benefits for Queensland.

6 Flexible procurement methods (DEPW with all agencies)



All government agencies undertaking infrastructure related procurement processes will continue to refine procurement methods to ensure risk allocation is shared. Agencies will engage with industry to balance risk, while ensuring broader government outcomes such as local capability, workforce diversity, innovation and environmental outcomes are incorporated into procurement processes.

7 Innovation in infrastructure funding and financing (QT, DSDILGP)



Continue to ensure we have the right frameworks and policy settings in place to leverage innovation in private sector funding and financing of infrastructure. The right mix of funding and financing sources can achieve timely and efficient infrastructure delivery and value for money for Queenslanders.

INFRASTRUCTURE OBJECTIVES

- Encourage jobs, growth and productivity
- Develop regions, places and precincts
- Enhance sustainability and resilience
- Adopt smarter approaches



Working with industry



CROSS-GOVERNMENT

ENHANCING GOVERNANCE

Governance, accountability, transparency and confidence are integral when planning for major investments in long-life assets.

Strong leadership coupled with robust and evidence-driven decision making will support the delivery of infrastructure that is based on the needs and priorities of our communities. This requires effective frameworks, policies and practices to be maintained and implemented as well as a continual focus on building capability within the public sector. Integrated land-use and infrastructure planning will reinforce this, particularly in an increasingly complex and interconnected environment. The Queensland Government recognises that it is critical to continue to invest in and improve governance arrangements, including using place-based approaches and partnerships with industry and other levels of government. Harnessing the knowledge of local communities and industry partners will optimise infrastructure and community outcomes.

CHALLENGES

Understanding our infrastructure assets better

Information on the condition of existing assets, capacity, ability to meet demand, performance and critical gaps helps inform decision making. This information can then be used to understand demand and capacity, but also the interconnections between assets, industry trends in the sector and improve the provision of infrastructure across Queensland.



Local government infrastructure

Local governments play a central role in providing for safety, livability and prosperity in our communities. Councils plan and provide infrastructure for their communities including water, sewage treatment, transport, stormwater management, parks and community facilities. The challenge is ensuring local governments (especially in rural and remote areas) have the capacity and capability to provide services that meet the needs of their local communities.



OPPORTUNITIES



Better infrastructure coordination

Collaboration and continuous improvement of governance approaches can optimise infrastructure investment across multiple portfolios and asset classes. This can result in more multi-purpose facilities that leverage investment, are well-used and deliver a range of complementary and integrated government services. Improving the integration of infrastructure, land-use planning and economic development will better realise regional economic, community and environmental outcomes.



Portfolio planning and performance

Agencies have an active role in developing business cases for major infrastructure since the transition of Building Queensland into the Department of State Development, Infrastructure, Local Government and Planning. New infrastructure proposal development arrangements will build capability across state and local governments to maximise existing portfolio planning, proposal development and project delivery outcomes.

Asset management

The efficient and effective management of government assets is essential to the delivery of services. Using best practice in the planning, investment/procurement, management-in-use and disposal of government assets enables government to deliver better quality, value for money, environmental awareness and innovative solutions across the asset life cycle.



PRIORITY ACTIONS

1 Data-driven infrastructure planning for regions (DSDILGP, DRDMW)



Explore the use of data-driven baselines to enable strategic infrastructure planning which considers current and future infrastructure performance along with an understanding of future demand drivers across Queensland's regions and infrastructure portfolios. Analysing this data will help to improve asset utilisation, inform statewide priorities and the ongoing development of Regional Infrastructure Plans.

2 Performance through leadership (DSDILGP)



The Deputy Premier and Infrastructure Minister, and his department, will provide a sustained focus on infrastructure strategy and reform, as well as ensure capital infrastructure planning and delivery is optimised. The Deputy Premier, working with other ministers, oversees the implementation of this strategy and the supporting Regional Infrastructure Plans to align longer-term investment across government.

3 Best practice asset management (All agencies, DSDILGP)



Infrastructure providers will continue to implement best practice asset management systems that include management frameworks and technology systems. Providers will continue to prepare Strategic Asset Management Plans (SAMPs) to strengthen the linkages between services, workforce planning, digital strategies and infrastructure investment. SAMPs provide a long-term view of the interdependencies between the provision of services and infrastructure investment.

4 Post-delivery analysis and strategic infrastructure assessment (DSDILGP)



Continue to develop and embed tools such as benefits realisation and post-delivery assessment strategic infrastructure planning and policies as a critical step in capturing and understanding the impact of infrastructure beyond its physical construction and direct utilisation.

5 Improving local governments infrastructure delivery (DSDILGP)



Support improved infrastructure delivery and asset management outcomes for councils as part of the development and implementation of a new local government sustainability framework.

6 Infrastructure proposal assessment and assurance (DSDILGP, major infrastructure agencies)



Lead the execution of the Infrastructure Proposal Development Policy (IPDP), providing agencies advice to tailor the Business Case Development Framework (BCDF) and the Project Assessment Framework (PAF) for the development of proposals. This includes consideration of system wide impacts and evaluation of a range of non-infrastructure and infrastructure options to meet future service needs.

7 Improving infrastructure planning and assessment capability (DSDILGP)



Improving infrastructure planning and proposal development capabilities across Queensland Government – agencies will build and mature these capabilities, with agency training and development plans addressing identified capability needs.



Working together to improve coordination

INFRASTRUCTURE OBJECTIVES

-  Encourage jobs, growth and productivity
-  Develop regions, places and precincts
-  Enhance sustainability and resilience
-  Adopt smarter approaches



CROSS-GOVERNMENT

INFRASTRUCTURE PLANNING WITH A FOCUS ON PLACE

One size doesn't fit all. Queensland's unique and geographically dispersed communities all have diverse needs when it comes to infrastructure.

Infrastructure planning that focuses on place provides opportunities for infrastructure to meet local needs and harness the unique attributes of a place. Engaging with local stakeholders ensures that infrastructure can be adapted to local contexts and the most effective approach adopted to achieve the best outcomes for individual communities.

A focus on place will enable more targeted and holistic investment decisions by taking a cross-sectoral view of the inter-related infrastructure and amenity needs of a location. Encouraging collaboration across government agencies and building local relationships will facilitate addressing issues that are complex and require a long-term or cross-sectoral response.

CHALLENGES

Complex governance

Responsibility for planning, funding and delivering infrastructure is spread across three levels of government which can lead to fragmented decision-making and prioritisation for investment. Governance structures need to deliver integrated outcomes focused on local livable and productive communities and productive precincts.



Aligning funding

Investment in infrastructure is often necessary to unlock an industry development opportunity or growth area. However, sequencing and aligning funding for all the necessary investments can be challenging through traditional mechanisms. Success can depend on lining up several individual investment decisions across multiple infrastructure providers.



OPPORTUNITIES

Coordinated planning

Our infrastructure assets and networks are interconnected and rely on each other to function well. Improving the coordination of infrastructure planning and delivery can support a wide range of community needs. We need to broaden our focus beyond integrated land-use and transport planning to include social infrastructure and the natural environment through initiatives such as the Regional Infrastructure Plans.



Facilitating strategic precincts

Precincts can drive collaboration and economic growth. Integrated precincts can create focal points for innovation, facilitating and delivering world-class health, knowledge, innovation, resource recovery and community services centred around universities, hospitals, or major industrial areas. They leverage localised strengths to establish collaborative environments where businesses, workers and technology come together to build skills and innovate, access new market opportunities, and create jobs.



Integrated social infrastructure

Collaborative and place-based social infrastructure planning can facilitate more accessible and cost-effective human services. This approach provides opportunities for compatible services to be co-located to meet the various diverse needs of a community through multi-purpose facilities or mixed-used precincts.



PRIORITY ACTIONS

1 Developing Regional Infrastructure Plans (DSDILGP, DRDMW)



Introduce a new place-based approach to infrastructure planning that better reflects the unique strengths and opportunities of each region. The progressive development of Regional Infrastructure Plans with regional stakeholders, will recognise the important role infrastructure plays in regional economic recovery, resilience, growth, health, social connection, and livability.

2 Growth precincts to drive regional jobs (DSDILGP, DRDMW, DTIS)



Place-based regional economic strategies that leverage regional competitive strengths and bring together partners to collaborate and improve competitiveness, productivity, innovation and capacity. These will look to align various programs and initiatives, investment facilitation and attraction services, and enabling infrastructure.

3 Place-based approach to infrastructure funding (DSDILGP, QT)



Strengthen and leverage additional opportunities for place-based approaches to funding, such as the Queensland Treasury Cross-Agency Funding Framework, City Deals and Resources Community Infrastructure Fund to drive the sustainable growth of our cities and regions and realise strategic priorities and opportunities for inter-governmental investment.

4 Place-based capability for social infrastructure (DSDILGP)



Progress a social infrastructure reform and capability agenda in partnership with key stakeholders to ensure barriers to funding, planning and delivery are addressed and enhanced community outcomes are realised.

5 Better understanding SEQ growth and priorities (DSDILGP)



Develop a better understanding of the pace of growth and development across the multiple growth fronts in SEQ to better inform the potential prioritisation or sequencing of region-shaping infrastructure. This is supported by the SEQ City Deal which includes a \$620 million commitment from the Queensland Government to deliver a strategic approach to infrastructure planning and investment in this fast growing region.

6 Integrated land use and infrastructure planning (DSDILGP)



Continue to improve the coordination and integration of land-use and infrastructure planning across agencies and all tiers of government to effectively prioritise infrastructure planning and delivery.

7 Prioritising infrastructure planning for growth areas (DSDILGP)



Evaluate recent infrastructure planning approaches for high-growth communities, including the piloted Infrastructure Coordination Plans, and other Social Infrastructure Investment Strategies (piloted for a Priority Development Area) to inform a leading practice that ensures communities of highest need are adequately serviced and well-coordinated.

8 Precinct governance framework (DTIS)



Develop a framework to determine the appropriate governance mechanisms to support the development or activation of a precinct, ensuring the interactions between institutions, private sector and government deliver desired outcomes through shared agendas and collaborative approaches.

9 Livable communities (DSDILGP)



Encourage local governments to incorporate the Planning Regulation 2017 assessment benchmarks and the Model Code for Neighbourhood Design provisions into local planning schemes to support the State Interest – Livable Communities in the State Planning Policy to promote livable, well-designed and serviced communities.



Latrobe Terrace, Brisbane
(Source: Brisbane Marketing)

INFRASTRUCTURE OBJECTIVES

- Encourage jobs, growth and productivity
- Develop regions, places and precincts
- Enhance sustainability and resilience
- Adopt smarter approaches



CROSS-GOVERNMENT

RESILIENCE AND SUSTAINABILITY

Our natural environment underpins much of our quality of life and the social and economic activity of the state.

Infrastructure can impact environmental sustainability through changes to landscapes, ecology, biodiversity and natural habitats, water resources and the water environment. In addition to the physical impacts of infrastructure, there are impacts from emissions embedded in construction materials and processes, and from energy use during the construction and operation of infrastructure and associated services. Climate also impacts infrastructure and infrastructure needs to adapt to future climates. Ensuring infrastructure systems perform well under a changing climate, and in the face of other threats such as geopolitical challenges, will be essential to success.

Natural systems have long been recognised for their ability to deliver or contribute to core infrastructure services such as water purification and storage, flood mitigation, irrigation, and electricity generation. By better integrating green, blue and “grey” infrastructure systems, building in circular economy principles and focusing on resource recovery, we can produce cheaper, lower-emitting and more resilient services to support our future low-carbon economy.

CHALLENGES

Resource recovery



Queensland faces a number of challenges with resource recovery. End-of-life waste such as decommissioned renewable energy infrastructure, tyres and clothing, as well as by-products from the timber industry, can be recycled and should be diverted from landfill. Challenges include efficiently managing waste and waste material supply chains due to Queensland’s large land area and dispersed population, diverse regional economies requiring infrastructure of different types and scale, and the impact of natural disasters.

Climate change

Increases in greenhouse gases from human activities result in changes to the global climate.³⁶ Seventy per cent of Australia’s greenhouse gas emissions that drive climate change are either directly created, influenced or enabled by infrastructure.³⁷ The infrastructure sector must continue to reduce both operational and embodied emissions to ensure it contributes to Queensland’s target of 30 per cent of 2005 levels by 2030, and zero net emissions by 2050.



Resilience and climate adaptation

Queensland is Australia’s most disaster-affected state, with the frequency and scale of natural disasters increasing as a consequence of climate change. Our vulnerability extends beyond natural hazards such as flood, fire, sea level rise, heatwaves and cyclones to shocks and stresses like pandemics, cyber security issues and biosecurity (e.g. fire ant infestations). We need to integrate resilience and climate adaptation into the infrastructure lifecycle to ensure future infrastructure can withstand, recover from and adapt to the effects of all hazards, shocks and stresses to better manage risk and keep Queenslanders safe.



OPPORTUNITIES



Circular economy

A circular economy seeks to keep resources in their highest value use for as long as possible by eliminating waste and pollution, circulating products and material at their highest value, and regenerating nature.³⁸ Transitioning to a circular economy can ‘close the loop’ in resource consumption, minimising waste and the associated economic loss.³⁹



Design infrastructure that positively contributes to the environment

Infrastructure can be designed to protect and enhance environmental values including biodiversity. Existing infrastructure can be reused to minimise the need to source new materials and redesigned to reduce energy and water consumption. Where new infrastructure is required, infrastructure can be designed to be sensitive to the surrounding environment, embed circular economy principles by using recycled or sustainable materials to minimise waste, and aim for carbon neutral material and operating systems.



PRIORITY ACTIONS

1 Brisbane 2032 sustainable infrastructure (DSDILGP, DEPW, DTMR, DES)



Queensland Government and its Games partners will minimise the climate and environmental footprint of Brisbane 2032. Where new permanent infrastructure or significant upgrades are required, Brisbane 2032 will implement best-practice industry standards in the planning, design and delivery of sustainable, resilient, resource-efficient, climate-positive and inclusive Games infrastructure.

2 All-hazards approach to resilience planning (QRA, QFES, DSDILGP, QH)



Deliver a whole-of-system, all-hazards approach to resilience planning including disaster preparedness, cyber security and pandemic planning. This approach should consider interdependencies across a range of systems and support services, including critical infrastructure to reliably deliver essential services to all Queenslanders.

3 Continue to implement the Queensland Betterment Program (QRA)



Continue to work with the Australian Government and local governments to rebuild essential public assets to a more climate-resilient standard to help withstand the impacts of future climate change and natural disasters.

4 Better performing buildings (DEPW with other agencies)



Develop a consistent approach to applying nationally recognised building performance ratings across Queensland Government agencies to improve resilience and reduce the operational costs of new and existing assets. Sustainable and resilient buildings initiatives will be prepared for improving the performance of privately-owned buildings.

5 Reducing emissions from infrastructure (DSDILGP)



Develop a roadmap exploring measures and actions to reduce emissions associated with the construction, operation and maintenance of Queensland Government infrastructure.

6 Resource recovery infrastructure (DES)



The Queensland Government will work with industry and local government to develop a series of regionally developed plans for waste and resource recovery infrastructure investment opportunities. This approach is intended to enable the diversion of material from landfill and to transform this sector along with circular economy principles.

7 Circular economy (DES with other agencies)



Work with all agencies to support the integration of circular economy principles into infrastructure design and delivery to support achieving zero net emissions, increased resource recovery and recycling, increased uptake of recycled-content, and drive sustainable economic development.

8 Sustainability assessments (DSDILGP, DES with all other agencies)



Explore the widespread adoption of sustainability assessments for all Queensland Government infrastructure projects with budgets exceeding \$50 million in accordance with schemes such as the Infrastructure Sustainability Council's Infrastructure Sustainability Rating Scheme or the Green Building Council of Australia's Green Star rating tool.

9 Green and blue infrastructure (DSDILGP, DES)



Develop, preserve and enhance green and blue infrastructure to mitigate the effects of climate change and contribute to healthy lifestyles by maintaining and enhancing biodiversity and wildlife habitats, increasing the protected area estate, improving water and air quality, protecting green corridors, facilitating urban and vertical farming, implementing water sensitive urban design and increasing shade in urban areas through increased tree coverage.

10 Modern construction methods for social infrastructure (DSDILGP)



Explore with industry and state agencies a series of social infrastructure pilot projects that adopt modern construction methods. For example, off-site manufacturing of building components or modules, with a view to subsequently developing a whole-of-government strategy for modern construction methods that support the use of a digital by default approach and more timely, cost-effective delivery of sustainable and resilient buildings.

11 Supply chain resilience (DAF, TIQ, DSDILGP, DRDMW)



Improve the resilience of both domestic and export supply chains for key sectors including construction, manufacturing, medical, food and agriculture. Supply chains can face disruptions caused by natural disasters, pandemics and geopolitical/trade and gradual but uncertain climate change impacts.



Flood Damage – Boxer Road, Logan
(Source: Queensland Reconstruction Authority)

INFRASTRUCTURE OBJECTIVES

- Encourage jobs, growth and productivity
- Develop regions, places and precincts
- Enhance sustainability and resilience
- Adopt smarter approaches



CROSS- GOVERNMENT

▼ CASE STUDY

Central Queensland Infrastructure Plan (CQIP)

The Central Queensland Infrastructure Plan takes a long-term place-based approach to provide a framework to coordinate and prioritise regionally significant infrastructure needs to support regional priorities. Building on the region's strengths and focusing on its unique needs, the CQIP identifies how infrastructure can catalyse economic development, growth, and livability and support industry decarbonisation through renewable hydrogen and clean manufacturing.

Central Queensland traverses the Tropic of Capricorn extending from the Northern Territory border to the east coast, taking in the major centres of Rockhampton, Gladstone, Emerald and Longreach. The region's strengths lie in resources, agriculture, education, health and tourism. It is one of our largest beef producers and boasts one of Australia's largest bulk commodity ports at Gladstone, exporting resources and agricultural products.

The CQIP will strengthen and diversify traditional industries by identifying infrastructure that can add value to create jobs and boost productivity. The CQIP's focus on enabling the right social infrastructure such as schools, hospitals and housing, and improving connectivity – both digital and physical – will ensure people are attracted to live and remain in the region.

This place-based approach ensures that infrastructure is considered as an interconnected system, where employment opportunities, education, health, livability and the environment are all interlinked. The plan is being developed through consultation with industry, peak body and government stakeholders, and sits alongside the Central Queensland and Central West statutory regional plans. Together, these documents provide clear direction for state and local government planning.



Gladstone Harbour



▶ DIGITAL AND INNOVATION

Cable laying at sea to link to Cable Landing Station at Maroochydore (Source: RTI Cable)



DIGITAL AND INNOVATION

OVERVIEW

The world is becoming increasingly interconnected and competitive as innovation and technology transform traditional business models and how we access goods and services. Queensland needs to keep pace with global change by driving innovation alongside faster, more reliable digital infrastructure.

Innovation and digital transformation are improving the lives of everyday Queenslanders and are a vital driver of our economic success. Emerging technologies are rapidly changing the infrastructure landscape – both what we build and how we build it – fostering innovation and improving services.

The Queensland Government is building an innovation economy with innovation places such as knowledge precincts critical to this. They bring together government, research and industry, to attract talent and capital, facilitate collaboration and deliver new businesses, jobs and export opportunities. The state owns and invests in precincts to support our science and innovation capability such as the Ecosciences Precinct in Brisbane, the Gold Coast Health and Knowledge Precinct, and the Townsville Tropical Intelligence and Health Precinct (TropiQ). The \$25 million Research Infrastructure Co-Investment Fund also ensures Queensland maintains its leading-edge science and innovation capabilities.

Queensland is well positioned to build a strong and diverse digital economy as a part of our innovation economy. Our industries are embracing rapid digital transformation (commonly known as Industry 4.0), creating new high-skill jobs in industries like advanced manufacturing. A surge in the uptake of AgTech solutions is seeing the development and increasing adoption of data and digital technologies such as robotics, sensors, blockchain and artificial intelligence.

Digital technologies and data analysis are rapidly evolving and can vastly improve the way we plan, design, operate and maintain infrastructure. Embedding ‘digital by default’ approaches across the infrastructure lifecycle, where digital tools are used as the accepted standard, opens significant opportunities for the infrastructure and construction sectors. Embracing technology and innovation is essential to support new ways of interacting, working and delivering services.

Critical to all this is digital infrastructure, comprising the physical technology that connects people, businesses and communities to a variety of online products and services. It includes mobile networks, fixed-line and satellite broadband services, data centres and the Internet of Things (IoT). This digital infrastructure is also vital in keeping residents and emergency service workers safe during natural disasters (including pandemics) and assisting with the response, recovery and reconstruction phases.

Opportunities for economic development, and innovation are dependent on infrastructure that enables digital inclusion for all Queenslanders. Action led by the Australian Government and NBN Co over the coming years will be critical to avoid the digital divide widening in Queensland. The Queensland Government wants to work with responsible parties to ensure rural and regional Queenslanders aren’t left behind as metropolitan areas have access to more services.

While telecommunications networks are regulated by the Australian Government and delivered largely by NBN Co and commercial providers, the Queensland Government continues to use its influence with the Commonwealth and actively works with other jurisdictions to improve digital infrastructure and services. The state also makes strategic investments and leverages government telecommunications expenditure, state government-owned investments and programs, and state planning frameworks.

