

# State Infrastructure Strategy 2022–2042



NSW GOVERNMENT RESPONSE





# Minister's message



The fortunes of our state have been transformed on the back the NSW Government's past 11 years of infrastructure delivery.

Since 2011, more than \$178 billion worth of transformational infrastructure projects have been completed – creating jobs, connecting communities and, most importantly, improving quality of life for millions of NSW citizens.

Throughout that time, the government has sought the clear-eyed and independent advice of Infrastructure NSW to guide the allocation of taxpayers' funds towards the projects that are needed most.

Infrastructure NSW's *State Infrastructure Strategy 2022-2042* outlined that advice in the form of 9 key strategic directions and 102 recommendations. The NSW Government will support all 9 key strategic directions in full, 89 recommendations in full and the remaining 13 recommendations in principle.

Despite increasing global challenges, our strong economic management means NSW remains committed to its unprecedented and nation-leading commitment of \$112.7 billion in infrastructure projects to be delivered over the next 4 years.

By accepting the recommendations of the State Infrastructure Strategy, NSW will continue to build the right projects in the right place at the right time, spanning metros and motorways, hospitals and schools, pathways and public parklands.

Infrastructure has been the catalyst for one of the most transformative periods in the state's history, an economic driver that has seen NSW record the strongest jobs growth of any state in the country over the past decade. And while global economic headwinds continue to create challenges for infrastructure delivery, these are challenges we are well prepared to face.

**The Hon Rob Stokes MP**  
Minister for Infrastructure  
Minister for Cities  
Minister for Active Transport



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# Introduction

*The State Infrastructure Strategy 2022–2042: Staying Ahead* (the Strategy) provides Infrastructure NSW’s independent advice to the NSW Government on the state’s needs and strategic priorities for infrastructure over the long term. This document forms the NSW Government response to this independent advice and supports the strategic direction of the Strategy.



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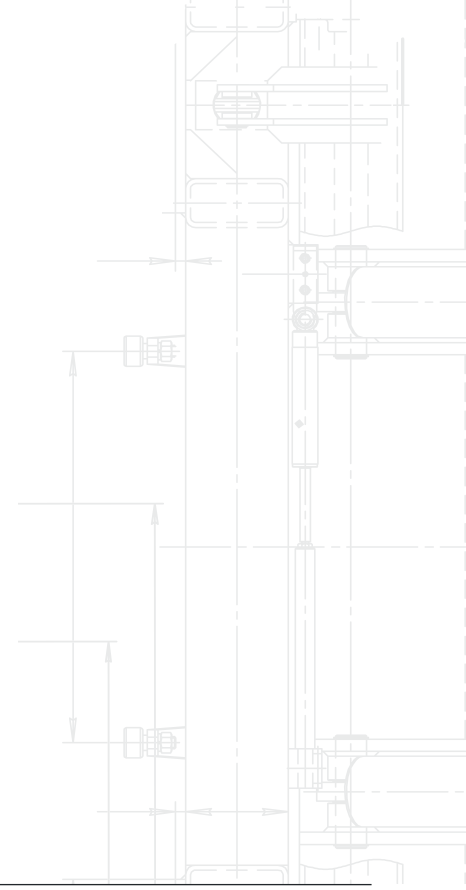
This government response notes that the indication of support or in-principle support for an initiative does not guarantee funding. Proposals will need to undergo assessment to demonstrate their value for money and ability to deliver on government objectives ahead of being considered by the Expenditure Review Committee.

The Strategy sets out the government’s priorities for the next 20 years, and combined with the *Future Transport Strategy 2056*, the *Greater Sydney Region Plan: A Metropolis of Three Cities* and *A 20-Year Economic Vision for Regional NSW*, brings together infrastructure investment and land-use planning for our cities and regions. The Strategy contains

9 key strategic directions and 102 recommendations including sub-recommendations. This response supports all key strategic directions and 89 recommendations, with in-principle support for 13 recommendations.

Consistent with its *NSW Industry Development Framework* (February 2022), the NSW Government recognises that providing sufficient and appropriate infrastructure is an important enabling factor in efficient industry policy. The NSW Industry Policy will also inform NSW Government consideration of infrastructure investment decisions.

# Boost economy-wide productivity and competitiveness



Infrastructure investment is essential to support the needs of a growing population and economy, to attract the jobs of the future, and to enhance the liveability of cities and regions. Strategic investments in high-quality infrastructure and transport networks can unlock opportunities and drive competitiveness of NSW industries.

The ability to access a skilled and healthy workforce through the provision of education and health services is also essential for NSW industry to attract and retain the right talent.

Sydney is Australia's global city and the cultural capital of NSW. The state's ability to attract global investment and talent relies on Sydney's international competitiveness and liveability.

Cultural and sporting infrastructure help mould the state's identity and contribute to its economy and competitiveness by attracting skilled workers and visitors.

Continued investments in mass transit and the coordination and prioritisation of improvements to existing rail and road assets and networks will boost productivity and overall prosperity.