In a decentralised state such as Queensland, there is enormous potential to provide the community with new and improved digital services through improvements to underlying digital infrastructure and optimising digital infrastructure provision – particularly in regional and remote areas. Digital capacity, security and resiliency also needs to be built into all infrastructure to future-proof investments and assets, and capitalise on capabilities.



Innovation in agriculture (Source: Department of Agriculture and Fisheries)

CURRENT KEY INITIATIVES

Digitally connected regions

The Queensland Government is exploring opportunities to improve connectivity in regional and remote Queensland, including driving a more competitive market through co-investment, and leveraging government buying power and existing infrastructure.

Digital Infrastructure Plan (DIP)

Developing a 10-year plan to focus the collaborative efforts and investments required across government and industry to bridge the digital divide.

Strengthening Telecommunications Against Natural Disasters program (STAND)

Working with NBN Co and councils to improve emergency telecommunication facilities in emergency shelters and assembly areas (approximately 60 sites), allowing communities at risk of natural disasters to access online support services, social media and news.

Queensland Innovation Places Strategy 2022–2032

Developing a 10-year whole-of-government strategy to drive the coordinated development of innovation places that bring together our economic strengths, assets and people to deliver long-term economic growth and jobs for Queensland.



Curiosity Brisbane 2021 (Source: Tourism and Events Queensland)

TRENDS



CSIRO AND NBN CO RESEARCH SUGGESTS THAT 20 PER CENT OF AUSTRALIANS

will continue to work from home indefinitely, compared to 5 per cent pre-COVID-19⁴⁰



THIRTY-SIX PER CENT OF THE QUEENSLAND WORKFORCE (867,667 QUEENSLAND JOBS)

are at risk of disruption from digitisation and automation by 2038, presenting both challenges and significant opportunities⁴¹



CSIRO Futures has estimated that \$1 of research and development investment creates an average of **\$3.50 IN ECONOMY-WIDE BENEFITS.**⁴²



DIGITAL AND INNOVATION

CHALLENGES

Tyranny of distance

Queensland has Australia's most decentralised population. This higher proportion of regional and rural households means more limited optical fibre connections, longer distances between telecommunications towers, a higher dependency on satellite services and higher connection costs per customer.



Digital by default

Implementing and integrating 'digital by default' into infrastructure projects will require a cultural shift for government and the infrastructure sector, including the need to build knowledge and capability and demonstrate the benefits of digital approaches.



Digital literacy

Addressing digital literacy and increasing familiarity with digital service delivery is a key challenge. While improving services and access is important, informed and savvy consumers are key to getting the most out of digital opportunities.



Great digital divide

The digital divide between our cities and smaller communities can be a barrier to people accessing online services for business, education and training, health, diminishing their ability to effectively participate in modern society.



Increasing reliance

Reliability of digital services is increasingly important for the success of Queensland's economy and the safety of its residents. Service outages can be life-threatening and inflict serious damage on the economy (e.g. payment systems). Queensland is also Australia's most disaster-prone state, with community safety and recovery dependent on digital infrastructure.



Ability to influence

While the Queensland Government is a strong advocate for improved digital infrastructure to grow the economy and provide more digital services, the Australian Government and the private sector are responsible for the majority of infrastructure.



OPPORTUNITIES



Leveraging existing investment

Leverage existing state government expenditure, assets or other investments to help reduce provider costs and facilitate greater investment to improve regional connectivity.

Partnering for success

The Queensland Government will continue to work with the telecommunications sector and the Australian Government to improve digital infrastructure in the best interests of Queensland, and further develop cross-jurisdictional data collaboration to improve discovery and access to public sector data.

Continue to participate in co-investment programs aimed at improving regional and remote digital infrastructure where it is not otherwise commercially viable, such as mobile black spots or regional connectivity programs.



Increasing market competition

Explore a variety of avenues to increase market competition, encourage further network investment, drive down service costs and improve service availability, for example, by enabling more shared infrastructure.



Enabling the digital economy

Leverage digital infrastructure and data to enable and grow the digital economy. For example, following the joint investment of the Queensland Government and the Sunshine Coast Council, the \$35 million Sunshine Coast international broadband submarine cable is the first undersea optical fibre cable in Queensland and it will encourage ICT investment in the region.



Places to drive innovation and enhance productivity

Genuine collaboration between the private sector, research organisations and government can be facilitated by a coordinated and collaborative system of innovation places and precincts to share ideas, drive innovation, harness investment and deliver long-term prosperity.

Creating opportunities across the state for investors and entrepreneurs to connect in convenient locations will enable the development of smart and innovative physical and digital infrastructure, platforms, tools and networks to drive Queensland's innovation and start-up ecosystem.





DIGITAL AND INNOVATION

PRIORITY ACTIONS

1 Championing digital infrastructure (DCHDE)



Provide a single point of coordination and collaboration for the development of Queensland's digital infrastructure. This centralised coordination unit will work with local governments, the private sector, the Australian Government and government-owned corporations to advocate in a coordinated manner to align interests for the benefit of the state.

2 Developing a Digital Infrastructure Plan (DCHDE)



The Queensland Government is developing a Digital Infrastructure Plan to focus the collaborative efforts and investments required (across sectors) to bridge the digital divide. The Digital Infrastructure Plan aims to establish a statewide view of gaps and opportunities for future investment.

3 Enabling a digital economy (DCHDE)



Continue the development of a draft Digital Economy Strategy that explores opportunities to enhance our digital economy and positions us as an attractive place to live, work, play and do business. This includes investigating ways to attract new industries and support businesses to grow digital capability, improving digital connectivity in our regions and communities so they're able to participate in the digital economy, and unlocking new and better ways of delivering online government services.

4 Growing our innovation places (DTIS with other agencies)



Develop innovation places and precincts to bring innovation ecosystems together and enable clustering of knowledge-based activities. This includes partnering with universities, industry and other stakeholders to accelerate emerging industries and drive collaboration to improve competitiveness, productivity and capacity to innovate. This is supported by the 10-year Queensland Innovation Places Strategy which is currently being developed along with specific initiatives to take the strategy forward.

5 Bridging the digital divide (DCHDE)



Work with digital infrastructure providers to better understand and address the growing digital divide between cities and regional communities (including optimum NBN cover). Improvements are critical for the future of essential services such as e-health that need improved reliability, capacity and coverage.

6 Leveraging government expenditure (DCHDE with other agencies)



Assess opportunities to improve connectivity across the state by leveraging the Queensland Government's digital purchasing power and telecommunications expenditure. Improved connectivity will help drive more digitally connected regions and enable the delivery of government digital services.

7 Leveraging government fibre (QCN Fibre, DCHDE)



Queensland Capacity Network (QCN) Fibre will leverage fibre owned by government owned corporations to improve the wholesale backhaul market in Queensland in terms of bandwidth and cost.

QCN will also work with retail service providers to pass the benefits of government owned fibre to Queenslanders and Queensland businesses.

8 Improving network redundancy (DCHDE)



Work with the Australian Government and industry to strategically improve redundancy across digital infrastructure networks, particularly in remote areas (e.g. Cape York) where network outages have single points of failure that affect stability and uptime.

9 Addressing mobile blackspots (DCHDE, DTMR)



Continue to work with the Australian Government and mobile service providers to advocate and facilitate network upgrades in rural and regional Queensland, to address blackspots in key communities and transport corridors.

10 Introducing Digital Twins (DSDILGP, DoR)



Investigate the phased introduction of a statewide digital workbench to help plan, predict and understand Queensland's infrastructure to inform better decision making through more effective use of data. Digital twins have been emerging as a leading tool to present a more comprehensive understanding of the real world.

11 Driving digital enablement (DSDILGP with other agencies)



Review and update the *Digital Enablement for Queensland Infrastructure – Principles for Building Information Modelling Implementation* to further advocate a 'digital by default' approach to government infrastructure.

12 Improving data sharing and transparency (DCHDE)



Continue to work across government and industry to maximise the integration, coordination, collaboration and sharing of data. A strategic approach to guide the management and use of data for infrastructure planning, delivery, maintenance and performance monitoring will promote the safe and trusted use of public and private sector data.

13 Sharing mobile infrastructure (DCHDE with DSDILGP)



In partnership with local governments and industry, explore policy and planning provisions to optimise the 5G rollout and reduce duplication of investment through shared infrastructure. Mobile carriers could share towers and equipment spaces through neutral host models and even network functionality through radio access network sharing, to reduce costs.

14 Increasing public safety communications (QPS with QFES, QAS and DCHDE)



Government has endorsed a long-term Public Safety Communications strategy developed by the public safety agencies. It provides departments with shared direction and capability targets to enhance operations, resulting in better and safer outcomes for the community.



Digital mobile towers

INFRASTRUCTURE OBJECTIVES



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches



DIGITAL AND INNOVATION

▼ CASE STUDY

Queensland Capacity Network (QCN) Fibre

Queensland Capacity Network (QCN) Fibre is the state government's telecommunications carrier, jointly owned by Powerlink and Energy Queensland. It was established to boost internet connectivity and leverage telecommunications infrastructure and spare capacity to lower prices and improve digital and data services for regional communities. The optical fibre network stretches west from Brisbane to Toowoomba and north to Cairns.

High capacity backhaul is provided to strategically important data centres in regional areas, including the Pulse Data Centre in Toowoomba, the North Queensland Regional Data Centre in Townsville and the new submarine link at the Sunshine Coast Cable Landing Station. The Australian Government Regional Connectivity Program has funded QCN Fibre to deliver fixed wireless networks, extending high-speed broadband connectivity to the Central Highlands towns of Bluff, Dingo and Duaringa.



More competition in regional telecommunications will improve access to essential online services such as telehealth, e-commerce, online education and training, AgTech and cloud-based solutions, which are currently not viable in many regional areas.



Laying cable (Source: Queensland Capacity Network Pty Ltd, trading as QCN Fibre)

▼ CASE STUDY

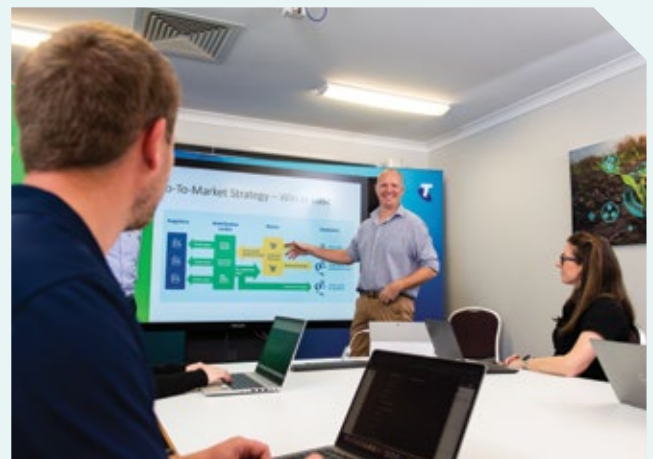
Agtech and Logistics Hub

The Advance Queensland Agtech and Logistics Hub will transform agriculture through facilitated connections, collaboration, partnerships and opportunities to solve industry's biggest challenges.

Global Agrifood Innovation Centre Ltd received funding from Advance Queensland to establish and run a multi-million-dollar Agtech and logistics hub in Toowoomba over three years. The vision for the hub is to grow the agriculture industry through the development and adoption of innovation and technology.

Located at Wellcamp, the hub will work across the food and agriculture supply chain, exploring opportunities ranging from enabling more sustainable growing practices, to creating efficient logistics services and new consumer products. This will involve connecting start-ups, SMEs, industry and researchers on industry-led projects, trialling new techniques and specialised equipment (such as virtual reality, robotics and drones) and providing access to commercial networks.

It will create opportunities for Agtech start-ups to develop solutions directly with industry and researchers, to create real value for our agriculture and to export Queensland technology to the world.



AgTech logistics hub (Source: Department of Agriculture and Fisheries)



▶ TRANSPORT

Gold Coast Light Rail (Source: Department of Transport and Main Roads)



TRANSPORT

OVERVIEW

How we move, and how efficiently we can do it, is key to ensuring productivity and quality of life.

Queensland's transport network spans 33,367 km of state-controlled roads, over 6,560 km of state managed heavy rail, 21 ports, over 20 km of light rail and 29 km of busways.⁴³ Our network has developed as our cities and regional areas have grown. Passengers and freight are now able to move via railways, busways, ports, airports, ferry connections, cycleways and many other connections.

Emerging technologies and new service models will enable us to further shape our transport system and meet growth in service demand. Innovations such as on-demand transport, cooperative and automated vehicles and Mobility as a Service can enhance the state's established modes and help us embrace new ways of transporting people and goods. Digitisation of infrastructure and utilisation of smart transport systems will also provide opportunities to enhance the delivery, management and operations of the transport network.

These innovations complement how transport infrastructure can reduce emissions. Facilitating the shift to zero emission vehicles and promoting more efficient modes for people and goods, including greater use of buses and rail networks is underpinned by transport infrastructure. We will do this while ensuring our freight systems are resilient, safe and better integrated. The COVID-19 pandemic highlighted the importance of the supply chain and free-flowing movements, as the industry supported emergency responses. Integrated road, rail, air and port systems adjacent to economic development areas support industry expansion and Queensland's economic performance.

Queensland's transport network is vast and supports expansive regions and cities. Maintaining our transport infrastructure assets is a challenge, particularly given this scale as well as increasing user demands and disruptive weather impacts across the state. Investing in the maintenance of our existing transport infrastructure is essential, not only to provide safe and efficient travel today, but to ensure the future economic sustainability of our state. This includes assets such as shipping channels, which are vital to the successful operation of our ports. The growing impact of climate change means that maintenance of our assets becomes even more critical.

Building-in resilient infrastructure assets can provide a greater level of protection so they remain accessible for transport networks in response to more frequent and extreme climate events.

Providing access to employment and training, education, health, and essential services underpins the function of Queensland's passenger transport system. We work with our delivery partners to provide an accessible, integrated, and efficient network across rail, bus, tram, and ferry services, for all users, including people with disability and seniors.

The Cross River Rail project is the Queensland Government's highest priority infrastructure project. Together with new high-capacity signalling, Cross River Rail will revolutionise the SEQ rail network, paving the way for future rail and creating opportunities for increased bus network integration to improve the passenger transport network.

As Queensland's population grows, the increased demand on our transport network will need to be balanced with placemaking and the everyday activities that occur in and around our road network and infrastructure. This balance is essential for creating attractive, sustainable, and healthy places, where neighbourhoods are not isolated or disconnected from the services that enable them to flourish. The Queensland Government is working to support placemaking and to integrate land-use and transport planning.

Queenslanders are utilising active forms of transport such as walking and cycling more than ever before, in response to population growth pressures, a desire to reduce emissions and the health impacts of physical inactivity.⁴⁴ The Queensland Government is working with other levels of government and industry partners to ensure our communities are green, livable and walkable.

Transport has a unique role in the state's ongoing economic recovery from the COVID-19 pandemic as it supports almost all social and economic activities. An accessible, sustainable, and efficient transport sector reduces the cost of doing business, which supports a stronger Queensland economy.

CURRENT KEY INITIATIVES

- ▼ **Transport Coordination Plan 2017–2027**
 Provides a framework for the coordinated planning and management of transport in Queensland.
- ▼ **Queensland Transport Strategy**
 Harnesses emerging transport trends to move people and products safely and efficiently.
- ▼ **Queensland Road Safety Strategy**
 Delivers innovative initiatives and new technology focused on a whole-of-life approach to road safety.
- ▼ **Regional Transport Plans**
 Defines priorities and actions for developing Queensland’s transport system that will guide future investment over the next 15 years.
- ▼ **Queensland Freight Strategy**
 Sets a shared vision for the state’s freight system, outlining commitments to guide policy, planning and investment decisions.
- ▼ **Accessibility and Inclusion Strategy**
 Articulates the Department of Transport and Main Roads’ (DTMR’s) commitment to become a world leader in the provision of accessible and inclusive transport services.
- ▼ **Queensland Cycling Strategy 2017–2027**
 Sets the direction for encouraging more people to ride bikes, more often throughout Queensland.
- ▼ **Queensland Walking Strategy**
 Recognises the critical role that walking plays as part of a single integrated transport system accessible to everyone and as part of a healthy, active lifestyle for all Queenslanders.
- ▼ **Bruce Highway Upgrade Program**
 Delivering \$13 billion of works over a 15-year period from 2013–14 to 2027–28 to improve safety, flood resilience, and capacity between Brisbane and Cairns.
- ▼ **Pacific Motorway M1 Upgrade Program**
 The upgrade and widening of the Pacific Motorway M1 is being delivered in strategic priority stages as funding becomes available, based on traffic volumes and best value for money.
- ▼ **Creating Better Connections for Queenslanders**
 A draft 10-year plan for passenger transport in Queensland, ensuring passenger transport remains reliable, safe, accessible and relevant to customers, through delivering infrastructure, services and technology improvements.
- ▼ **Environmental Sustainability Policy**
 Sets the direction and focus for protecting and enhancing our environment for transport investments.



North Brisbane Bikeway (Source: Transport and Main Roads)

TRENDS



By 2050, internal combustion engines powered by fossil fuels will be in the minority, as people shift to more affordable and **SUSTAINABLE VEHICLES**



In the future drones could handle an increasing amount of **FIRST – AND LAST– MILE FREIGHT**



ELECTRIC SCOOTERS AND BIKES

can make active transport more attractive and improve livability



TRANSPORT

CHALLENGES

Network security and resilience

Queensland is Australia's most disaster-affected state exposed to the impacts of extreme weather and climate change. As the climate continues to warm, extreme weather events are likely to be more damaging and create greater disruption across the transport system. Queensland's transport network also needs to be secure and resilient to human induced threats, addressing disruptions and damage quickly and thoroughly. The transport system, like all areas of the Queensland economy, must plan, prepare and build in resilience so that when events do occur it can reopen faster and at least cost.



Freight on rail

Maximising rail freight use along strategic corridors can deliver improved economic, social and environmental benefits. The Queensland Government recognises that the freight task operates in a competitive and complex environment. Modal choice is determined by a variety of factors including reliability, price, timeliness, type of goods, geographic circumstance and other economic and social factors. Investing in efficient and effective rail access is particularly important in Queensland's regional areas – the source of our resource and agricultural products. Increasing rail's modal share of freight also reduces heavy vehicles on Queensland's roads, decreasing congestion in urban areas and reducing conflict between heavy vehicles and other motorists.



Road safety



Road safety is a public health issue and continues to be a complex challenge in Queensland. Every crash, serious injury, and fatality on the network has a ripple effect that impacts individuals, families and communities. The Queensland Government has a strong history of taking action to improve road safety. Over time, progress has been made through interventions such as the introduction of seatbelts, enforcement initiatives including the rollout of Australia-first cameras that detect if a driver is using their phone or not wearing a seatbelt, behavioural and cultural change programs, and improving roads and roadsides. However, to achieve our vision of zero road deaths and serious injuries we need to build on these foundations to implement a holistic approach to reducing road trauma. The challenge is to identify infrastructure and service solutions that can help us realise the vision of zero deaths and serious injuries across the road network.



Journey times and transport costs

As our cities and regional centres grow, journey times and reliability can be affected. This impacts the entire network and the wider economy through increased transport costs and livability as commuting times grow. The Queensland Government continues to proactively manage congestion and integrate the operations of the transport network to improve journey reliability for customers. Knowledge-sharing about current and future system requirements across the freight supply chain could also provide insights into the day-to-day working of the freight system to better identify potential issues, innovative solutions and ensure investments are driven by need.



OPPORTUNITIES



Environmental sustainability

Transport infrastructure can directly reduce emissions through the use of low or zero carbon material, the increased use of recycled material, and the sourcing of renewable energy to power our transport system. Supporting low and zero emission vehicles and vessels for personal, commercial and freight use, encouraging greater adoption of passenger transport services and active transport options, such as riding bicycles or e-bikes and walking, will help reduce transport emissions. As technology and new services such as shared connected and automated vehicles develop, the potential for a reduced number of vehicles on our roads and efficiency gains in service delivery can also help lower emissions. Long-term master-planning, which incorporates environmental sustainability measures and improved environmental practices at ports, are also assisting in securing the long-term health and resilience of the maritime environment, including the Great Barrier Reef.



Brisbane 2032

Brisbane 2032 provides a unique opportunity to accelerate the delivery of sustainable, accessible and inclusive transport infrastructure across the state through innovative partnerships with the Australian Government, local government and the private sector.

Opportunities exist to build on the benefits of Cross River Rail's legacy of increasing the region's rail capacity, reducing travel times for commuters and visitors, and improving the passenger experience to promote the benefits and convenience of the SEQ public transport system.



Increased connectivity and accessibility

Delivery of an integrated, accessible and inclusive transport network (products, services, information and infrastructure) demonstrates Queensland's commitment to upholding everyone's human rights, creating a legacy of dignity for all. Inclusive, active and healthy communities need employment and everyday services to be accessible for all.

Improving digital connectivity can minimise the need to travel, while improving our integrated transport and land-use planning to support placemaking and applying universal design principles to our public spaces provides more opportunities for people to continue to use more active modes in their local neighbourhood. Enabling integrated journey planning, information and payments makes using public transport easier, while more on-demand, convenient and seamless interchanging will result in a world-class network that helps Queenslanders access services when and where they want.



Use technology to improve mobility

Introducing new services and technology will improve access and connectivity in our regional centres and cities. More efficient-running and new technologies, such as drones, delivery bots and automated vehicles, can help make better use of existing road capacity, improve access, and reduce first and last-mile freight costs by up to 40 per cent.⁴⁵





TRANSPORT

PRIORITY ACTIONS

1 Planning for Brisbane 2032 (DTMR, DSDILGP)



Plan to deliver sustainable transport infrastructure across the state which provides improved access across SEQ and other host cities providing an ongoing legacy for the community.

2 SEQ rail network and faster rail (DTMR, QR)



Continue to enhance and optimise the SEQ rail network to deliver faster, more efficient and reliable journeys throughout the region, with a focus on the strategic corridors between Brisbane and the Gold Coast and Sunshine Coast. Planning for the region's network will maximise the benefits of Cross River Rail and evaluate opportunities for network expansion including passenger rail services from Ipswich to Springfield, Varsity Lakes to the Gold Coast Airport, Salisbury to Beaudesert, and between Toowoomba and Brisbane.

3 Improved freight reliability and efficiency (DTMR)



Continue to implement the *Queensland Freight Strategy and Action Plan* and work collaboratively to deliver an integrated, resilient, and safe freight system that supports the Queensland economy, links communities, local industry, regions and Queensland to the rest of Australia and internationally. Optimise the use of existing freight infrastructure and targeted investment to create economic opportunities which advance customer, industry and government interests, now and into the future.

4 Queensland Electric Super Highway (DTMR, DEPW)



Continue to expand the Queensland Electric Super Highway across the state in partnership with local governments and industry to ensure increased access for Queenslanders to electric vehicle (EV) charging infrastructure. Investigate the potential to update relevant codes and regulations for new homes and buildings to have charging capability to be EV-ready.

5 Reduce transport infrastructure's environmental impact (DTMR, QR, Ports)



To reduce transport infrastructure's environmental impact and whole-of-life greenhouse gas emissions:

- ▶ Embed sustainability into decision making for project planning, design, construction and operation
- ▶ Explore opportunities to re-use waste materials, such as for earthworks and drainage construction, as well as crumbed rubber in road construction.

6 Incentivising low and zero emission transport solutions (DTMR, DEPW)



Provide appropriate policy and infrastructure to support greater uptake of zero-emission vehicles and shift to more efficient modes through *Queensland's Zero Emission Vehicle Strategy 2022–2032* and *Action Plan 2022–2024*. Embrace innovative and new transport technologies, and combine research and development to build, strengthen and integrate Queensland's transport system. Reducing emissions in the transport sector will support new industries, skill development, and create more sustainable jobs.

7 Movement and place framework (DTMR, DEPW)



Develop a movement and place framework in partnership with the Queensland Architect and local governments to guide a 'place-based' approach to the planning, design and operation of Queensland's transport network, alongside informing the delivery of transport precinct development outcomes.

8 Coordinated transport and land use (DTMR, DSDILGP)



Leverage significant transport infrastructure projects such as Cross River Rail to develop transit-oriented developments around stations or road infrastructure that support housing diversity, social inclusion, enhanced environmental outcomes and ensure that such projects can grow and adapt to evolving needs.

9 Corridor planning and preservation (DTMR)



Continue planning for transport corridors considering future land use and growth, to ensure protection of key infrastructure corridors.

10 Road operational efficiency (DTMR)



Use technologies such as the next generation traffic signal controllers (NGTSC), Smart Motorways, and LED lighting to enhance operational efficiency, improve network capacity and reduce operating costs.

11 Regional rail performance (DTMR, QR)



Continue to upgrade the North Coast Line to improve regional rail performance and enhance passenger and rail freight movements.

12 Inland Freight Route Investment Strategy (DTMR)



Develop a long-term investment strategy that will inform the delivery of projects on Queensland's inland freight route.

13 Port network management (DTMR, Ports)



Further optimise the Queensland port network, facilitate trade and drive economic growth by:

- increasing the efficiency and effectiveness of port services and infrastructure
- improving connectivity and access to help our regions connect with the world
- driving safety, environmental best practice and sustainability of port operations and development to create a positive change in the communities where they operate.

14 Cooperative and Automated Vehicles (DTMR)



Continue to prepare the technical foundations for the next generation of smart transport infrastructure to provide safety, mobility and environmental benefits to the transport network. Ensuring planning for new infrastructure includes the ability to cater for new connected vehicles and opportunities to expand trials to key corridors statewide.

15 Convenient and attractive active transport (DTMR)



To encourage active transport and other sustainable travel choices, deliver:

- safe and connected cycle paths and footpaths
- integrated public transport, walking, cycling and other networks that are accessible for people of all ages and abilities
- appropriate end of trip facilities
- more inclusive, active and healthy communities.

16 Seamless personalised journeys (DTMR)



Continue to partner with industry and other levels of government to investigate opportunities for seamless personalised travel using Mobility as a Service (MaaS), increasing access to on-demand transport and improving transfers between different forms of transport across Queensland.

17 Rail network safety and efficiency (DTMR, QR, CRRDA)



Progressively deliver the European Train Control System (ETCS) to improve safety, capacity and efficiency of the rail network. The ETCS is an advanced signalling system that relays continuous information between the train and central Rail Management Centre via a radio system, trackside technology and onboard equipment.

18 Reliable, safe and accessible passenger transport (DTMR)



Continue to deliver passenger transport outcomes across Queensland focusing on reliable, safe, accessible and frequent services, and infrastructure and technology improvements to move people quickly and easily in our towns and cities.

19 Inland Rail (DTMR, QR)



Connect producers to market and create new opportunities to deliver freight to markets between Melbourne and Brisbane and beyond to global markets by continuing to work with the Australian Government to maximise the benefits of Inland Rail for Queensland.

20 Network security, resilience and sustainability (DTMR, QR, Ports)



Improve transport network security and resilience to the impacts of climate change and disruptions from all hazards, including natural disasters and human-induced threats, to enable the safe movement of people and goods. Research and invest in sustainable materials to improve recovery and reconstruction activities. Improve planning, design, delivery and operations to incorporate risk related to natural disasters and climate change impacts.

21 Supporting tourism (DTMR, DTIS)



Continue to incorporate evidence-based tourism priorities in the planning and investment of transport infrastructure and services to improve access and drive real growth in tourism opportunities and jobs.

22 Freight Rail (DTMR, QR)



Work with rail and supply chain stakeholders to encourage the use of regional rail corridors (South West, Central West, Mt Isa and North Coast Lines) to improve road safety, reduce road transport emissions and reduce the road maintenance burden.

23 Decision making in an uncertain future (DTMR)



Continue to undertake and improve policy development and transport modelling capacity and capability to assess how new transport service models, such as shared vehicle use, can help achieve the desired strategic transport outcomes as new technologies such as autonomous vehicles become a reality.

24 Improved road safety (DTMR, QPS)



Deliver innovative initiatives focused on the whole-of-life approach to transport safety to improve overall transport network safety. Employ new technologies that can improve safety including connected and automated vehicles or 'Hold the Red' an active collision prevention system.

INFRASTRUCTURE OBJECTIVES



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches



TRANSPORT

▼ CASE STUDY

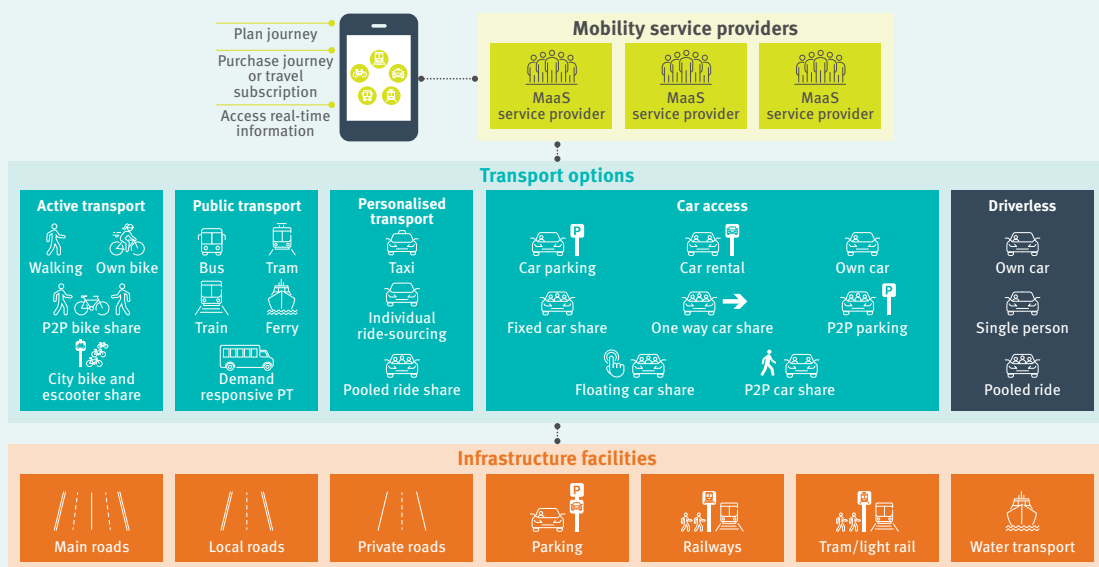
Mobility as a Service

New services and technologies provide exciting possibilities for innovative transport services and modes. DTMR is exploring opportunities to harness emerging technologies and new service models to improve the use of existing roads and transport systems. Personalised transport services have grown in popularity due to the proliferation of smartphones and ready access to data. Mobility as a Service (MaaS) schemes that integrate public and private transport services into a single fare often as part of a subscription service are increasing in popularity and demand.⁴⁶

DTMR and the University of Queensland (UQ), as part of an iMove Cooperative Research Centre program, have commenced a joint proof of concept to explore how MaaS schemes can enhance personal mobility locally. The trial uses emerging technology to test elements of MaaS with a group of UQ staff and students.

The application of MaaS schemes has the potential to make certain modes more attractive for users in the face of competition from new and future transport modes that may adversely affect the transport system, primarily through increased congestion.

Modal options, such as on-demand transport, can be included in a MaaS model. DTMR is currently trialling a number of on-demand public transport models, including on the Gold Coast, where residents of Nerang West, Highland Park, and Pacific Pines will have access to new flexible, shared services designed to connect customers to the wider TransLink public transport network and key locations in the community. As well as providing flexible services, new technology is also being introduced by DTMR as part of some of the on-demand trials. This will allow customers to book, plan and pay for an on-demand public transport service easily and in different ways. Subject to the outcomes of the trials, future on demand services may be rolled out across the state where regular public transport is not available or possible.



Overview of Mobility as a Service (Source: Modified from MaaS Australia)



ENERGY

Kidston Solar Project (Source: Genex)



ENERGY

OVERVIEW

Secure, reliable and affordable energy is vital to our communities and businesses. It underpins our economy and quality-of-life, with exciting new technologies including hydrogen production paving the way for a sustainable future and creating more jobs in more industries.

Queensland enjoys an enviable energy supply that is supported by significant generation and network infrastructure. The state government plays a major role in the energy industry, owning the vast majority of network infrastructure and majority ownership of generation. This delivers reliable and affordable energy, and will support our 50 per cent renewable energy target by 2030.⁴⁷ With our globally significant resources, we've experienced a boom in renewable energy infrastructure investment at the household and industry level. This has been driven by falling costs, a skilled workforce and industry base, and the state government's stable investment environment, putting us on the path to becoming a renewables and hydrogen superpower.

Queensland's generation landscape is changing, reaching a significant milestone of 20 per cent renewable energy generation in 2020. Continuing to leverage our competitive advantages will support further investment and economic growth and achieve zero net carbon emissions by 2050.⁴⁸

Queensland's renewable energy zones (QREZ) will unlock the next wave of large investment. They will create long-term, sustainable, and diversified employment opportunities, matching industrial energy demand with renewable energy, decarbonising industry and our electricity network. For instance, the Central Queensland QREZ creates the potential for Gladstone to become a world-leading renewable hydrogen and clean manufacturing hub.

Cheap, reliable, and accessible renewable energy will also be an integral part of Queensland's rapidly developing hydrogen industry, which is another vital plank in the state's lower emissions future. Renewable energy is also a key enabler for other sectors to reduce emissions, presenting opportunities with electrification of industry, greener buildings and electric vehicles. It can also help development of new industries, including hydrogen production and green metals.

As we globally move towards decarbonisation and electrification, the next wave is forming for our resources sector to supply, process and manufacture the new economy minerals essential for emerging technologies, renewable energy components, electric vehicles and batteries. Capitalising on this demand will be critical with the government's draft QRIDP setting out a vision to grow and transform the resources sector to take advantage of these opportunities.

As the uptake of new technologies and renewable energy generation continues to increase, we will need to modernise our infrastructure with energy storage a crucial element in transformation of the energy system. It smoothes out the variable output from wind and solar and peak times in electricity demand, supporting overall system stability and resilience.

There are various types and sizes of energy storage and given the diversity of system needs going forward, a range of energy storage solutions will be needed. There is a role for both short-term storage – such as small and large-scale battery storage systems – and longer-duration storage – such as pumped hydro – to ensure that the energy supply remains secure and reliable.

Customers, global investors and markets are converting to renewables to reduce emissions. For Queensland industries to maintain and grow their global competitiveness, it is imperative there is support to transition to lower-emission sources of energy. We can achieve this by taking the opportunities presented by our plentiful and cheap renewable energy sector to grow existing and new industries.

The speed and scope of this transformation means there is a greater need for coordinated infrastructure planning to continue to meet the affordability, reliability, and security needs of Queensland customers. The Queensland Government is developing an Energy Plan that will outline a credible pathway to achieve the 50 per cent renewable energy by 2030 target and support transformation of the energy system.

CURRENT KEY INITIATIVES

- ▼ **Queensland Renewable Energy Zones**
The government has committed \$145 million for three Renewable Energy Zones (QREZ), located in the Northern, Central and Southern regions, as part of *Queensland's COVID-19 Economic Recovery Plan*.
- ▼ **Queensland Hydrogen Industry Strategy**
The *Queensland Hydrogen Industry Strategy 2019–2024* released in 2019, sets the direction for sustainable hydrogen industry development, building on Queensland's competitive advantages.
- ▼ **Queensland Renewable Energy and Hydrogen Jobs Fund**
Established as part of the \$3.34 billion Queensland Jobs Fund (QJF), the \$2 billion Queensland Renewable Energy and Hydrogen Jobs Fund is assisting Queensland's energy transformation, by supporting government-owned energy corporations (GOCs) to increase investment in commercial renewable energy and hydrogen projects, along with supporting infrastructure, including in partnership with the private sector.
- ▼ **Borumba Dam Pumped Hydro Study**
The government has invested \$22 million from the QREZ to investigate the potential to construct a pumped hydro energy storage facility at Borumba Dam, near Gympie.



Borumba Dam (Source: Seqwater)

TRENDS



Combined with the growth of rooftop photovoltaic (PV), the increase in large-scale renewable energy has resulted in Queensland's share of renewable energy jumping from **7 PER CENT** in 2016 to **20 PER CENT** in 2020–21



Queensland has led the way with renewable generation. With increasing renewable generation, there will be an

INCREASED NEED TO STORE RENEWABLE ENERGY

in both small and large-scale batteries. In order to facilitate grid stability, this could range from using EV batteries powering homes to large pumped hydro facilities



Employment in **RENEWABLE ENERGY** is predicted to increase by between **5,000 AND 8,300 JOBS** to 2035, with 75 per cent in regional Queensland⁴⁹



ENERGY

CHALLENGES

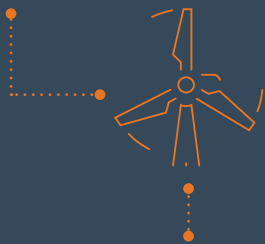
COVID-19 impacts

The pandemic has created key shifts in energy consumption and behaviour brought about by working from home, online shopping and consumer savings. The impact of these in the longer term is not yet clear.



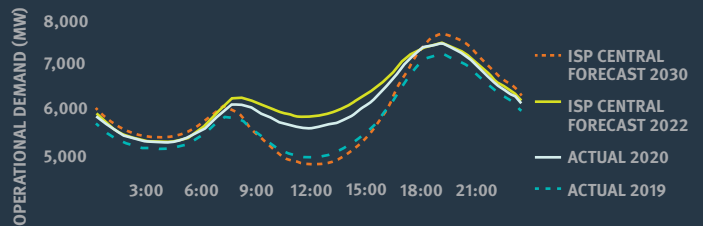
Energy security, reliability, and affordability

The increasing amount of renewable energy generation coming online, as well as changes in consumption and demand, has the potential to impact reliability, security of supply and cost within the network. Renewable generation, variable by nature, needs to be complemented by other technologies such as energy storage. This is being actively managed by Queensland's electricity networks, and the state government through various network, generation, and storage projects. Demand management and energy efficiency measures are also used to better manage peak demand, improving grid resilience.



Managing disruption from new technology and decentralisation of the energy system

More than 700,000 solar PV systems are installed in Queensland homes and businesses.⁵⁰ This form of distributed energy resource brings many benefits to customers, but it also presents new challenges for managing the system. Increasing solar uptake reduces the load drawn from the grid in the middle of the day, when solar resources are at their highest, as demonstrated in the following graph:

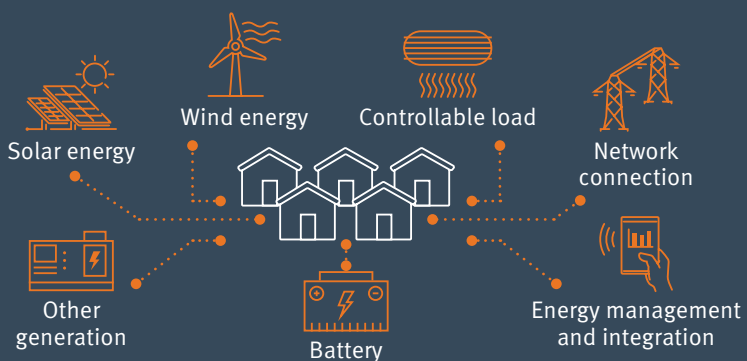


This low system load during the middle of the day, followed by a quick ramp-up to meet peak load as the sun sets, can make it more difficult to keep the system operating smoothly. Work is underway at national and state levels to ensure issues relating to this phenomenon, such as maintaining system strength services and balancing supply and demand in emergencies, are addressed to ensure the system continues to allow greater amounts of distributed energy resources.



Energy in remote communities

Energy supply in remote communities is logistically difficult and can be expensive. These communities are too far from the national energy grid to be connected easily and need to rely on diesel generators, small-scale distributed generation (e.g. solar, wind, geothermal) or nearby large companies. Nonetheless, Ergon Energy retail customers in these communities pay the same electricity prices as other customers across regional Queensland, due to the Queensland Government's Uniform Tariff Policy and Community Service Obligation payment of about \$500–\$550 million in 2021–22.

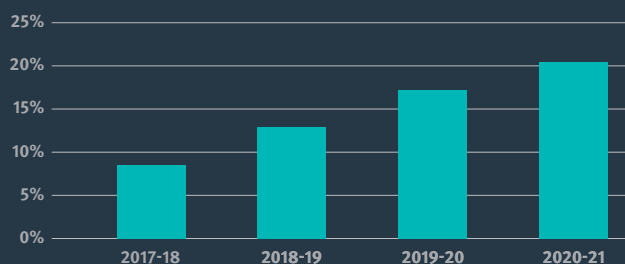


Stand-alone power system (SAPS) adapted from Energy Networks Australia⁵¹

OPPORTUNITIES

Global push towards renewable energy

The Queensland Government is committed to transitioning to a low-carbon energy future by achieving zero net emissions by 2050 under the Queensland Climate Adaptation Plan 2020–2030, including the 50 per cent renewable energy target by 2030.⁵² The state is on track to achieve this, with renewable energy generation increasing its overall share.



The state government will continue to support renewable developers through large-scale project facilitation and planning and network connection assistance. It will also continue to advocate for stable and integrated national climate and energy policies.

Supply chain development

Renewable energy and hydrogen present an opportunity to grow local manufacturing and develop a true value chain to become a renewable and hydrogen superpower. The government is supporting the development of locally made renewable and hydrogen production components, providing certainty to manufacturers to set up operations here through a guaranteed pipeline of work.



Emerging renewable energy enabled industrial hubs

Co-locating industrial hubs, such as renewable hydrogen and ammonia production, metal refining and advanced manufacturing, can be facilitated as renewable energy becomes more readily accessible. Strategic planning will be required to ensure we capitalise on these opportunities.



Industrial decarbonisation

There is scope to reduce the emissions intensity of key industries through demonstrated and mature solutions (e.g. electrification and greater adoption/use of renewables). Emerging solutions such as high-grade heat electrification, solar thermal and hydrogen have the potential to achieve deeper emissions cuts.



Future energy mix

As the state moves towards a more renewable future with greater renewable energy generation, the role of gas, coal, petroleum, biofuels and hydrogen will change.

The opportunity to decarbonise for many businesses will be renewable energy provided through electrification or clean hydrogen. Advanced biofuels may be the way forward for those industries that will be more challenging to decarbonise, such as aviation.