The construction market's capacity issues mean that not all major projects can be delivered at the same time. Infrastructure investment in state-sponsored precincts across NSW requires a focused and staged program that considers demand and long-term delivery.

In supporting the regions, effective road and freight access to surrounding industry precincts is essential to allow for commercial and industrial activity and residential development.

With significant population growth in regional centres, long-term planning will be important to ensure these areas have the right infrastructure and services.



# 1

## STRATEGIC DIRECTIONS

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# Service growing communities



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Infrastructure delivers fundamental human services, underpins community liveability and supports positive social and economic outcomes for the people of NSW. Access to affordable and quality housing is a key enabler for prosperous and thriving communities.

The NSW Government will focus on investments that provide better access to essential services for vulnerable and disadvantaged communities, and support the delivery of secure, affordable and diverse housing across NSW.

Ensuring an adequate and diverse supply of housing is important to addressing skills shortages, particularly in areas that are a focus of government investment, such as the Special Activation Precincts (SAPs) in regional NSW. Housing supply and affordability remain a challenge and a priority for the government.

Social housing that is well located, with improved maintenance and upgrades, can protect tenants from shock events, including from climate-induced stressors such as flood exposure.

Community wellbeing is also supported by access to open and recreational spaces, such as parks, sporting and cultural facilities, and infrastructure that supports walking and cycling.

Integrating open space and active transport infrastructure into existing assets creates opportunities for existing infrastructure to support multiple purposes. Vertical infrastructure such as hospitals, schools, aged care facilities and social

housing can also support the creation of more open space.

Infrastructure planning can improve wellbeing by targeting specific community needs, including those of Aboriginal people and vulnerable people, and ensure that quality services are available to all NSW citizens.

Signed in July 2020, the National Agreement on Closing the Gap commits all state and territory governments to achieve better life opportunities and wellbeing for all Aboriginal people.

As the state population grows, so too will demand for government services. At the same time, changing demographics, technology, customer preferences and community needs mean that government services will need to continuously adapt.

In regional and rural areas, with lower population density, citizens can benefit from greater co-location of services so that infrastructure can be used for multiple purposes. For instance, many heritage assets have been refurbished and repurposed by the hospitality sector, such as old sandstone government buildings that have been converted into hotels or restaurants that support the visitor economy.

# 2

## STRATEGIC DIRECTIONS



# Embed reliability and resilience



Many infrastructure assets have long lifecycles and need to be resilient to withstand shocks and stresses that compromise performance. Climate risks have implications for infrastructure, particularly coastal hazards and extreme heat.

Recent experiences have illustrated the broad range of pressures that can be placed on infrastructure systems, including natural hazards, public health crises and cyber security threats. These types of risks should be considered for local communities as well as border regions.

Resilient infrastructure demands greater investment in asset management. Policies can support the

proactive assessment of risk and the impact of shocks on communities and the economy, allowing for improvement to a more resilient standard.

The focus on proactive preparedness and resilience, including a whole-of system, all-hazards approach, will be increasingly important to ensure the resilience of individual assets as well as the overall system.

Management of risks is also improved by comprehensive data on the shocks and stresses to which infrastructure networks might be exposed. It is equally important to identify and remedy assets most likely to cause service failure and network disruption.

# 3

## STRATEGIC DIRECTIONS



# Achieve an orderly and efficient transition to Net Zero

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The NSW Government has adopted a goal of Net Zero emissions by 2050 and a 50% cut in emissions by 2030.

To support this goal, the 2020 NSW Electricity Infrastructure Roadmap and its supporting legislation, the *Electricity Infrastructure Investment Act 2020*, has set a pathway for the electricity sector transition. Implementation requires policies over the coming decades that will secure a new wave of investment in electricity reliability and affordability, predominantly by the private sector and through market mechanisms.

It will be important to ensure that the clean energy transition is orderly, cost effective, and delivered in a timely fashion to avoid price shocks, reliability impacts, and broader economic impacts of delay. New technologies will result in the more efficient use of energy. Green hydrogen production, storage and transportation networks will help achieve an affordable and firmed renewable electricity grid. NSW also intends to be a net exporter of hydrogen and will pursue opportunities around the Central-West Orana, Hunter-Central Coast, Illawarra, New England, and South-West Renewable Energy Zones to position the state to be a global leader in clean energy production.

As the transition gains pace, there will be more appetite for low carbon- and zero carbon-ready infrastructure from the public and investment community. However, the infrastructure pathway to Net Zero is not yet clear. This is made more challenging by the construction of infrastructure, where the materials used and processes are still carbon-intensive.

With the NSW Government setting clear Net Zero targets, public infrastructure managers and providers have a role to contribute to these objectives, adopt global best practice and embrace industry-standard approaches to carbon accounting and management.

The *NSW Net Zero Plan* and the *NSW Government Resource Efficiency Policy* outline current policies and plans to reduce emissions through the procurement of goods and services – and this extends to the NSW Government’s infrastructure program.