This will provide opportunities for innovative technologies to enter the market to help address the challenges associated with the integration of greater levels of renewables and Distributed Energy Resources (DER). For example, utility-scale energy storage and pumped hydro can act as a solar soaker to use excess solar PV generation.⁵³





ENERGY

PRIORITY ACTIONS

1 50 per cent renewable energy target (DEPW)



Queensland has committed to a 50 per cent renewable energy target by 2030 while maintaining an affordable, reliable and secure electricity supply. This target will assist in achieving zero net emissions by 2050.

2 Developing an Energy Plan for Queensland (DEPW)



The energy plan will set out actions to achieve 50 per cent renewable energy by 2030 and a cleaner, affordable, and reliable energy system that powers a pipeline of jobs and opportunities. This will put Queensland on the world-stage as a renewable and hydrogen leader, with thriving regional communities and clean industry growth.

3 Develop Queensland's Hydrogen Industry (DEPW, DSDILGP)



Implement the *Queensland Hydrogen Industry Strategy 2019–2024* so there is a framework for working with private enterprises and government to sustainably develop the industry.

4 Queensland Renewable Energy and Hydrogen Jobs Fund (QT)



The Queensland Renewable Energy and Hydrogen Jobs Fund (QREHJF) is supporting GOCs to increase investment in commercial renewable energy and hydrogen projects, along with supporting infrastructure, including in partnership with the private sector.

5 Energy storage (DEPW, EQL)



Growing Queensland's energy storage through batteries, pumped hydro and hydrogen is key to fully realising our renewable energy opportunities and contributing to reliability and affordability. A detailed study is investigating Borumba Dam as a potential pumped hydro site. Five locations across regional Queensland will host a large-scale, network-connected battery trial aimed at supporting the state's continual uptake of renewable energy. The government is also investing \$147M to support the connection of Genex's 250 MW Kidston Pumped Storage Hydro Project in North Queensland.

6 Northern QREZ (DEPW)



Unlocking renewable wind energy development in this region has been a logistical challenge due to its location and distance from load centres. Development of the Northern QREZ, including transmission capacity, has the potential to resolve some of these challenges, while providing an economic stimulus in sustainable and diversified employment opportunities.

7 Capturing the benefits of Queensland's renewables and hydrogen transformation (DEPW)



Queensland's renewable and hydrogen sectors will support the decarbonisation of existing industry and attract new industry powered by low-cost, reliable, clean energy. We will:

- ▶ unlock opportunities to match renewable energy with economic opportunities
- ▶ work with industry in strategic locations to deliver access to affordable energy, including renewable hydrogen and achieving economies of scale for investment and jobs
- ▶ support the establishment of new industries and decarbonisation of existing ones.

8 Central QREZ (DEPW)



Development of the Central QREZ, including transmission capacity, will facilitate growth in green manufacturing industries, creating a thriving export economy from the Port of Gladstone. Prospective new industries could include hydrogen production, hydroxide, chlorine polyvinyl chloride, hydrochloric acid, green aluminium and ammonia, new economy minerals and other manufacturing.

9 Southern QREZ (DEPW)



Development of the Southern QREZ in the Darling Downs and South West will take advantage of an existing strong network that has spare capacity and good quality wind resources. Renewable energy development will support growth in agribusiness by diversifying electricity used in agricultural processing facilities, as well as in other industries due to its proximity to the SEQ load centre.

10 Stand-alone power systems (DEPW)



Work is underway to identify strategic pathways that will deliver improved electricity services to customers in regional and remote areas of the grid. This includes supplying customers on the fringes with standalone power systems.

11 Distributed energy resources and storage (DEPW)



Give customers the opportunity to access new value streams from their investment in distributed energy resources, such as rooftop solar, batteries, EVs and demand management using incentives to change behaviours and move to active participation. This enables greater levels of DER to be safely integrated into the energy system.

12 Future energy needs for the North West Minerals Province (DEPW)



Options to reduce the cost of energy in the North West Minerals Province are being explored. This will open up opportunities for the development of new earth and rare earth minerals, providing the cobalt, copper, scandium, nickel, vanadium, and other minerals needed for batteries, zero-emission vehicles and solar panels.

13 Represent Queensland's interests (DEPW)



In the interests of developing a national energy policy, the Queensland Government will work with the Australian Government, its state counterparts and the National Energy Market to ensure its renewable energy aspirations are supported.

14 Readiness of the energy system and new technologies such as EVs (DEPW)



Ensure the energy grid is able to support and integrate with technologies such as EVs. This will address EVs using the grid for charging and feeding back into the system.

15 Assisting reduction in industrial emissions (DEPW)



Work with large industrial customers to consider industrial energy needs, local availability of renewable energy and support for industry to increasingly adopt technologies and renewable energy.

16 Future Fuels (DSDILGP, DEPW)



Queensland will continue to support and encourage the development of future fuels to complement Queensland's future energy mix.



Wind Farm, Ravenshoe (Source: Energy and Public Works)

INFRASTRUCTURE OBJECTIVES



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches



ENERGY

▼ CASE STUDY

Hydrogen

Hydrogen industry development is occurring across the state with facilities planned for Brisbane, Townsville and Gladstone. Gladstone has been chosen by Fortescue Future Industries (FFI) as the location for Queensland's first hydrogen equipment manufacturing facility. FFI is partnering with the Queensland Government to build the Green Energy Manufacturing Centre which, when operational, will have the capacity to build up to two gigawatts of electrolyzers annually. Future plans include opportunities to increase scale or production and expand into other renewable energy technology manufacturing which is expected to support other regional investments including hydrogen production. In addition, companies such as Stanwell, Rio Tinto and H2U™ The Hydrogen Utility are at various stages of investigations into developing hydrogen projects in the Gladstone region.⁵⁴



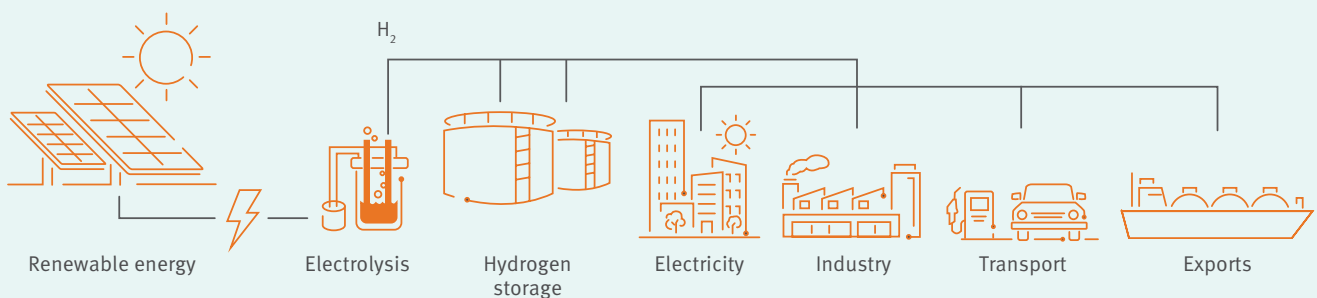
Hydrogen fuelled car (Source: Energy and Public Works)

The industry is supported by government investment and partnerships delivering the skills needed to support this growing industry, including a hydrogen and renewable energy training facility in Townsville and investment in facilities at Gladstone State High School.⁵⁵

Hydrogen has a wide range of uses and can be substituted for just about any energy resource. It can be used to store renewable energy, generate electricity, fuel vehicles and in industrial manufacturing processes. This versatility is driving significant interest and public and private investment.

Hydrogen produced using renewable or *green* energy sources such as solar, wind or biomass is referred to as green hydrogen. Another key input for producing hydrogen via electrolysis is water.

Queensland is ideally positioned to capitalise on the growing worldwide demand for *green* hydrogen as an energy exporter with superior renewable energy resources. The government has allocated \$25 million to the Queensland Hydrogen Industry Development Fund (HIDF). The HIDF is also part of the Queensland Government's \$3.34 billion Queensland Jobs fund which is boosting the state's industry footprint, creating jobs and strengthening Queensland's economy. The Queensland Jobs Fund includes the \$2 billion Renewable Energy and Hydrogen Jobs Fund and the \$350 million Industry Partnership Program.



Renewable hydrogen and its uses (source: Adapted from Queensland Hydrogen Industry Strategy)



▼ WATER

Boondoomba Dam, Wondai (Source: Tourism and Events Queensland)



WATER

OVERVIEW

Queensland's water resources are precious. They must be efficiently managed to meet the needs of our growing population and industry demand, while ensuring the sustainability of our water resources into the future.

As well as being essential for life and a vital part of our economy, water is key to our long-term prosperity, supporting our traditional agriculture and resource sectors, along with emerging regional industries like hydrogen. It is also vital for preserving the beauty and biodiversity of Queensland's natural environment and diverse ecosystems which are integral to our local communities, way of life and economy.

While this strategy is focused on state infrastructure, water and wastewater infrastructure in Queensland involves multiple levels of government and various regulatory frameworks. Together these help to provide affordable infrastructure that delivers safe, secure and accessible water supply and wastewater treatment, ensuring health and environmental standards are met. This helps maximise Queensland's economic potential, while making our communities more resilient in the face of climate change and increasing weather extremes.

Effective water supply planning and viable funding models are essential to the provision of appropriate long-term infrastructure solutions. This also ensures our 'blue infrastructure', which includes rivers, wetlands, lakes and springs, are sustainably managed to safeguard supplies and protect ecological systems.

Queensland's water supply supports several of the state's key domestic and export industries, especially agriculture. Ensuring it remains secure and affordable will also contribute to the expansion and diversification of industries, including hydrogen and renewables.

As climate change challenges water security and our ability to meet growing demand in an uncertain environment, alternatives to traditional bulk water sources – including recycled water and desalination – will need to be explored. This will include seeking out fit-for-purpose solutions for smaller towns and cities.



Burnett River (Source: Tourism and Events Queensland)

The *Queensland Bulk Water Opportunities Statement* (QBWOS) outlines the state's strategic framework for maximising the utilisation and efficiency of existing water supply infrastructure, optimising investment into new infrastructure to support economic development, and protecting water security. The QBWOS outlines four strategic objectives that guide the state's approach to bulk water supply:

- ▶ ensure safety and reliability of dams and urban water supply.
- ▶ optimise utilisation and efficiency of existing infrastructure.
- ▶ support infrastructure development that provides a commercial return to the state and publicly-owned bulk water entities.
- ▶ consider projects that will provide regional economic benefits.

Ensuring all Queenslanders have access to safe and secure drinking water, and wastewater services, is a critical priority. The Queensland Government works in partnership with local governments to ensure that communities have water and wastewater systems in place, and that these assets are sustainably managed, through good planning, proactive maintenance, and an appropriately skilled workforce.

CURRENT KEY INITIATIVES

▼ National Water Infrastructure Development Fund and National Water Grid construction program

Accelerate the assessment of water infrastructure projects in partnership with the Australian Government through the National Water Grid Fund, and the continued delivery of projects, including private proponent projects, funded through the National Water Infrastructure Development Fund.

▼ The Queensland Bulk Water Opportunities Statement

The strategic framework outlining the state's approach to bulk water infrastructure.

▼ Regional Water Assessment Program

\$9 million program targeting three of Queensland's most significant food bowls – Southern and Darling Downs, Bundaberg and Burnett, and the Tablelands – to identify infrastructure and non-infrastructure solutions to maximise water supply and drive future economic growth.

▼ Rookwood Weir

\$367.2 million in total for the provision of 86,000 megalitres of water for the agricultural development and security of urban and industrial areas in Central Queensland.

▼ Round 6 of Building our Regions

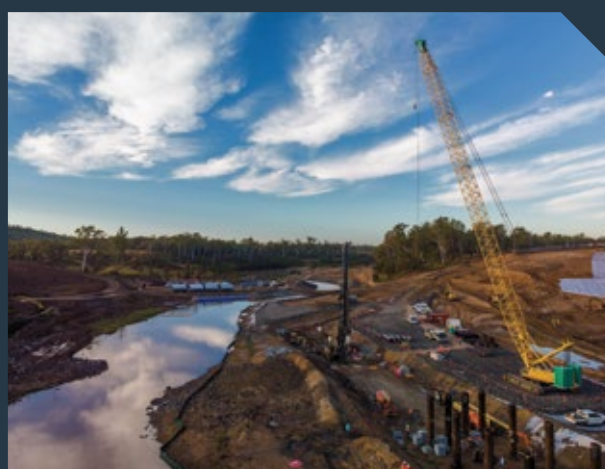
\$70 million over three years for local governments to improve water supply and sewerage systems.

▼ Dam improvement program

Ensuring all dams continue to operate safely during extreme weather events, with major projects including Paradise Dam, Burdekin Falls Dam and Somerset Dam.

▼ Water Security Program

Provides a plan for how water security can be achieved for SEQ in the next 30 years.



Rookwood Weir, Central Queensland (Source: Sunwater)

TRENDS



NEW TECHNOLOGIES, DATA AND DIGITISATION

are improving water supply monitoring and management



Trends in population growth are resulting in a **GROWING OF TOTAL DEMAND FOR WATER**, particularly in SEQ.



Water supply infrastructure will need to adapt to changing water demands, with **MORE RENEWABLE ENERGY GENERATION**, the growing hydrogen industry and investigating pumped hydro opportunities



INCREASING ENVIRONMENTAL STEWARDSHIP

is seeing more investment in water as assets to enhance people's lives. For example, involvement of First Nations peoples development of Blue Carbon initiatives and ecological best practice water-based tourism and recreation opportunities



WATER

CHALLENGES

Ageing infrastructure

Ageing water assets require greater maintenance and monitoring. The state is working with its water infrastructure partners to assist in planning for upgrades or new infrastructure to secure safe water for all Queenslanders.



Regional Queensland water security

In regional Queensland, the state partners with local governments to undertake urban water supply security assessments, monitor risks to security and continuity of supply, and provide assistance when needed. The challenge is to prioritise investments across a diverse range of water security needs across the state.



South East Queensland water security

SEQ's population is expected to increase to at least 5 million over the next 20 years⁷⁵ and while current water security is provided by the SEQ Water Grid and local water supplies, new infrastructure will be required to support the growing population and to meet the Queensland Government's service objectives. Seqwater's Water Security Program summarises the planning undertaken to ensure future water supply meets the desired service objectives.



Achieving greater efficiency and reducing wastage

Opportunities exist to improve the efficiency of existing infrastructure by reducing losses so that more water can be made available to the market under existing water plans. The benefit of these opportunities is that water supply can effectively be increased through technology or other measures and defer the need for costly new infrastructure.

There are also opportunities to improve the efficiency of end user water demand through education and demand management programs. State and local governments, bulk water providers and water service providers should work together to promote and encourage water efficiency.



Climate change

Queensland has a dynamic climate, from dry and hot conditions in the west, to tropical hot and wet in the north, with some of the highest and lowest rainfalls in the country. Climate change is expected to cause more extreme weather events, from extended droughts to changes in rainfall patterns, severe flooding and high intensity bushfires. These climate risks are embedded in our planning, to help ensure we plan and deliver resilient infrastructure that is appropriate, affordable and embraced by the communities it services.

OPPORTUNITIES

Making the most of existing infrastructure

The Queensland Government is entrusted with making strategic choices about the use of the state's resources, and difficult investment decisions must be made. Its commitment to finding innovative ways to use and re-use existing infrastructure means building new is not always necessary.



Aligning water infrastructure planning with regional economic strategies

Affordable water is a critical enabler for regional industries. Planning for water infrastructure can be enhanced through closer integration with land-use, economic and industry development strategies. Providing greater certainty to industry in regional growth precincts about water, and other economic infrastructure sequencing and delivery timeframes, will support proponents in making investment decisions.



Embracing alternative water supplies

The Queensland Government is well placed to respond to increasing water security challenges. For example, using infrastructure built during the millennium drought and SEQ Water Grid's ability to move treated drinking water around the region. There are also other opportunities to adopt an integrated water management approach and diversify water networks through stormwater harvesting and recycled water, which is currently being used to supply industry. Innovation will play a key role in ensuring solutions are fit-for-purpose and reflect community needs.



Working in partnership

A national approach to water security will help ensure the Australian, Queensland and local governments develop a shared list of priority projects, and a shared framework for the development and assessment of proposals. This will allow decision-makers to focus on achieving these outcomes as opposed to advocating for specific projects.

Improving water trading and optimising markets

The state is working hard to ensure water can be allocated to where it is most needed through efficient water trading. More than 30 per cent of Queensland supplemented water entitlements are underutilised so there is opportunity to achieve better outcomes through improving market access and trading opportunities. This helps meet water demand and better utilisation of existing infrastructure before building new infrastructure.



WATER

PRIORITY ACTIONS

1 Robust consideration of bulk water infrastructure (DRDMW, Seqwater, Sunwater)



Continue to undertake appropriate due diligence and robust consideration of potential bulk water needs. This will draw on various principles and frameworks for assessment, assurance and prioritisation including those outlined in the QBWOS.

2 Safe and secure water systems (DRDMW, DES, Seqwater, Sunwater)



The Queensland Government will work with and support state entities and other local providers to provide safe, secure and resilient water supplies for communities and improve stormwater and wastewater quality to improve the overall water ecosystem.

3 Water to catalyse regional economic development (DRDMW, Seqwater, Sunwater)



Water is a critical enabler for existing and emerging regional industries including hydrogen and advanced manufacturing and for the international competitiveness of the agricultural, food and beverage manufacturing and mining sectors. Infrastructure investment decisions will consider future market demand and emerging industries.

4 Identifying regulatory and other reforms to improve access (DRDMW)



Identify opportunities to improve and streamline the regulatory and policy regime for water, including clarity on roles and responsibilities for integrated water planning, and licences, providing access to reserves allocated to delay new infrastructure and facilitating innovation.

5 Best practice catchment analysis and water planning (DRDMW)



Continue to incorporate new technologies and the best, most contemporary science in the development of water plans, and to communicate this to industry to help support and reduce risk in their investment decisions.

6 Embedding climate change risk and analysis (DRDMW, Seqwater, Sunwater)



Improve water planning, water security and catchment analysis by embedding the impact of climate change on water availability into the planning process.

7 Securing water supply through research and innovation (DRDMW, DSDILGP, Seqwater, Sunwater)



The state government will continue to develop innovative approaches to securing water supply for our communities. For example, this will include a focus on cost benefit analysis and research into low-cost treatment options for communities, including small/remote communities and existing non-potable reticulated drinking water supplies.

8 Communicating the benefits of water efficiency (DRDMW, DAF)



Encourage the adoption of efficient water use and modern irrigation practices for agriculture, business and communities, to improve water use efficiencies and reduce loss.

9 Dam improvement (DRDMW, Seqwater, Sunwater)



Continue to upgrade dams commensurate with risk to ensure that communities remain safe during extreme weather events. Through this process, opportunities to increase water supply and improve flood mitigation may also be investigated.

10 Considering the full range of water infrastructure options (DRDMW, Seqwater, Sunwater)



Through its water infrastructure assessments, the state will consider the broad spectrum of actions and assets that can improve water supply, optimise water, reduce demand on existing water assets and minimise impacts on the environment. This may include options such as off-stream storage, pipelines, and water recycling. This will include communicating the benefits of recycled water and supporting public and private investment in higher value use of existing wastewater resources in Queensland.

11 Queensland Water Market Optimisation (DRDMW)



Continue to support the development of more mature, efficient and available water trading markets, to help ensure that water can be allocated towards its highest value purpose and priority industries.

12 Preserving our natural assets and contributing to water system health (DRDMW, Seqwater, Sunwater)



The state will continue to consider the health of our waterways, catchments and associated systems when assessing water supply and infrastructure proposals. The state will continue to support catchment improvement projects that target improvement in the quality and quantity of source waters. Such projects can help to mitigate public health risks and reduce water treatment requirements thereby delivering savings on infrastructure investment.

13 Bulkwater supply planning and augmentation (Seqwater, Sunwater)



The state bulk water providers will undertake significant planning and investment to augment bulkwater supply over the next two decades to accommodate population and economic growth, and climate change impacts.

14 Securing land and maximising entitlements (Seqwater, Sunwater)



Continue to invest in securing suitable land (including pipeline corridors) to support delivery of planned future water supply infrastructure. Optimise utilisation of existing water infrastructure and underutilised water entitlements by investigating opportunities to maximise and secure further water entitlements to provide a secure water supply now and into the future.

15 Utilise existing and new data to inform investment and release of underutilised water (DRDMW, Seqwater, Sunwater)



The Queensland Government and its entities will continue to enhance data and systems to inform decisions on water, and to enable water users and decision makers access to accurate information to support investment approaches.

16 Continued recognition and engagement of First Nations peoples in the stewardship of our natural water resources (DRDMW, Seqwater, Sunwater)



Continue to partner and work with First Nations peoples and communities to understand and recognise their rich and ongoing connection to land and water, and ensure these are recognised in water planning and also economic opportunities can be fully realised for First Nations peoples.



Chinaman Creek Dam, Cloncurry (Source: Tourism and Events Queensland)

INFRASTRUCTURE OBJECTIVES



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches



WATER

▼ CASE STUDY

Queensland Water Markets Optimisation (QWMO)

Queensland's water resources are managed by water plans. Established under the *Water Act 2000*, they determine the total volume of water allocations that can be made available to the market, while balancing environmental impacts and the needs of different users. A water allocation provides authority to the title holder to access water from a particular source. It is a tradable asset that can be sold or leased.

In a perfect water market, surplus water held by some users is traded to other users to minimise supply shortfalls, and maximise market efficiency and productivity. Water trading is only possible in areas where trading rules have been established, so water plans provide an important framework and regulatory instrument for driving the efficient use of water resources and supporting economic growth.

In 2019, the then Department of Natural Resources, Mines and Energy launched the Underutilised Water Partnership Project to identify market inefficiencies that lead to the underutilisation of existing allocations. The assessment found across the state's 42 water supply schemes, more than 30 per cent of all supplemented water (meaning water supplied using infrastructure) had remained unused, even in dry times, over the past 10 years.

Several factors were found to contribute to this volume of unused water, including water trading complexities, information deficiencies and incentive structures. Specifically, buyers and sellers had found it difficult to identify one another, there was a lack of information on where and how much water was available, and a lack of price transparency on completed trades.

Addressing these market inefficiencies is one of the most cost-effective ways to increase water access for existing users, while expanding the market for new investors and industries, optimising the productivity of existing infrastructure and still protecting our rivers and streams.

To develop a pathway toward efficient water trading markets and address the issues identified in the Underutilised Water Partnership Project, the *Queensland Water Markets Optimisation Action Plan* was published in early 2021.

This plan sets out the following key actions:

- ▼ encourage holders of underutilised water to use the temporary trading market
- ▼ provide information on what water markets need to develop and grow
- ▼ help water users connect with brokerage
- ▼ help investors find water for development or expansion.

Efficient markets will maximise the opportunities available from our water resources and water supply infrastructure now and into the future.



Bjelke-Petersen Dam (Source: Tourism and Events Queensland)



HEALTH

Gold Coast University Hospital (Source: Queensland Health)



HEALTH

OVERVIEW

Thanks to Queenslanders' united efforts, our response to the COVID-19 pandemic has been outstanding.

We demonstrated how Queensland's health system ranks among the best in the world. With the state's population growing and rates of chronic disease increasing, demand for health services is expected to continue to increase significantly.

The government is working to ensure Queenslanders will be among the healthiest people in the world by 2026 by providing more equitable access to high-quality healthcare. To achieve this, all service areas across our entire health system aim to provide relevant and timely care in the most appropriate locations possible.

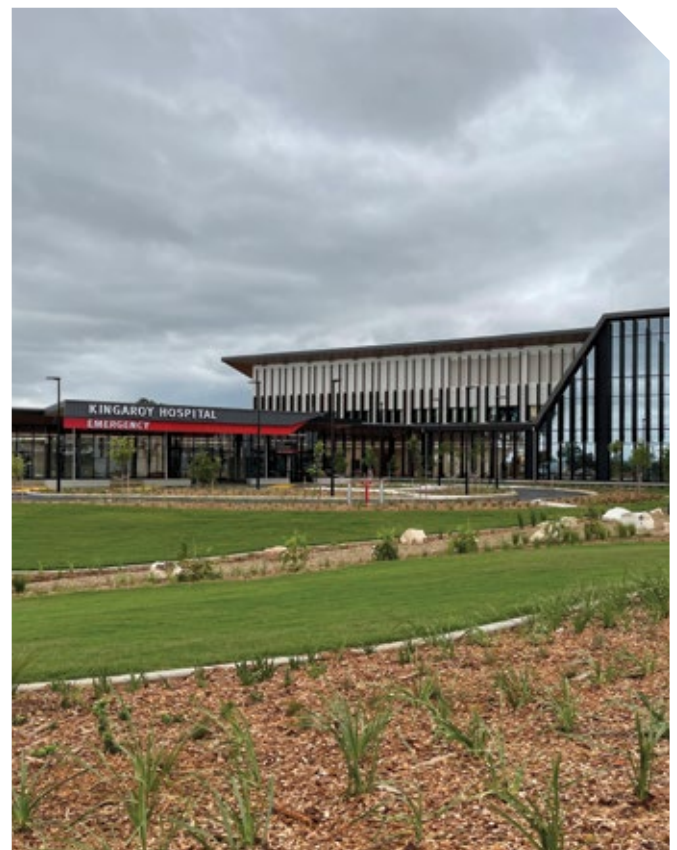
The geographic distribution of Queensland's population creates challenges to providing equitable access to health services for rural and remote communities. In addition to this, pressure in responding to large-scale public health events like COVID-19, requires innovative approaches to deliver improved value, promote partnerships, and support affordability and sustainability.

The health sector's response to these challenges and opportunities is system wide, including how infrastructure is planned, delivered and maintained. Working together to integrate our efforts, we can optimise our health care system to make better use of existing infrastructure, transform how care is delivered and sustainably grow the health system to support all Queenslanders to live healthier lives.

Queensland's healthcare system is in an era of unprecedented technological change. Exciting advances in medical science enable medicine to be tailored to individuals. Technologies like artificial intelligence, robotics, and virtual and augmented reality are transforming the way the healthcare system operates, providing targeted services within the community and in the home, taking pressure off existing facilities. Built infrastructure including hospitals, state-funded residential care, health and community centres, and ambulance stations, together with digital technologies, will be critical enablers, delivering quality health and community services to Queenslanders. This will need to be supported by enhanced digital literacy for both patients and the health workforce.

Even with innovation and improvement in the models of care, increased service demand ultimately drives a need for infrastructure investment. This may include accommodating growth in services, renewing or repurposing older assets to extend their life, improving energy efficiency through the \$30 million Solar Panel and Efficiency Program, or adapting facilities to support the delivery of contemporary health services. Smarter infrastructure investment that considers equitable, efficient and effective person-centred care in alternate settings and encourages partnerships across industries, research and other sectors is critical.

Co-locating health with other social infrastructure and the maturing of precincts that foster health and knowledge are a few examples of how Queensland can continue to deliver world-leading healthcare and maintain a highly skilled and robust workforce. As an example, the \$1.1 billion transformation of the Herston Quarter will result in a mixed-use community hub that will cater for world-class health research, residential, commercial and retail facilities.⁵⁶



Kingaroy Hospital (Source: Queensland Health)

CURRENT KEY INITIATIVES

- ▼ **Keeping Queensland Healthy**
Record health investment of \$22.2 billion in 2021–22.⁵⁷
- ▼ **Hospital Building Fund**
\$2 billion to deliver hospital upgrades and expansions and uplift Queensland Health’s base capital program.
- ▼ **Partnering for the future: advancing Queensland’s community services**
Co-designing a strategic framework with neighbourhood and community centres and other stakeholders to build capacity to meet community needs, increase wellbeing, impede disadvantage and avoid increasing costs for services.
- ▼ **Healthy ageing: A strategy for older Queenslanders**
Supporting older Queenslanders to stay well for longer, adopt person-centred care and integrate health and other support services.
- ▼ **Queensland Health Virtual Healthcare Strategy**
Developing the future strategic direction for virtual healthcare.
- ▼ **The Digital Strategy for Rural and Remote Healthcare**
Improving access to, and participation in, healthcare services in rural and remote Queensland.
- ▼ **Release of Making Tracks Together: Queensland’s Aboriginal and Torres Strait Islander Health Equity Framework**
Placing First Nations peoples and voices at the centre of healthcare service design and delivery.
- ▼ **National Agreement on Closing the Gap**
Queensland is a signatory and committed partner of Closing the Gap to achieve better outcomes for First Nations peoples, including improving life expectancy, increasing the proportion of healthy birthweight babies, and reducing suicide rates toward zero.
- ▼ **Digital Information Strategy for mental health, alcohol and other drugs healthcare**
Digital health innovation and better integrated information to improve outcomes for consumers of Queensland Health funded mental health, alcohol and other drugs services.
- ▼ **Healthy Places, Healthy People Framework**
Queensland Health and Queensland Government Architect initiative to integrate health considerations in infrastructure planning and delivery.



Herston Biofabrication Institute (Source: Queensland Health)

TRENDS



EMERGENCY DEPARTMENT PRESENTATIONS
in Queensland public hospitals are projected to **INCREASE BY 46.5 PER CENT** to almost 3 million in 2031–32⁵⁸



At the end of 2020, **ALMOST 50 PER CENT OF AUSTRALIANS** reported they were likely to **USE TELEHEALTH SERVICES** in the future⁵⁹



BETWEEN 2016 AND 2026, IT IS EXPECTED THERE WILL BE 252,739 EXTRA ADULTS in Queensland above 70 years of age, accounting for 13 per cent of the state’s population⁶⁰



HEALTH

CHALLENGES

Keeping pace with shifting consumer needs

There is a growing preference for care and services to adopt more place-based, preventive and collaborative partnership approaches, as well as virtual and digitally-enabled health care options, informed by consumer needs. Queensland Health's virtual healthcare agenda focuses on resolving connectivity challenges to improve service delivery models.



Climate change impacts on health infrastructure

Climate change requires infrastructure to be designed and built with increased resilience, to support the community-wide transition to a zero net emissions economy, as well as waste reduction and sustainability practices. This may challenge the way health infrastructure has traditionally been planned, designed, delivered and operated.



Growing and ageing population and unhealthy environments

Queensland's population is expected to grow by over one million to 2031. Population changes, lifestyle choices and modern environments that do not enable healthy living are contributing to increasing rates of obesity and chronic health conditions such as cancer, heart disease and diabetes. This places continued pressure on our health system and supporting infrastructure.



Health equity for all Queenslanders through a responsive, adaptable health system

First Nations peoples, people with disability, socio-economically disadvantaged people and those living in rural communities generally experience poorer health outcomes than the rest of the population. Health infrastructure must be designed and supported to close the gap in health outcomes and address future challenges such as pandemics, natural disasters, and other significant disruptions. Achieving equity in healthcare access and outcomes requires tailoring care so all population groups can reach their full health potential. For First Nations Queenslanders, this involves delivering both culturally and clinically safe care that responds to what First Nations peoples need and want.



Expanding pressure on health budgets

There is pressure to deliver more effectively with finite funding. It is important that the government's investment in health is financially sustainable and makes best use of available resources for the benefit of all Queenslanders, while also considering alternative finance models with private and non-government organisations.

Increased and more complex demand for ambulance services

Existing assets need to be maintained and improved to accommodate current and future service capability requirements. Early coordinated planning is needed to secure land and facilities early in new developments in areas of high growth. This will ensure the future needs of communities continue to be met through integrated health pathways.



Improving access to virtual healthcare

Remote and very remote locations may lack the digital capacity and resiliency to increase bandwidth and can suffer from ICT outages. Queensland Health's virtual healthcare agenda focuses on the consideration and resolution of connectivity challenges to transform service delivery models.



A responsive and adaptable health system in a world of increasing complexity

Our economic and social prosperity relies on the health of all Queenslanders. While the state's healthcare system ranks among the best in the world, we are not immune to future challenges, including pandemics, natural disasters, or other significant disruptions.



OPPORTUNITIES

Providing more jobs and growing our health knowledge economy

Queensland's future as a leader in health research was shown throughout COVID-19 and continues to evolve through centres of excellence such as the Translational Research Institute in Brisbane, The Gold Coast Health and Knowledge Precinct, and the TropiQ – Townsville Tropical Intelligence and Health Precinct. There is growing potential to expand Queensland's capacity in biomedical research and manufacturing, partner with industry, and build our knowledge-based economy.

The 10-year Queensland Innovation Places Strategy being led by Advance Queensland will support the development of a highly collaborative system of innovation places to further strengthen our health and knowledge-based economy.



Co-locate health, community, disability, and housing services

We can improve access and support for the community by delivering public, private and not-for-profit services in the one location.

This may include connections with public transport, employment and training opportunities, and shared use of new and existing infrastructure and resources. Examples include community centres that provide a soft entry point for crisis services, through to the planned Meadowbrook Health and Wellbeing Precinct in Logan.



Unprecedented and continuous technological change in healthcare

Digitally-enabled models of care are changing our existing infrastructure requirements (including the health workforce), providing opportunities to personalise healthcare, overcome Queensland's vast distances and improve efficiencies and health outcomes. Queensland Health has the largest digital portfolio in the Queensland Government, representing nearly 50 per cent of reported ICT projects.⁶¹



Health workforce for the future

We are building a health workforce for the future by developing education, training and employment pathways connected and integrated into a range of settings, beyond traditional environments. An example is the Satellite Hospitals Program, where facilities operate as mini-hospitals to deliver integrated, out-of-hospital community-based care in rapidly growing urban areas.



Consumer engagement

The community's desire for fast, reliable access to knowledge is contributing to a role shift from 'passenger' to 'driver' of their own healthcare and greater access to community services. For example, one in 20 Google searches involve a request for health information.⁶² Consumer engagement and insight into community needs, backed by data and growth trends, enables informed investment in new neighbourhood, community centres and health services.



Building infrastructure that supports health and wellbeing

Queensland's COVID-19 Economic Recovery Plan prioritises the building of infrastructure to protect and safeguard the health and wellbeing of our diverse communities. Certain attributes of built environments, along with natural environments, are proven to support both physical and mental health and wellbeing. Embedding health and wellbeing outcomes as part of infrastructure planning and delivery can lessen the growing burden on our health system.



HEALTH

PRIORITY ACTIONS

1 Co-location and shared services (QH, DCHDE, DSDSATSIP)



Consider options for co-location across community, health and disability services with private and non-government sectors to improve access and efficiencies. This can include culturally appropriate integrated care for Aboriginal and Torres Strait Islander peoples and culturally diverse communities.

2 Health and knowledge precincts (QH, DTIS, DSDILGP)



Partner with well-established institutions such as hospitals, universities and research organisations to support an environment of knowledge transfer that nurtures the start-up, incubation, and development of innovation-led, high-growth, knowledge-based organisations.

3 Increasing hospital beds and services (QH)



Investment in key hospitals in high-growth areas, including the Building Better Hospitals initiative.

4 Meeting growing demand for health services (QH)



Encourage a networked health system and a range of demand management initiatives including Satellite Hospitals, hospital based crisis support spaces, short-term leasing of facilities, expansion of eHealth services or arrangements with private hospitals. This will take pressure off nearby emergency departments and acute service facilities and provide quality care closer to home.

5 Health service resilience and surety of supply (QH)



Build upon lessons learnt and enable better resilience across the health system to respond to COVID-19, natural disasters, and other impacts such as climate change. This includes improvements to the supply chain such as the Queensland Government Critical Supply Reserve, and digital infrastructure.

6 Partnering with key private sector and non-government providers (QH)



To deliver additional capacity and service through innovative delivery models, including utilising the private sector to manage health service demands, where appropriate.

7 Engaging with all levels of government and industry partners (QH, DCHDE, DSDILGP)



Plan for and secure future health and ambulance services, aged care, community and neighbourhood centres, with a coordinated approach such as through Priority Development Area processes, strategic land acquisition in growth areas and co-location strategies.

8 Improving healthcare services in rural and remote areas (QH)



Apply innovative and flexible facility design and construction methods such as modularised buildings that deliver more affordable and faster to build facilities, including for staff accommodation, Primary Health Care Centres, Multi-Purpose Health Services, residential aged care and rural hospitals. Complement infrastructure investment through local cross-sectoral planning, policy development and collaboration that leverages alternative facilities and services.

9 Growing our rural and remote digital infrastructure and technology (QH)



Transform rural and remote health services from their current state to being fully digitised to enable the delivery of integrated health services to all Queenslanders regardless of their location to address the unique challenges faced by rural and remote facilities.

10 Achieving the Queensland Government's zero net emissions by 2050 target (QH)



Lead health sector efforts to improve the environmental performance of existing and new health facilities, through the establishment of an Office of Hospital Sustainability and local responses such as *Green Metro North Sustainability Strategy*.

11 First Nation Health Equity strategies (QH, supported by DSDSATSIP)



Implement strategies and master plans to provide equitable access to culturally compatible community and healthcare services for Aboriginal and Torres Strait Island communities in local health systems, and health and community infrastructure across Queensland. Each Hospital and Health Service is required to release a Health Equity Strategy that is co-designed, co-developed, co-owned and co-implemented in partnership with First Nations peoples.

12 Mental health and wellbeing of Queenslanders (QH)



Enhance and transform the provision of high quality and accessible mental health, alcohol and other drugs services through increased investment in community mental health, suicide prevention and planning and delivering priority infrastructure projects. This will deliver improved mental health facilities and advanced digital healthcare capabilities to support new models of care delivery.

13 Preventive health measures to improve population health (QH, HWQ)



Lessen the burden of disease through infrastructure solutions and investment that can support Queenslanders to make healthy lifestyle choices and enjoy better health. For example, working in collaboration with agencies to achieve more consistent delivery and measurement of infrastructure investments to support active living.⁶³

14 Promoting and implementing the Healthy Places, Healthy People Framework (QH)



Embed health considerations into infrastructure planning and delivery. This includes smart investment solutions that prioritise healthier living in well-designed places.

15 Queensland Ambulance Service infrastructure planning (QH)



Early planning and investment to meet community needs for services in areas expecting growth and changing demand.

16 Funding and financing strategy for healthcare infrastructure (QH)



Develop a sustainable strategy involving a range of initiatives aimed at addressing the growing gap between supply and demand for infrastructure funding required to support growth and renewal in the asset base of the health system.

17 Enabling the health workforce of the future (QH)



Continue to invest in health education, training and employment pathways through supporting education and training infrastructure in the right locations to ensure sustainable healthcare capabilities across the state. This includes working with universities to deliver practical training and research.

Securing a quality health workforce may also require the provision of adequate and safe key-worker housing in locations where dwelling availability is limited, expensive or unavailable.

18 Community and consumer engagement (QH)



Promote active and meaningful engagement and participation of consumers and their family/carers in their journeys across the health system, through collaboration in the planning, design, delivery, monitoring and evaluation of health services for improved health outcomes for all.



COVID-19 Response – Personal Protective Equipment (Source: Queensland Health)

INFRASTRUCTURE OBJECTIVES



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches



HEALTH

▼ CASE STUDY

Queensland Health's Virtual Healthcare Strategy – Virtual Care Hubs

Virtual care, including telehealth, has transformed the way health services are delivered, leveraging digital technologies to connect healthcare across multi-disciplinary teams who can communicate and easily share patient information. An agile and digitally responsive health system helps free up hospitals and clinics, supporting patients to receive safe, quality and consistent care closer to home without entering hospital environments.

We are building on opportunities arising from the COVID-19 pandemic to leverage hospital and health service capability in the digital health environment. This would help to empower Queenslanders with integrated virtual and in-person health services, to deliver the right care in the right place, at the right time. This could be supported by virtually enabled models of care including the expansion of virtual care hubs. These hubs will network regional healthcare providers to facilitate the remote delivery, assessment and coordination of clinical services.

They will leverage existing virtual care initiatives and grow capabilities with the use of remote monitoring and integrated electronic medical records with primary and specialist care providers. The convenience and holistic approach enables a person's healthcare journey to be enhanced by technology in the community. An example of this is the collaborative Virtual Integrated Pain Centre, connecting patients in rural and remote Queensland to specialist allied health persistent pain services in local facilities.

Metro North Hospital and Health Service is establishing the Clinical Care and Coordination Hub, a central intake, information and intervention hub to improve patient flow and integrate services. This will include a range of co-located virtual health care and coordination services, enabled by interoperable digital systems.



Telehealth transforming health services (Source: Queensland Health)



EDUCATION AND TRAINING

Chancellor State College (Source: Department of Education)



EDUCATION AND TRAINING

OVERVIEW

Our education and training system enhances quality of life by giving all children a great start and shaping the skills of the future to drive ongoing prosperity. The government is committed to ensuring all Queenslanders have access to modern, high-quality early childhood education and care, and education and training facilities, no matter where they live.

With Queensland's population growing, demand for education and training services is expected to increase significantly. While the impacts of the pandemic on school enrolments are still unfolding, over the decade to 2031 around 10,300 additional students each year are expected, with around two-thirds or some 6,800 students each year expected to enrol in Queensland state schools.⁶⁴ Industry skills requirements and the skill levels of the workforce are also changing to support emerging industries and the jobs of the future.

Significant investment in the education sector has increased kindergarten participation as well as Year 12 completion rates. More young people are engaged in learning following the 2017 requirement for all Queensland children to undertake Prep prior to Year 1. Queensland has over 1,250 state schools and almost 180 early learning centres – eKindy Pods and State Delivered Kindergartens also operate out of state school facilities. Over 70 sites are owned or leased for the delivery of state-run vocational education and training (VET).⁶⁵ VET courses are delivered by TAFE Queensland and through Central Queensland University campuses as the state's largest public providers.

The non-government sector also plays a significant role in providing education and training. In 2021, non-government schools provided education for 289,466 students,⁶⁶ and over 1200 private registered training organisations delivered VET in Queensland.⁶⁷ While the focus of this strategy is state infrastructure, TAFE Queensland partners with a number of universities to provide for the diverse and changing educational needs of our future workforce.

The government will continue to improve school facilities by:

- renewing facilities across the state to ensure they meet current and emerging learning needs
- ensuring comfortable, healthy and energy-efficient environments for students and children
- delivering modern IT solutions and digital-rich learning spaces aligned with educational requirements
- providing accessible and inclusive learning environments so that every student can access a world-class education.

Schools, early years services and TAFE facilities will be better integrated, acting as local hubs around which communities flourish. Benefits will be multiplied through integrated and multi-use facilities that leverage investment from multiple providers and provide collaborative, place-based responses to community needs. These types of facilities can grow with communities, with services moving through maternity, birth, early years, schooling and beyond, delivering long-term social and economic benefits. Recognising the diversity of users and the local community, learning environments in new and retrofitted schools and TAFE facilities are incorporating more cultural elements in the infrastructure design.⁶⁸ This is fostering inclusive and flexible learning environments based on student requirements and aligned with education and training capability.

The increasingly dynamic labour market requires industry-centric TAFE facilities that support innovative and technology-driven employment pathways and help to reorientate the economy following COVID-19. Investment will focus on enabling adaptable, flexible and well-located TAFE facilities that respond to the needs of fast-changing industries, support job-ready students and grow the productivity of the state's workforce.

Digital technologies and the impacts of COVID-19 are also advancing education export opportunities. TAFE Queensland maintains an international focus, attracting students to our state to undertake training and supporting its students to train overseas. This increases multiculturalism, provides students with a global outlook and significantly contributes to the state's economy.⁶⁹

CURRENT KEY INITIATIVES

▼ Building Future Schools

\$2.6 billion to deliver world-class learning environments, opening a further 11 new schools by 2024, predominantly in emerging, fast-growing communities.⁷⁰

▼ Great Schools Great Future

\$1 billion to provide new classrooms, halls and performing arts centres, planning for future new schools and the refurbishment of school facilities.⁷¹ This initiative also invests in infrastructure for Catholic and Independent schools.

▼ Local Skills Local Jobs

\$45 million to build and upgrade training facilities in schools.⁷²

▼ Revitalising training facilities

\$100 million under the Equipping TAFE for Our Future Program is supporting Queensland's communities to access revitalised TAFE facilities that incorporate technological advancements and adapt to the emerging needs of students and industry.⁷³ Opportunity may exist to explore the co-location of government services to create more vibrant community hubs and improved accessibility.

▼ State Delivered Kindergarten

Investing more than \$6 million to upgrade school infrastructure to integrate and ensure the wellbeing of kindergarten children in safe, well-equipped, inclusive and engaging play spaces.⁷⁴



Fortitude Valley State Secondary College (Source: Department of Education)

TRENDS



From 2021–31, the Queensland school age population is forecast to **GROW BY 11.6 PER CENT** (102,600 students)⁷⁵



NINE out of **10** occupations with the anticipated largest net growth in jobs are projected to be supported by the **ATTAINMENT OF A VET QUALIFICATION**⁷⁶



The COVID-19 pandemic accelerated the trend towards **TECHNOLOGY-LED TEACHING AND TRAINING** which will continue to influence our requirements for enabling infrastructure to support the skills of the future



EDUCATION AND TRAINING

CHALLENGES

Population growth

Growth in SEQ is putting pressure on existing education and TAFE facilities, requiring the expansion of already constrained sites with the majority of the 'easy to access' building platforms already exhausted. Projects often require accompanying expansions to administration blocks, amenities blocks, car parking and upgrades to site services.

Since early 2020, COVID-19 has impacted population growth in Queensland. While net overseas migration has declined to zero or negative levels, net interstate migration has increased. While the impact on school enrolments in the short and medium-term is still unfolding, it also serves as great evidence that Queensland is the state Australians want to move to.



State schooling capacity in emerging communities

Responding to the rapidly changing development environment, and planning far enough in advance to ensure the department secures quality, well-located school and training locations in emerging, but fast growing greenfield areas, is an ongoing challenge.



Urban densification

As major centres experience significant density uplift, the education sector is responding to the increase in school-age population through a range of design and delivery models. In existing built up areas, infrastructure solutions must address land constraints while ensuring spaces for learning meet community expectations now and into the future.



Maintaining and renewing an ageing infrastructure base

The state's \$24 billion education infrastructure asset base requires significant maintenance and renewal investment to ensure learning spaces remain fit-for-purpose – particularly in regions that may not be seeing the same level of growth in enrolments as SEQ. Renewing early years facilities and state schools to meet diverse and modern teaching and learning needs is a key priority.

The majority of TAFE infrastructure was typically developed on large parcels of land to accommodate both trade and non-trade training delivery. A range of factors, including changing industry and employer needs, now demands the renewal of facilities to deliver training products that incorporate cutting edge technology.



OPPORTUNITIES



Embracing sustainable infrastructure

Significant opportunities lie in expanding sustainable infrastructure approaches, including decreasing the carbon footprint of education and TAFE infrastructure, and increasing environmental efficiencies through operations. For example, the Advancing Clean Energy Schools program and the Cooler Cleaner Schools Program has contributed approximately 61.4 megawatts of solar to the Queensland Government's target of 50 per cent renewable energy by 2030.⁷⁷

Sustainable building practices will continue to be incorporated in TAFE facilities, such as natural design spaces that embrace natural lighting and water efficiency. There is also a focus on creating spaces that embrace the cultural heritage of the local community and encourage interaction with the native landscape.



Aligning TAFE infrastructure renewal with contemporary industry and workplace needs

Emerging industries and a transforming economy require an appropriately skilled workforce. To maximise the state's economic potential, training infrastructure will need to be flexible and fit-for-purpose to support the ongoing delivery of quality training services by TAFE Queensland. TAFE campuses must be able to meet changing training needs over time. To achieve an appropriate scale of easily accessible and adaptable facilities, it may be necessary to consider innovative and flexible training approaches to support high demand population centres.

In some cases, the revitalisation of TAFE facilities and connectivity for communities will mean there is greater opportunity to co-locate training services with other government and community services, such as health, secondary and higher education, youth accommodation, transport and more.

Planning and designing infrastructure to support integrated service delivery

Modular buildings, vertical schools and integrated educational facilities that provide universal access are ways of delivering adaptable and functional infrastructure in shorter timeframes to keep pace with demand. Smart design solutions also enable sharing and co-location of facilities that leverages investment across multiple providers.

These infrastructure approaches multiply social and economic benefits, supporting families to conveniently access the services they need, when they need them. For example, the cross-agency Yarrabilba Family and Community Place (YFCP) provides a range of wrap-around services including early childhood education, family health, social programs and wellbeing services. A three-year review of YFCP found that every dollar invested generated an economic return of \$1.36. Strategic planning for flexible infrastructure like this will improve the accessibility, quality and efficiency of facilities and services.



Leveraging new technologies to advance learning, teaching and working

The current generation of students are among the first to grow up in a digitally enabled world. Students are now able to access, process and use information differently to all previous generations. This opens up opportunities to harness the benefits of technology-led teaching and training through digitally adaptive education and training facilities.





EDUCATION AND TRAINING

PRIORITY ACTIONS

1 Leveraging new technologies to advance learning, teaching and working (TAFE Qld, DoE)



COVID-19 has accelerated the pivot to eLearning and supporting learning or teaching at home through digital technologies and tools. Keeping digital strategies and plans for technology infrastructure updated will be vital to support digital learning.

2 Building future schools (DoE)



Delivery and expansion of schools in response to forecast growth will be essential along with innovative solutions that support growing communities. The \$2.6 billion Building Future Schools program delivers world-class learning environments for Queensland students by providing new state schools and expanding existing schools in growth areas.

3 Planning for growth (DESBT, DoE)



Undertaking strategic planning and looking at early acquisition of well-located land for schools and training facilities will be critical in growing communities to support effective investment and delivery.

As an example, the existing site at Fortitude Valley was revitalised to build one of the first vertical state secondary schools in Queensland. This state-of-the-art facility was designed to cater for growing inner-city density, while maximising available space on a small inner-city footprint.

4 Sustainable, efficient buildings and facilities (DESBT, DoE)



The Queensland Government has set a target of zero net emissions by 2050. Education and training is contributing to this by building energy efficient buildings, installing renewable energy and rolling out energy efficiency programs in education and TAFE facilities.

The government continues to adopt measures that support natural and mechanical ventilation of learning spaces to support the health and wellbeing of students, staff and visitors.

5 Upgrading or expanding existing schools (DoE)



As schools grow, they may require new classrooms, halls and performing arts centres. In addition, ageing schools may require expansions and refurbishments and improved accessibility for students. This will be delivered under the \$1 billion Great Schools, Great Future commitment.

6 Local Skills, Local Jobs (DESBT, DoE)



Invest in training facilities in schools across the state to prepare students with the skills to secure well-paid, secure jobs in their region, setting them up for a solid future. Examples of this are the hydrogen industry in Gladstone and the aquaculture industry in Rockhampton.

We will continue to improve our local TAFE facilities to provide training opportunities that meet the needs of the community and support the jobs of the future.

7 State Delivered Kindergarten (DoE)



Provide opportunities for more children to attend a kindergarten program in a face-to-face environment at their local state school.

8 Partnering with the non-government education sector (DoE)



Work collaboratively with the non-government sector (Catholic and Independent Schools) to assess the impact of population growth and inform planning of new schools in Queensland.

9 Partnering with universities (DESBT, DoE)



The government will continue to drive teaching and learning innovation through partnerships with universities. These would be modelled on existing arrangements, such as the partnership between Fortitude Valley State Secondary College and the Queensland University of Technology, and the Brisbane South State Secondary College and the University of Queensland.

10 Enabling modern and innovative TAFE training facilities (DESBT)



Align the renewal of TAFE infrastructure with the current and future needs of industry and workplaces, considering industry skills in demand, anticipated student volumes and adaptable facilities that support alternative training and delivery methods. An example is the new world-class Hydrogen and Renewable Energy Training Facility at the Bohle TAFE campus in Townsville.

Continue to partner with industry-led organisations to deliver cutting-edge training facilities for new and emerging industries. For example, the Queensland Apprenticeships Centre will include a Hydrogen Training Centre of Excellence that is built and operated by industry.

11 Co-locating TAFE and community facilities (DESBT)



In modernising TAFE facilities there are opportunities to explore the co-location of training services with other government and community services such as health, secondary and higher education, youth accommodation, transport and more. This may create more accessible spaces or local learning hubs where people can meet, exchange ideas and information both formally (through TAFE Queensland training) and informally through social peer learning and workplace-based interactions.

12 Delivering greener buildings (DESBT)



New and renovated training facilities will be designed and constructed for a 4–6 Green Star rating or similar standard. This will create opportunities for industry to become familiar with green building construction materials and practices and use that knowledge on other local projects.

13 Investigating more cost-efficient delivery and innovative design and construction models (DoE)



Investigate the use of bespoke, pre-fabricated modular buildings and vertical schools and training facilities to provide high quality education facilities on increasingly constrained sites and in shorter timeframes.

14 Creating school facilities that are the heart of the community (DoE, DSDILGP)



Greater integration of community, early years, health, disability and employment services into schools utilising place-based responses. This will be driven by collaborative strategic planning across government, community, philanthropic and industry stakeholders from land purchase to operation. Innovative models are being piloted, such as The Buzz at Yarrabilba and the FamilyLinQ initiative, enabling multiple and flexible use of facilities by the wider community.

15 Making better use of existing facilities (DoE, DESBT)



Employ non-infrastructure solutions (e.g. Enrolment Management Plans) to maximise the utilisation of the existing school network. This will include a proactive renewal and maintenance program to get more from existing assets.

16 Encouraging alternative capital investment mechanisms (DESBT, TAFE Qld)



Encourage and utilise alternative capital investment mechanisms (e.g. construct and lease spaces) to support growth and meet service demand where it is occurring in the education and training sector.

17 Developing contemporary IT solutions and digital-rich learning spaces (DoE, TAFE Qld)



Leverage new technologies and harness digital infrastructure to aid service delivery and equip schools and TAFEs with modern IT solutions and digital-rich learning spaces to develop sophisticated digital pedagogies that enable:

- ▾ an integrated curriculum with students learning both about and through digital technologies across all learning areas
- ▾ personalised, collaborative, and integrated learning through online and blended modes of delivery to meet the needs of every student.



Kingston State School, Logan (Source: Department of Education)

INFRASTRUCTURE OBJECTIVES



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches



EDUCATION AND TRAINING

▼ CASE STUDY

Brighter future for youth education and training at the Pimlico TAFE campus

Between 2017 and 2020 the state invested \$35 million to consolidate the extensive footprint of the 11-hectare Pimlico TAFE campus into a single, two-storey building with an extension. This was the largest capital investment made to the site in more than 40 years. The new campus opened in Semester 1 2020, providing engaging, vibrant and interactive spaces to improve learning experiences and outcomes, and collaboration between students, teachers and the general community. It can accommodate up to 900 full-time equivalent students and supports 20 per cent future growth in student numbers over time.

The project consolidated TAFE Queensland's training delivery which had become increasingly dispersed across many aged and under-utilised buildings, and has enabled the Townsville community to access a dedicated non-trades training facility for nursing, hospitality, hair and beauty. The Pimlico campus complements the world-class Bohle Trades Training campus located less than 10 km away within the industrial hub of Townsville.

The redevelopment of the campus created 100 full time jobs during construction, including 30 apprentice and trainee jobs. Upgrades to the campus included energy efficiency measures with the introduction of solar power, and building construction designed to reduce power consumption.

Over recent years, sections of the Pimlico campus have been repurposed with the establishment of the NRL Cowboys House for boys and girls. Together these facilities provide accommodation for Aboriginal and Torres Strait Islander young people seeking to expand their sporting careers by simultaneously engaging in education and training courses onsite.

The Queensland Government plans to explore options to reuse other parts of the Pimlico campus grounds to accommodate additional government services.



Pimlico TAFE (Source: Wilson Architects)



JUSTICE AND PUBLIC SAFETY

Rockhampton Fire and Rescue Station (Source: Queensland Fire and Emergency Services)



JUSTICE AND PUBLIC SAFETY

OVERVIEW

The safety and wellbeing of Queenslanders is a fundamental priority for the state government. It invests in essential police, fire, emergency and disaster management services, courthouses, and secure youth detention centres and correctional facilities to ensure safety and justice is delivered fairly.

Issues within the justice and public safety system are becoming more complex and often have broader economic, environmental and societal interdependencies. As services continue to evolve, digital transformation is impacting all areas of the sector. For the community and frontline staff, the increased use of technology will help improve safety, efficiency and more effective delivery of these essential services.

Unprecedented and persistent increases in demand are placing additional strain on the capacity of the state's existing courthouse portfolio. It is critical courthouses are responsibly and sustainably managed, maintained and invested in to meet future need. Adapting to technology advances and changing community expectations are challenging the traditional delivery of justice in Queensland Courts. With 87 courthouses across Queensland, Magistrates Courts can hear cases in 131 locations throughout the state, while the Supreme and District Courts sit in 11 and 38 locations respectively.

Queensland Corrective Services (QCS) plays an integral role in the criminal justice system, by ensuring prisoners and offenders are less likely to re-offend. QCS manages more than \$4 billion in assets, including 11 high-security and six low-security correctional centres, 36 Community Corrections District Offices and more than 150 reporting centres. Prisoner numbers reached historic levels during 2021, adding pressure to already strained infrastructure including prisoner and support services such as health, education and rehabilitation programs, and critical services infrastructure. This is further exacerbated by challenging prisoner profiles, including those with complex mental health issues, substance misuse, personal care needs and disabilities that require purpose-built accommodation. To support projections to 2036, QCS has undertaken capital acquisition planning and is progressing business cases to address both prisoner and health service capacity issues.

The Queensland Government also provides youth detention centres as secure places for young people. They exist to protect the safety of the community, provide consequences for offending, and reduce reoffending through age-appropriate support services and preparing detained young people to live productively in the community.

Our police provide effective, high-quality services, working with community, government and private sector partners to make Queensland safe. Our police service is supported by police stations, police watchhouses, neighbourhood beats and shopfronts, communication centres and police academies. Advancements in technology and the scale and diversity of the state's natural landscape have also resulted in a shift to a more mobile policing model.

Queensland is affected by natural disasters more than any other state in Australia. Queensland's emergency and disaster management and response has been recognised as some of the best in the country. Disaster management is shared across a number of agencies, ensuring that local communities are supported in a range of ways including emergency shelters, provision of advice and renewal of affected infrastructure.

Queensland's emergency services teams already work collaboratively, however as their service models evolve, the way we plan and provide the supporting infrastructure must also adapt. There is a significant opportunity to co-locate complementary justice and public safety services, such as courts and police services, as well as explore different delivery models.



Resilience workshop (Source: Queensland Reconstruction Authority)

CURRENT KEY INITIATIVES

- Replacement of police facilities**
 \$29.65 million to complete the replacement of police facilities at Beaudesert, Biloela, Burketown, Nambour and Pormpuraaw.
- Justice system Courts audio-visual capacity upgrade**
 \$7.4 million to expand and upgrade existing audio-visual capacity in the justice system, including video conferencing and in-custody court appearances.
- Southern Queensland Correctional Precinct Part 2**
 \$654 million to deliver a correctional precinct emphasising health, wellbeing and rehabilitation to reduce reoffending. The precinct will create over 500 permanent jobs and support local businesses.
- West Moreton Youth Detention Centre**
 \$150 million for the completed West Moreton Youth Detention Centre, a 32-bed facility at Wacol.

- Maryborough Queensland Fire and Emergency Services headquarters replacement**
 \$12.1 million to complete the replacement of the Maryborough regional Queensland Fire and Emergency Services (QFES) headquarters and auxiliary fire and rescue station.



Police Officer (Source: Queensland Police Service)

TRENDS



A SHIFT TO MORE MOBILE POLICING
 is reducing demand on police facilities in communities



THE INCREASED USE OF TECHNOLOGY
 is helping to improve safety, efficiency and effectiveness these essential services for both community and frontline services



There is an overall decline in structural fire events but an increase in the number and intensity of
SEVERE WEATHER OR OTHER NATURAL HAZARD EVENTS SUCH AS BUSH FIRES



Total prisoner (adult) numbers reached historic highs during 2021 resulting in
ONGOING CAPACITY CONSTRAINTS FOR PRISONER ACCOMMODATION AND SUPPORT SERVICES



JUSTICE AND PUBLIC SAFETY

CHALLENGES

Shifting demand for service delivery

The delivery of emergency services continues to be challenged by a number of growing and shifting demands, including high population growth in several locations, changing risk profiles, an ageing population, increased cultural diversity, changing community expectations, and the operational responses required for significant events such as the COVID-19 pandemic.



Regional service delivery

As almost 30 per cent of Queensland's population live outside SEQ, it is important that the state continues to strongly consider regional service delivery needs across justice and public safety agencies.



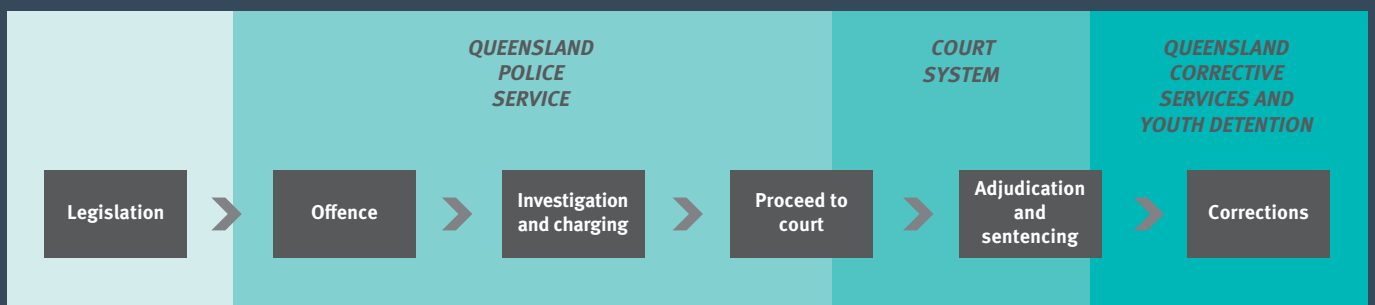
Ageing assets, maintenance and changing needs

Ageing and geographically dispersed facilities present challenges for all justice and safety infrastructure, with an increase in maintenance needs exacerbated by harsh tropical climates and increasing frequency of natural disasters. Many courthouses are either heritage listed or hold historical significance in the community. Older facilities also present challenges with maintenance and in continuing to meet modern expectations and service needs (e.g. safe spaces in courts for Domestic and Family Violence (DFV) matters). Safely maintaining aged correctional facilities is also challenging where there is no available capacity to temporarily relocate prisoners.



Increased demand on the justice system

Queensland's criminal justice system is large and complex, and demand is increasing. Operations or changes in one area can have consequential impacts on other sectors of the system. No single agency has the capacity to address the complex causes of offending, or manage demand pressures on the system. For example, legislative changes can have downstream impacts by potentially increasing the complexity, time and volume taken to investigate matters and for matters to proceed through Court.



Justice System Flow Diagram (adapted from NSW Infrastructure Strategy)

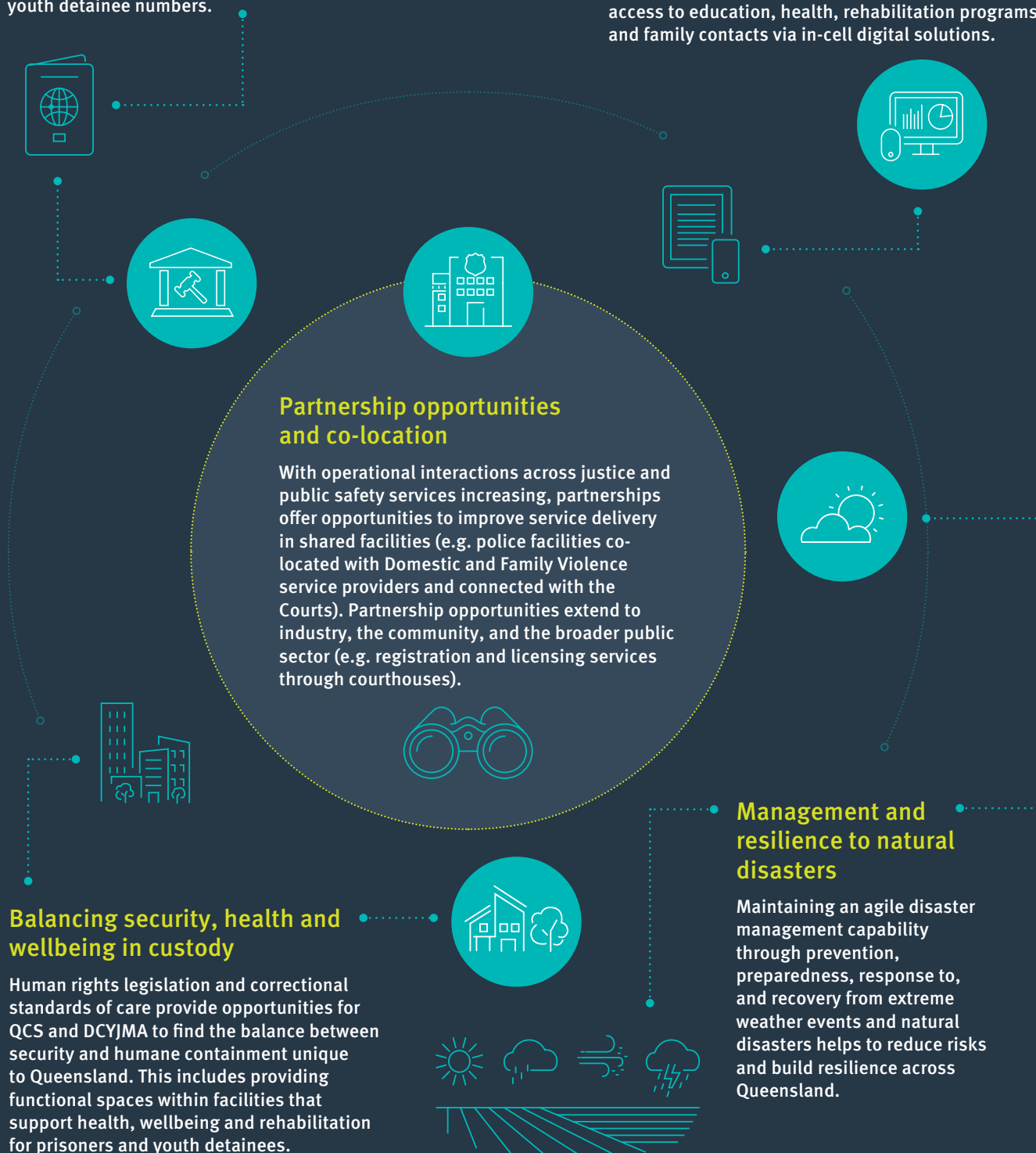
▼ OPPORTUNITIES

Whole of justice system approach

Policing, courts, youth justice and corrections form a closely interrelated criminal justice system that works well when the system as a whole is well positioned to respond to demand. There are opportunities to better manage the system to address unintended impacts and bottlenecks as a consequence of increases in police interactions, court time and prisoner and youth detainee numbers.

Continue to optimise operations through technology

E-lodgement capability exists in a limited form and presents a significant opportunity to improve court efficiency and optimise court utilisation by enabling the use of electronic files. The broader application of digital technology could improve prisoner and youth detainee access to education, health, rehabilitation programs and family contacts via in-cell digital solutions.





JUSTICE AND PUBLIC SAFETY

PRIORITY ACTIONS

1 Adopting a whole of justice system approach (DJAG, QPS, QCS, DCYJMA)



Build a better understanding of demand and balance investments across the justice system as a whole to mitigate the unintended impacts that reforms, policing or court processing can have on other parts of the system including the capacity of correctional facilities and the capacity of the courts.

2 Digitisation of justice services (DJAG, QPS, QCS, DCYJMA)



Increase the use of technology to optimise court efficiency, support prisoners and youth detainees via kiosks and video conferencing to maintain access to their families, legal representatives, the courts, health services, disability support services, rehabilitation and education programs and deliver efficient and effective supervision services for offenders in the community.

3 Exploring in-cell technology (QCS, DCYJMA)



In-cell technology may provide an opportunity for greater access to family and friend support, rehabilitation and education programs and support services in preparation for re-entry to society.

4 Applying next generation public safety (QFES, QPS)



Continue to work with industry and frontline responders to design, test and apply new and emerging technologies to improve emergency responses, service delivery and make smarter, safer decisions, supporting more mobile policing services and helping firefighters detect and respond to bushfires.

5 Adopting digital engineering and asset management (DJAG, QPS, QFES, QCS, DCYJMA)



Adopt a more integrated approach to strategic asset planning, performance and management practices for infrastructure investment by adopting digital engineering principles and software systems, such as the use of BIM for large scale projects.

6 Exploring opportunities for disused land (QCS)



Explore opportunities to re-use land holdings not essential for current or planned operational service delivery.

7 Modernisation and DFV support (DJAG)



Investing in the modernisation of justice buildings to cater for the safety, accessibility and confidential needs of all court users including additional meeting rooms and safe spaces for DFV.

8 Improving prisoner and youth detainee health outcomes (QCS, QH, DCYJMA)



Improve health outcomes for prisoners and youth detainees by designing correctional facilities with features and functional spaces that support health and wellbeing, and rehabilitative outcomes for prisoners and youth detainees.

9 Designing interoperable, climate resilient and environmentally sustainable infrastructure (QPS, QFES, DJAG, QCS, DCYJMA)



Improve the functionality, performance, and resilience of justice and public safety facilities through innovative design maximising interoperability, cost efficiency and service capability during disasters and emergency events.

10 Exploring public safety co-location and interoperability (QPS, QFES, DJAG, QCS, DCYJMA)



Planning for growth and continuing to explore opportunities for joint facilities or co-location of justice and emergency services that support response and operational requirements for public safety agencies. For example, courts with police services, but also correctional and youth detention facilities with health or training facilities onsite to support prisoner and youth detainee rehabilitation.

11 Increasing custodial capacity across Queensland (QCS, DCYJMA)



Explore opportunities to increase custodial capacity across Queensland recognising the importance of placing youth and adult offenders as close as practicable to their families by prioritising locations that meet the needs of geographically dispersed communities, and prisoners with disability. Any increase in custodial capacity within youth detention centres will also support the movement of young people out of police watch houses.

12 Repurposing or reallocating based on need (QFES, QPS)



Respond to changing local operating environments with an evidence-based infrastructure operating model that better anticipates and responds to future change. Preference should be given to non-investment solutions such as repurposing and relocating facilities/equipment to areas of higher need.

13 Utilising best available data and practices to maximise infrastructure resilience (QFES, QRA, DJAG, QPS, QCS, DCYJMA)



Ensuring infrastructure can withstand and function during disasters or emergency situations is a key government responsibility. We will use the best available data and evidence throughout the infrastructure lifecycle (planning, designing, constructing, maintaining and disposing) to better understand and respond to disaster and emergency risks and opportunities to strengthen infrastructure resilience.



Flooding, Fraser Coast Shopping Centre (Source: Queensland Reconstruction Authority)

INFRASTRUCTURE OBJECTIVES



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches



JUSTICE AND PUBLIC SAFETY

▼ CASE STUDY

Specialist Domestic and Family Violence Court Program

The Specialist Domestic and Family Violence (DFV) Court Program is a multi-agency approach committed to the continuous improvement of the justice and service system response to this growing societal issue. This remains a priority of the DFV justice reforms. Specialist DFV courts operate out of five locations across the state: Southport, Beenleigh, Townsville, Mount Isa and Palm Island. Dedicated magistrates are supported by specially trained registry staff, specialist duty lawyers and wrap around support services for all parties involved in DFV proceedings.



Townsville DFV Courtroom (Source: Department of Justice and Attorney General)



Large Aerial Tanker (Source: Queensland Fire and Emergency Services)



ARTS, CULTURE, RECREATION AND TOURISM

Undara Volcanic National Park (Source: Tourism and Events Queensland)



ARTS, CULTURE, RECREATION AND TOURISM

OVERVIEW

Arts, culture, sport, recreation and tourism are crucially important contributors to the community, bringing people together and providing opportunities to enjoy the great range of experiences that the state offers.

For Queenslanders, engaging with artistic, cultural, sporting, and recreational activities helps build a sense of community, and enriches our character and culture. We have great places to holiday, relax and play, all of which are supported by infrastructure that underpins regional development and creates jobs to support the local and visitor economy.

Arts, culture, sport and recreation infrastructure, as well as the state's natural assets, are drawcards for the visitor economy and will continue to be as Queensland hosts Brisbane 2032. Our stadiums host national and international sporting events and concerts, while our galleries and performing arts venues contribute to our cultural landscape and our national parks showcase our natural wonders.

Aboriginal and Torres Strait Islander cultures are deeply embedded in our history and way of life. The Queensland Government recognises the importance of First Nations arts and cultural experiences with more than 65,000 years of history and heritage. Cultural infrastructure plays an important role in the reconciliation journey. Museums, libraries, archives and galleries are seen as critical to help broaden understanding in the wider community about First Nations history and stories, while providing economic opportunities through tourism.

Our tourism sector is a major contributor to the Queensland economy. Investment in modern, high-quality and resilient tourism infrastructure will support the recovery and growth of the visitor economy, by sustaining and creating Queensland jobs and realising the state's economic potential.

Queensland is home to significant natural assets of cultural value, including World Heritage sites like the Great Barrier Reef. These protected areas provide a focal point for the tourism industry with many local economies relying on business generated by visitors. It is a priority to support the development of innovative, environmentally sustainable ecotourism infrastructure and experiences while also protecting the natural and cultural values of these assets.

Queensland also has a great sporting tradition; our world class sporting assets can inspire participation and help Queensland retain its winning edge on the national and international stage. Quality infrastructure also supports a culture of movement, inclusion and accessibility to help embed physical activity in the lives of all Queenslanders.

COVID-19 has highlighted the importance of accessing green infrastructure (natural and built landscape assets that incorporate natural vegetation) and blue infrastructure (beaches and waterways and the facilities that support them) for our urban populations. Parks, walking and cycling tracks, street trees, and our iconic beaches and rivers provide a range of health and other benefits. Recreation infrastructure includes natural and built environmental spaces where people can be more physically active and better connected to their local communities.

Queensland's significant arts and cultural infrastructure, including its museums, art galleries, theatres and performance spaces, enhances the lives of Queenslanders and ensures the state competes globally through its range of events, productions, performances, and exhibitions. This includes our screen industry which supports the creation of rich and diverse content in films, television and gaming. The Queensland Government is investing and partnering in new, innovative and revitalised infrastructure to enrich artistic and cultural experiences that support local creative artists and industries and increase creative community engagement, as well as attract visitation.

Alongside publicly delivered infrastructure, commissionable attractions, events and experiences that unlock private sector investment and visitor expenditure are an important part of our cultural and tourism landscape. To grow the diversity and impact of our tourism experiences, Queensland supports private sector-led infrastructure projects, recognising that without government intervention, many projects that drive visitor demand could not progress.

CURRENT KEY INITIATIVES

- ▼ **Activate! Queensland 2019–29**
 \$1.3 billion 10-year strategy outlines a collaborative direction for physical activity to deliver better health and wellbeing outcomes for Queenslanders, including inspiring activity with places and spaces that invite an active lifestyle.
- ▼ **Creative Together 2020–30: A 10-year roadmap for arts, culture and creativity**
 10-year vision to cement Queensland’s arts, cultural and creative sectors as key contributors to our social, cultural and economic future, supported by the first action plan Sustain 2020–22 and \$22.5 million two-year Arts and Cultural Recovery Package, with a further \$7 million for live music.
- ▼ **Queensland’s Protected Area Strategy 2020–30**
 Establishes the vision and strategic direction for the state’s national parks and other protected areas, providing world class visitor facilities that support recreation and nature tourism.
- ▼ **Queensland Performing Arts Centre new theatre**
 Building a new \$175 million theatre at the Queensland Performing Arts Centre (QPAC).
- ▼ **Action Plan for Tourism Recovery**
 The Action Plan, expected to be released in 2022 and inform long-term strategic priorities for the Industry, will explore the infrastructure the tourism sector needs to succeed, including new and revitalised tourism product and experiences.
- ▼ **Rockhampton Museum of Art**
 A new art gallery for Rockhampton was constructed and opened in February 2022.
- ▼ **Tourism support**
 A \$74 million economic recovery and rebuild package to support the tourism sector.
- ▼ **Path to Treaty**
 Continuing Queensland’s path to towards a treaty or treaties with First Nations peoples, along with supporting actions of truth telling and healing.
- ▼ **Advancing Queensland’s screen industry**
 The Queensland Government is investing \$5 million towards building a television hub on the Gold Coast and an additional \$6.8 million for a new film studio in Far North Queensland to secure national and international productions.



Suncorp Stadium (Source: Tourism and Events Queensland)

TRENDS



DIGITISATION OF ARTS AND CULTURAL EXPERIENCES

are enabling people to access museums, heritage sites, ballet and opera performances from their own mobile devices. This increases access for audiences and changes the way librarians, archivists, curators, and artists work⁷⁸



As we emerge from the pandemic, ‘tuning into nature’ will be seen as the antidote for lockdowns. This is expected to result in

increased demand for experiences in OPEN SPACES AND WILD PLACES

as travellers seek to connect to the environment and the world around them⁷⁹



A more diverse population is changing the sporting preferences of Australians⁸⁰. Brisbane 2032 will create additional opportunities to

ENCOURAGE DIVERSITY AND INCLUSION

in organised sport while also presenting an opportunity to showcase our arts, culture and creativity, our natural wonders, and world-class cultural tourism experiences to the world



ARTS, CULTURE, RECREATION AND TOURISM

CHALLENGES

Maintenance

Regional infrastructure is often fragmented across multiple assets and expensive to maintain. High maintenance costs, and an aging asset base particularly for heritage assets and the state's protected area estate, can create challenges to deliver quality and accessible infrastructure to support communities and ensure access for park users.



Access

Re-establishing airline access and building connections to priority markets as we begin to live with COVID-19, coupled with a more competitive global market, and the high cost of regional airfares, are all impacting our tourism sector. Investment in roads and supporting infrastructure will be vital to ensure access networks are efficient and well maintained to cater for increased tourism.

For sport and recreation, there is a need to provide conveniently located and accessible services including multi-purpose facilities and mixed-use precincts and to maximise the uses, and the number of users, of infrastructure for each place.



Climate change and natural disasters

Climate change poses an increasing threat to our multi-billion dollar tourism industry requiring the state to adapt and develop climate resilient products and infrastructure. Projected sea level rise may inundate coastal tourism assets (natural and built), and extreme heat may affect visitor comfort and attractiveness if not addressed through good infrastructure design.

Major natural disasters, which are anticipated to increase due to climate change, and uncontrollable events may cause a sustained downturn in visitation and investment attraction, impeding on sport participation and active recreation.



Regulatory requirements

Regulatory and other administrative requirements can be a barrier to attracting new investment and infrastructure delivery as some assets are owned, delivered and operated by the private sector and community or volunteer organisations.



▼ OPPORTUNITIES



Strengthen partnerships



Partnerships and co-investments with other levels of government and the private sector can enhance the infrastructure delivery, operation, inclusion and resilience of our arts, culture, recreation and tourism sectors. Examples of this include collaborative investment in shared community hubs and spaces, refurbishing existing spaces and facilities, providing multipurpose spaces for arts and cultural organisations and tourism providers, as well as walking paths and trails, bike paths, national parks, state forests, marine parks and recreation areas.

Opportunities also exist to collaborate with regional stakeholders, including local governments, to ensure infrastructure is well planned in growth areas and Aboriginal and Torres Strait Islander communities.

High-quality, equitable places, spaces and facilities

The design and delivery of high-quality places, spaces and facilities should apply universal design principles to provide equitable access for all users and implement best-practice construction. This will result in welcoming environments that are fit-for-purpose, well-planned and managed, accessible to everyone and designed to meet evolving needs. Connecting places, spaces and facilities with other infrastructure, such as bikeways and walking tracks will also encourage collaboration and shared use.

Increase access to arts and cultural infrastructure



Digital technology provides new ways to access arts and cultural infrastructure, particularly for rural and remote communities. Similarly, integrating arts and cultural infrastructure into other assets such as public transport and buildings, including the recognition and promotion of Aboriginal and Torres Strait Islanders languages through place names, increases access and enhances the livability and vibrancy of our cities. Digital technology can also activate and enliven cultural spaces.

Embedding arts and culture into land use and infrastructure planning provides opportunities for locals and tourists to increase creative engagement with inclusive public places, again making art and culture more accessible.

Develop eco and cultural tourism



Experiencing nature and authentic cultural experiences are primary motivators for Australia's domestic and international visitors. Queensland has a natural competitive advantage to attract visitors with high-quality eco, agricultural and cultural tourism experiences. These are based on our world-class national and marine parks, five UNESCO World Heritage List areas, huge diversity of unique and unrivalled rural and natural landscapes, iconic wildlife, historic towns and rich cultural offerings, including more than 65,000 years of Aboriginal and Torres Strait Islander history. Domestic tourism in regional areas has fared slightly better than capital cities⁸¹, presenting an opportunity to further develop new sustainable infrastructure to support and grow this market.

Catalyse major sporting events

Brisbane 2032 provides us with an opportunity to catalyse long-lasting economic benefits, including boosting tourism, trade and the extended supply chain. Beyond the sports field, Brisbane 2032 also provides an opportunity to celebrate our rich artistic and cultural heritage and open our state up to the world.



Flexibility



We are transitioning to a more sustainable and renewable future, including one with more flexibility, to meet changing needs. This includes partnering with schools, local governments and clubs to maximise the use of funding to ensure sports infrastructure on school grounds has built-in, future expansion opportunities. This also includes embracing the opportunity to focus on multi-use places and spaces, and mixed-use precincts, for local communities to utilise.



ARTS, CULTURE, RECREATION AND TOURISM

PRIORITY ACTIONS

1 Optimising Brisbane 2032 infrastructure and legacy (DPC, DSDILGP, DTIS)



Leverage opportunities provided by Brisbane 2032 for all Queenslanders over the next decade and beyond. Partner with industry and other government agencies to facilitate investment in community-based, legacy sporting infrastructure, and planning for accessible and inclusive precincts and experiences. Brisbane 2032 brings the chance to inspire state and national pride and importantly, the next generation of champions through medal winning performances. Brisbane 2032 provides an opportunity to build active participation for Queenslanders of all abilities in sport.

2 Developing partnerships for active places and spaces (DTIS, DoE)



Partner with schools, local governments and clubs to enable community access to school-based sports infrastructure. Leverage investments for sport and recreation and deliver flexible and active mixed-use precincts and multi-use places and spaces (e.g. school/sports halls).

3 Enabling smarter sporting venues (DTIS)



Embrace smarter community sporting infrastructure to better utilise sporting places and spaces. Use innovation, technology and new processes (such as prefabricated buildings and e-Switch technology to deliver cost-efficient lighting systems) to support better utilisation.

4 Embedding arts and culture (DCHDE)



Embed opportunities for arts and culture into infrastructure planning and design projects to increase the accessibility of art to the community and support collaborations between infrastructure providers and artists.

5 Partnering on our cultural infrastructure (DCHDE)



Partnering with communities and all levels of government to support new and revitalised infrastructure that enhances community engagement in cultural experiences, supports artists and creative industries, and delivers economic and social outcomes for communities across the state.

6 Valuing arts, cultural, and recreation infrastructure investment (DCHDE)



Recognise and grow the economic, social and community benefits of arts, cultural and recreation infrastructure.

7 Encouraging better use of public facilities (DTIS, DCHDE, DoE)



Work across agencies to support access to public facilities, such as schools, to maximise their use outside hours of operation and ensure the uses coexist successfully.

8 Using digital technology to grow and engage audiences (DCHDE)



Continue to grow engagement with arts and cultural experiences through new technologies.

9 Increasing sustainability offsets and energy reduction (DCHDE, DTIS)



Continue to undertake sustainability initiatives to offset rising energy costs, improve energy performance, and reduce energy consumption for government owned arts, cultural, sporting and recreation infrastructure assets. All new government owned arts, culture recreation and tourism assets or significant upgrades to existing venues to target Green Star ratings.

10 Planning in discrete communities (DSDSATSIP)



Through a community-led partnership approach, in line with the Queensland Government Local Thriving Communities reform, develop arts/culture/tourism and sporting/recreational precinct plans for discrete Aboriginal and Torres Strait Islander communities, coordinating the delivery of well-integrated infrastructure and developing new First Nations tourism opportunities.

11 Developing an Action Plan for Tourism Recovery (DTIS)



Identify recovery and growth opportunities that position Queensland's tourism industry for success after COVID-19, informed by an industry reference panel's Action Plan for Tourism Recovery and government long term strategic priorities.

12 Rebuilding aviation connectivity (DTIS)



Following improved national and international COVID-19 conditions, activate aviation access and capacity to support aviation rebuild through tourism, education, freight, export, and business travel opportunities.

13 Attracting private sector investment (DSDILGP, QT, DTIS)



Stimulate private sector investment in tourism attractions by providing certainty and approval pathways, leveraging government assets, unlocking contemporary funding models or through more direct measures including enabling infrastructure or incentives.

14 Revitalising National Parks (DES)



Revitalise high-quality visitor infrastructure and experiences across Queensland's National Parks including supporting ecotourism opportunities and active nature-based recreation, in line with *Queensland's Protected Area Strategy 2020–2030* and the requirements of world heritage legislation.

15 Supporting nature-based tourism (DES, DTIS)



Continue to provide for and create new nature-based tourism opportunities in protected areas and surrounding natural areas, that are compatible with the values of protected areas and, where relevant, national and World Heritage values.

16 Expanding the protected area system (DES)



Implement Queensland's *Protected Area Strategy 2020–2030* to accelerate growth of the protected area system to further protect natural, cultural and heritage values in balance with delivery of world-class visitor experiences. Ensure effective stewardship of natural assets to deliver ecosystem services and partnering with First Nations peoples to care for Country in protected areas.

17 Enabling Queensland Active Precincts (DTIS)



Deliver a targeted capital works program to support the transition of regionally significant venues owned and operated by government (such as the Gold Coast Recreation Centre) into active precincts, which will inspire Queenslanders to be more physically active and achieve a range of health and social benefits.

18 Integrating First Nations arts and cultures into infrastructure projects (DCHDE, QH, DoE, DTMR, DES, DSDSATSIP)



Collaborate with Aboriginal and Torres Strait Islanders communities to integrate place-based art and culture into infrastructure projects by incorporating local Indigenous names, histories and song lines. This is supported by the *Many Voices: Queensland Aboriginal and Torres Strait Islander Languages Policy* and truth-telling and healing actions being progressed through the Path to Treaty.

19 Promoting cultural tourism (DTIS)



In partnership with Aboriginal and Torres Strait Islander communities, promote and celebrate Aboriginal and Torres Strait Islander culture by delivering the supporting infrastructure that will help deliver coordinated tourism events and experiences.

20 Recreation Trails (DTMR, DES, DTIS)



Continue to maintain our existing recreation trails and investigate opportunities to develop new trails including opportunities to partner with the Australian Government to co-invest in rail trails, and other recreation trails, especially in rural and remote areas.

21 Agritourism (DAF, DTIS)



Work to identify supporting infrastructure for agritourism that encourages visitors to regional and rural Queensland to experience and interact with food and agribusiness and support regional economies.

INFRASTRUCTURE OBJECTIVES



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches



ARTS, CULTURE, RECREATION AND TOURISM

▼ CASE STUDY

Bulmba-ja Cairns

The \$5.9 million refurbishment of the Centre of Contemporary Arts Cairns resulted in the cultural facility re-opening in January 2020 with the new name, Bulmba-ja, along with a new vision to support Far North Queensland's cultural scene, with a focus on Aboriginal and Torres Strait Islander performing arts.

Pronounced 'bull-im-baa-jar', the name has a shared meaning of 'house' or 'place' in Yidinji and Yirrganydji languages.

Bulmba-ja houses a theatre, gallery and creative development space that plays a vital role in the thriving Cairns arts scene. The arts centre provides a distinctive cultural destination for locals, visitors and tourists, and strengthens the business of its partners, tenants and participants.

Bulmba-ja supports the development and presentation of diverse arts practices, with a strong focus on Indigenous performing arts that showcases the unique stories of Aboriginal and Torres Strait Islander peoples.



Bulmba-ja at night (Source: Mark McCormack)



Pryce Centre's guest performers, Kaiyn Kuap – Cairns-based Boigu Island Dancers (Source: Mark McCormack)



▼ SOCIAL AND AFFORDABLE HOUSING

Social housing, Mount Warren Park (Source: Department of Communities, Housing and Digital Economy)



SOCIAL AND AFFORDABLE HOUSING

OVERVIEW

Social and affordable housing is an important part of our communities, as it provides a safe and secure home for many Queenslanders.

The pandemic has had wide-ranging impacts on the way we live and work, impacting housing demand, supply and affordability. Demand for housing rapidly increased due to a range of influences, including record low interest rates, fiscal stimulus, and shifts in preferences driving higher property and private rental prices. These changing market conditions extend beyond SEQ to include regional areas which are experiencing increased demand and impacts on the construction of new homes as a result of material and labour shortages. The increasing frequency and severity of natural disasters such as flooding and bushfires is also presenting significant housing challenges for impacted communities. It is now more important than ever to create better housing pathways and improve housing choice to provide every Queenslander with the opportunity to fully participate in social and economic life.

Social housing is critical for responding to individuals and households who don't have the opportunity to access and sustain appropriate housing options in their community. Queensland's state and community housing provider owned social housing portfolios exceed 74,000 properties.⁸² With more than 64,500 of these under state ownership, this makes the government the largest residential lessor in the state. Social housing dwellings are managed directly by the government (public or Aboriginal and Torres Strait Islander housing) or by community housing providers and specialist homelessness services. Government-owned properties are also leased to specialist homelessness service providers and used to deliver a suite of other services.

Public housing, community housing and specialist homelessness service providers respond to the specific needs of a range of people, including:

- ▶ people requiring crisis support
- ▶ older people or young people experiencing or at risk of homelessness
- ▶ people with disability
- ▶ women and families experiencing or at risk of domestic and family violence
- ▶ Aboriginal and Torres Strait Islander peoples and communities.

The *Queensland Housing Strategy 2017–2027* seeks to ensure that every Queenslander has access to a safe, secure and affordable home that meets their needs, and is increasing the supply of social and affordable housing by almost 10,000 dwellings over the first eight years of the strategy.⁸³ The Queensland Government is committed to constructing a minimum of 50 per cent of new public housing properties aligned with the intent of the Livable Housing Design Guidelines gold and platinum standard. This aims to increase the supply of accessible and adaptable housing, responding to the needs of social housing clients and enabling tenants to more readily age in place.

The *Queensland Housing Strategy 2017–2027* is also implemented through the *Aboriginal and Torres Strait Islander Housing Action Plan 2019–2023*, which is delivering place-based, person-centred responses to improve outcomes for Aboriginal and Torres Strait Islander peoples across the housing continuum.

While the Queensland Government primarily plays a more direct role with social housing, it is also keen to work with others in supporting greater affordable housing. While affordable housing can mean different things to different people, it generally seeks to provide greater choice for low to moderate income households or accommodation for key workers. The state government supports this through a range of planning and economic development tools that assist local governments and the private sector to improve housing supply and diversity.

Partnerships at all levels are essential for improving broader housing outcomes like housing affordability. The state works collaboratively with other levels of government, the private sector and community housing providers to enable better social housing, affordable housing and other innovative housing solutions. The Australian Government, for example, has a greater capacity to improve outcomes through income support, taxation and other policy levers that would underpin the ability of all parties to improve housing supply and diversity.

CURRENT KEY INITIATIVES

▼ Queensland Housing Strategy 2017–2027

A 10-year plan to deliver more social and affordable homes and to transform the provision of housing services. Key strategy outcomes are being delivered through the:

- ▼ *Aboriginal and Torres Strait Islander Housing Action Plan 2019–2023* – Investing \$67.1 million over four years to deliver tailored housing responses for Aboriginal and Torres Strait Islander Queenslanders by working together with local communities and the housing sector.

- ▼ *Housing and Homelessness Action Plan 2021–2025* is backed by \$1.908 billion over four years, and the establishment of a \$1 billion Housing Investment Fund to provide a funding stream to increase housing supply and deliver enhanced housing outcomes.
- ▼ Queensland Housing Investment Growth Initiative – delivering new homes through a coordinated and integrated capital program.



Affordable Housing

TRENDS



HOUSING AFFORDABILITY INCREASES IN PROPERTY AND RENTAL PRICES

continues to be a challenge, exacerbated by sharp increases in property and rental prices throughout the COVID-19 pandemic. This creates issues, particularly for first home buyers and those trying to enter the housing market⁸⁴



PEOPLE ON LOW AND MODERATE INCOMES LIVE IN THEIR COMMUNITIES, OR NEAR THEIR WORK⁸⁵



SOCIAL AND AFFORDABLE HOUSING

CHALLENGES

Addressing increasing demand for social housing

Social housing is under pressure. Our growing population and dramatic increases in private housing prices are putting home purchases out of reach of low-and moderate-income earners. This is exacerbated by rising private rental prices and very low vacancy rates.⁸⁶ Almost three quarters (72 per cent) of Local Government Areas have private rental market vacancy rates below one per cent as at December 2021, including Queensland's most populous cities and regional centres (a market is considered 'tight' below 2.5 per cent).



Competing with the private market

The COVID-19 recovery stimulus, and increased private and industrial market activity, has contributed to accelerated demand for land and construction. This is creating a more competitive market to deliver timely, appropriate social and affordable housing in the right place, at the right price. This is more pronounced in some regional markets where labour markets are small or more remotely located.

The market is delivering new housing supply and diversity, but this can be limited in the locations and at the prices required by lower income households who are seeking more affordable housing. This is also influencing a shift from owning to renting.



Meeting contemporary housing needs

A portion of ageing social housing stock is not ideally suited to the needs of residents and is less able to support the diverse needs of a range of cohorts. For example, accessible homes suited to people with disability or smaller homes that are more suitable for single occupant households.



Many people seeking housing assistance have other needs

Many Queenslanders seeking housing assistance have complex circumstances and engage with multiple human and health services and providers. For example, almost half of applicants for social housing have at least one person with disability in the household, and one in 10 have experienced domestic and family violence.



Housing in Aboriginal and Torres Strait Islander communities

Social housing is the predominant form of housing tenure in Queensland's 16 Aboriginal and Torres Strait Islander Local Government Areas. Available land for the construction of new social housing to meet the demand and address overcrowding is limited.



OPPORTUNITIES



Maximising benefits from national, state and local initiatives

The Queensland Government is actively advancing its social housing policy objectives through a range of initiatives at all levels of government. This includes local government planning schemes, state planning mechanisms (such as regional plans), key strategic agreements such as City Deals, and major infrastructure developments such as urban renewal sites and new community growth areas.



Expanding the range of alternative assistance options

Innovative delivery of affordable housing includes the Build to Rent pilot project, where government partners with the private sector to deliver affordable homes for rent at a discounted rate as a component of large-scale developments. Up to 240 dwellings across two Brisbane developments will be offered at a discounted rent, helping to retain key workers in inner city areas. Two further transactions under the pilot project are underway, with successful completion expected to deliver more affordable housing to the Brisbane area. These projects will provide secure, long-term rental accommodation for tenants who don't necessarily qualify for access to social housing, but may struggle to live close to where they work.



Strengthening the community housing sector

The Queensland Government supports community housing providers to deliver place-based, person-centred housing support through innovative funding opportunities and partnerships across government and private industry. This is central to the success of the Queensland Housing Investment Growth Initiative.

Under the *Aboriginal and Torres Strait Islander Housing Action Plan 2019–2023*, the Queensland Government has partnered with Indigenous Community Housing Organisations to improve housing outcomes. In 2021, this established a new not-for-profit organisation that is the professional peak representative body for Aboriginal and Torres Strait Islander housing providers in Queensland.



Investing in new social housing supply

The Queensland Housing Strategy 2017–2027 is increasing the supply of social housing to meet demand in areas of high need, while creating jobs across the state. The strategy's Housing and Homelessness Action Plan 2021–25 is delivering new housing and upgrading existing homes to develop a more diverse mix of property types that better suit the needs of vulnerable households.



Supporting inclusive communities

Queensland's Housing Principles for Inclusive Communities were developed to promote rights, choice, control, accessibility and inclusion in housing to improve the lives of people with disability and older people who face greater barriers in accessing safe, accessible and affordable housing across all housing tenures. In line with these principles the Queensland Government continues to promote inclusive housing design and service delivery responses for all Queenslanders.



SOCIAL AND AFFORDABLE HOUSING

PRIORITY ACTIONS

1 Increasing social housing supply (DCHDE, DEPW, QT)



Deliver a coordinated program of capital works and capital grants that optimise the use of public housing assets, revitalise social housing precincts and work with our partners to increase the supply of social housing.

Redevelop high value sites to maximise yield and promote a range of options for housing with support.

2 Leasing and purchasing properties from the private housing market to meet emergent need (DCHDE)



Access properties from the private market through headleasing and spot purchases.

3 Supporting growth, sustainability and innovation in the community housing sector (DCHDE)



Work in partnership with community housing peak and industry bodies to promote growth, sustainability and innovative place-based responses.

4 Making use of state planning and economic development tools (DSDILGP, DCHDE)



Explore opportunities to deliver social and affordable housing using state planning and economic development tools. For example, affordable by design principles, planning incentives, inclusionary planning, and mandating social and affordable housing in Priority Development Areas.

5 Facilitating innovative funding, financing and service delivery options (QT, DCHDE)



Drive strategic partnerships between the state and a wide range of potential participants such as the Australian Government, National Disability Insurance Agency, local governments, community housing providers, private developers, institutional investors, and not-for-profit partners, either individually or as a consortia.

6 Working with regional councils to increase and diversify regional housing supply (DCHDE, DEPW)



Explore opportunities for alternative government and non-government investment and incentives in rural and remote communities. This would draw on local intelligence to support demand and supply analysis to guide social housing investment.

7 Strengthening housing outcomes for Aboriginal and Torres Strait Islander peoples (DCHDE, DSDSATSIP)



In partnership with Aboriginal and Torres Strait Islander communities, develop place-based, community led responses to local housing challenges and priorities through local housing plans, delivering new housing as agreed with communities. Explore opportunities to increase land supply for social housing.

8 Responding to land and housing demands in growth areas (DSDILGP)



Continue to work collaboratively with state agencies, local governments, utility providers and industry to better respond to the demands for land, and affordable and diverse housing, in SEQ. The Growth Areas Team will focus on systemic issues and processes affecting land and housing supply by facilitating improved partnerships between developers, local governments, utility providers and state government.

9 Enhancing social housing design (DCHDE, QGA)



Delivering new social housing in line with the targets set for Livable Housing Design Guidelines and enabling design-led, place-based and person-centred homes in line with the Social Housing Design Guideline-QCompanion document 2021⁸⁷.

10 Partnering for inclusive housing with people with disability (DCHDE)



Develop a disability housing action plan to co-design housing responses with people with disability, peak and expert organisations; and work across government and the sector to deliver integrated housing responses and diversity of supply that promotes a person's rights, choice, control and inclusion.

INFRASTRUCTURE OBJECTIVES



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches

▼ CASE STUDY

Queensland Housing Investment Growth Initiative

Through the *Housing and Homelessness Action Plan 2021–2025*, the Queensland Housing Investment Growth Initiative (QHIGI) was introduced to tackle current and future challenges in social housing delivery with strong capital investment and a statewide focus. The initiative includes:

- ▼ Establishing the Housing Investment Fund through a \$1 billion investment to deliver 3,600 social housing commencements over four years. The total value of the fund will be maintained over time with returns used to fund new housing supply.
- ▼ Accelerated social housing construction through QuickStarts Qld, a \$1.813 billion investment to deliver 2,765 new social housing commencements across the state, including in the regions and in Aboriginal and Torres Strait Islander communities where homes will be delivered through local housing plans.
- ▼ Help to Home, which will priority source 1,000 private leases through a \$40 million investment over two years to respond to emerging and specific local need.

The three programs of the QHIGI each support specific elements of market need or respond to current or anticipated market challenges.

Housing Investment Fund

The Housing Investment Fund will facilitate a range of new opportunities for strategic partnerships between the state and community housing providers, private developers and institutional investors on an individual or consortia basis. The fund provides greater flexibility to deliver a mix of projects, including public, community and subsidised housing, homeless accommodation, and mixed-use developments that capture site specific opportunities.

It also provides a vehicle for co-investment in projects with consortia to leverage development opportunities and maximise funding and financing opportunities. This may be through shared financing, land contributions or other appropriate arrangements based on project need.

QuickStarts Qld

Investment through QuickStarts Qld accelerates planned capital investment to commence construction of social housing sooner in order to support evolving need across the state. A four-year pipeline of work will result in a mix of developments, from single family homes to multi-dwelling complexes. The investment may include strategic land or property purchases, and will help manage demand for homes in major population areas as well as support changing housing needs in regional cities and towns. The construction program will be delivered through partnerships with community housing providers and capital build projects delivered by the state government.

Help to Home

Help to Home provides housing stock to support immediate or emergent needs while other social housing options are developed. Through headleasing arrangements, the Queensland Government seeks to lease privately-owned properties that may be new to the market or not previously available, which can then be sublet to people in need. Supportive tenancy management by the state or community housing providers assists tenants to sustain their tenancies while a longer-term housing plan is developed.



Social housing, Logan (Source: Department of Communities, Housing and Digital Economy)

MEASURING SUCCESS

▼ DELIVERING THE STRATEGY

Together, government, the private sector and the community needs to collaborate to deliver infrastructure to build a better Queensland.

Delivering on this strategy, tomorrow's Queensland will be one where the people who call our state home continue to thrive and reap the rewards of our infrastructure investments. This strategy will support Queensland becoming a renewable energy superpower, with connected regions, characterised by livable communities, and high performing infrastructure.

This strategy sits within a broader framework of Queensland Government strategies, policies, programs and projects. It contributes to the Queensland economy and our communities by outlining how we plan, deliver and fund infrastructure that enables economic growth and builds resilient communities.

The Queensland infrastructure portfolio and its state agency partners are responsible for ensuring the focus areas and priority actions in this strategy are realised. Some of the mechanisms that will play a key role include the QGIP, the Regional Infrastructure Plans and the Infrastructure Proposal Development Policy described as being a part of Queensland's infrastructure framework.

Monitoring and reporting

This strategy outlines a range of priority actions and key initiatives to be delivered over the next 20 years. Monitoring and reporting on these activities, achievements and observed benefits or changes will further support whole-of-government infrastructure provision and future updates to the strategy. The Queensland Government has a diverse and comprehensive performance management framework comprised of monitoring and reporting of portfolios, plans and programs, for example through:

- ▼ Budget Papers: Capital and Service Delivery Statements
- ▼ State entity annual reports, strategic and corporate plans
- ▼ Queensland Sustainability Report
- ▼ Transport Coordination Plan
- ▼ Queensland Bulk Water Opportunities Statement Program.

In addition to the Queensland Government's performance frameworks, the Australian Government and private sector are also increasingly enhancing public access to their performance information through interactive online reporting.

How we will measure our success

The impact of the strategy will be considered against its four key objectives:

ENCOURAGE JOBS, PRODUCTIVITY AND GROWTH

Our infrastructure program will create jobs, and help support sustainable industry growth, from traditional activities such as agriculture and mining to cutting-edge technological endeavours such as hydrogen and aerospace. Productivity is at the heart of our success.

ENHANCE SUSTAINABILITY AND RESILIENCE

Our infrastructure plans, programs and strategies help us address the challenges of climate change, natural disasters and less predictable weather patterns, reducing our impact on built and natural assets through better design and management. Resilience is vital to our success.

DEVELOP REGIONS, PLACES AND PRECINCTS

We will plan and deliver great places to live with quality public services and support jobs and economic development through place-based approaches with sequenced, strategic infrastructure delivery. Delivering for our diverse communities is central to our success.

ADOPT SMARTER APPROACHES

We embrace better practices and services delivery to provide better infrastructure for Queenslanders and their communities. Innovation and digital connectivity will be critical to our success.

The government will continue to engage with stakeholders to develop performance indicators to measure our progress in advancing the objectives of this strategy and to understand the pulse of the infrastructure system.

There are a range of existing indicators that can be drawn upon to measure progress, including the value of engineering construction activity, renewable energy generation as a proportion of total consumption, the community and sporting infrastructure access index, and the percentage of Queensland departments with a Strategic Asset Management Plan.



Building Cross River Rail (Source: Cross River Rail Delivery Authority)

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Acronym	Government Agency or Government Owned Corporation
CRRDA	Cross River Rail Delivery Authority
DAF	Department of Agriculture and Fisheries
DCYJMA	Department of Children, Youth Justice and Multicultural Affairs
DCHDE	Department of Communities, Housing and Digital Economy
DoE	Department of Education
DESBT	Department of Employment, Small Business and Training
DEPW	Department of Energy and Public Works
DES	Department of Environment and Science
DJAG	Department of Justice and Attorney-General
DRDMW	Department of Regional Development, Manufacturing and Water
DoR	Department of Resources
DSDSATSIP	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships
DSDILGP	Department of State Development, Infrastructure, Local Government and Planning
DTIS	Department of Tourism, Innovation and Sport
DTMR	Department of Transport and Main Roads
EQL	Energy Queensland Limited
HWQ	Health and Wellbeing Queensland
Ports	North Queensland Bulk Ports Corporation Port of Townsville Limited Gladstone Ports Corporation Far North Queensland Ports Corporation Limited (Ports North)
QAS	Queensland Ambulance Service
QCS	Queensland Corrective Services
QFES	Queensland Fire and Emergency Services
QH	Queensland Health
QPS	Queensland Police Service
QR	Queensland Rail
QT	Queensland Treasury
TAFE Qld	TAFE Queensland



Cobbold Gorge, Forsyth (Source: Tourism and Events Queensland)

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