The transport sector is the second-highest carbon emitting sector after electricity and will also need an affordable and comprehensive transition plan. The NSW Government’s *Electric Vehicle Strategy* is an early step towards such a plan.

# 4

## STRATEGIC DIRECTIONS



# Enhance long-term water security



Water security is a major long-term challenge for NSW. The state's water supply is largely rainfall-dependent and vulnerable to cyclical and climatic trends. At the same time, any material augmentation and diversification of water supply will require high levels of investment in new assets and will also require community support for increased storage and water recycling.

The NSW Government prioritises infrastructure solutions such as dam infrastructure, which is required to ensure the long-term security of supply. The NSW Government notes that infrastructure solutions cannot resolve all water supply issues. Existing assets such as dams, pipes, reservoirs, storage tanks and treatment facilities are essential assets, but the management, allocation and use of the state's water resources is equally important.

Proactively planning for and investing in rainfall independent supply augmentation, in addition to water conservation and demand management practices, is vital to future water supply. The *Greater Sydney Water Strategy* sets out a range of rainfall-independent water supply options to safeguard water supply.

In regional areas, there are also imperatives to support local investment that ensures water quality for all communities. This requires highly effective working relationships with and among local stakeholders and authorities. It is important that water resources are shared equitably and

responsibly to ensure economic growth in regions without compromising the health and resilience of natural water systems.

The NSW Government has implemented the Safe and Secure Water Program, which is investing in upgrades to infrastructure (such as bores, pipelines and treatment plants) that will help provide safe and reliable water for regional communities.

Regional and metropolitan water strategies can improve water quality through a more integrated water cycle management approach, but there is the opportunity to further embed these principles within all future developments in NSW.

Increasing demand for water ultimately generates more wastewater. Embedding integrated water cycle management approaches in land-use planning and across the development of major projects can improve water quality in receiving waterways.



# 5

## STRATEGIC DIRECTIONS



# Protect our natural endowments

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Protecting the state's natural environment requires attention to all assets across the infrastructure lifecycle, from construction through to operations. Government needs affordable policies to mitigate the impact of infrastructure delivery and operations on biodiversity and natural heritage.

Infrastructure can be used to improve the natural environment and ensure the sustainable use of natural resources and materials through reuse and recycling.

The NSW Government recently published the *NSW Waste and Sustainable Materials Strategy 2041*, which establishes short- and long-term targets to be achieved over the next 20 years. Managing waste presents a significant challenge but also opportunities to adopt circular economy solutions.

Nature-based assets such as blue-green infrastructure can also complement traditional 'grey' infrastructure (such as roads, rail and buildings) to support biodiversity and environmental outcomes. Liveability and resilience can be improved across

NSW through initiatives such as streetscape revitalisation, public open space improvements, and precinct and place-based development.


Like the elevation of climate risks to the global policy agenda, the economic and social risks of biodiversity loss are becoming a more prominent concern. This includes Australia's commitment to halt and reverse forest loss and land degradation by 2030. In addition to the natural environment's intrinsic worth, biodiversity and blue-green infrastructure provide financial and cultural benefits.

# 6

## STRATEGIC DIRECTIONS



# Harness the power of data and digital technology



The benefits of combining digital technology with physical infrastructure are increasingly compelling. The right application can increase the productivity, efficiency and safety of physical infrastructure assets and networks. It is also an essential enabler of good infrastructure planning, delivery, maintenance and operation.

Taking full advantage of rapidly emerging digital technologies will require internationally competitive and secure high-speed digital connectivity across NSW, and the right policies and standards to embed the use and application of digital and smart technology in infrastructure.

The depth and speed of digital transformation across infrastructure sectors will be influenced by citizen needs and expectations, technology availability, data governance, efficiency dividends and cyber security capability.

The NSW Smart Places Strategy plays an important role in setting the whole of government vision for the development of smart technology in NSW.

Competitive high-speed connectivity is also fundamental to achieve environmental outcomes, not only economic and social outcomes. For example, high speed connectivity is essential to support rapid response to natural disasters.

The NSW Government is exploring how further coordination with commercial providers can help to facilitate faster, cheaper and better digital connectivity coverage through shared infrastructure.

Shared infrastructure arrangements should be adopted as far as practicable, along with alternative ways to achieve digital connectivity.

The Western Sydney City Deal illustrates the benefits of cooperation between the NSW and Australian governments to meet connectivity objectives.

Application and use of digital technology throughout all stages of the infrastructure lifecycle can deliver significant benefits. Productivity benefits can be achieved by seamless transitions between project lifecycle stages, and digital technology can help to integrate tasks that are often disjointed across the planning and infrastructure value chain.

The full potential of digital technologies cannot be realised without shared, consistent and quality data. The diligent application of standards, classifications and data management practices across all aspects of the infrastructure lifecycle is increasingly important.

# 7

## STRATEGIC DIRECTIONS



Image: Destination NSW

# Integrate infrastructure, land use and service planning

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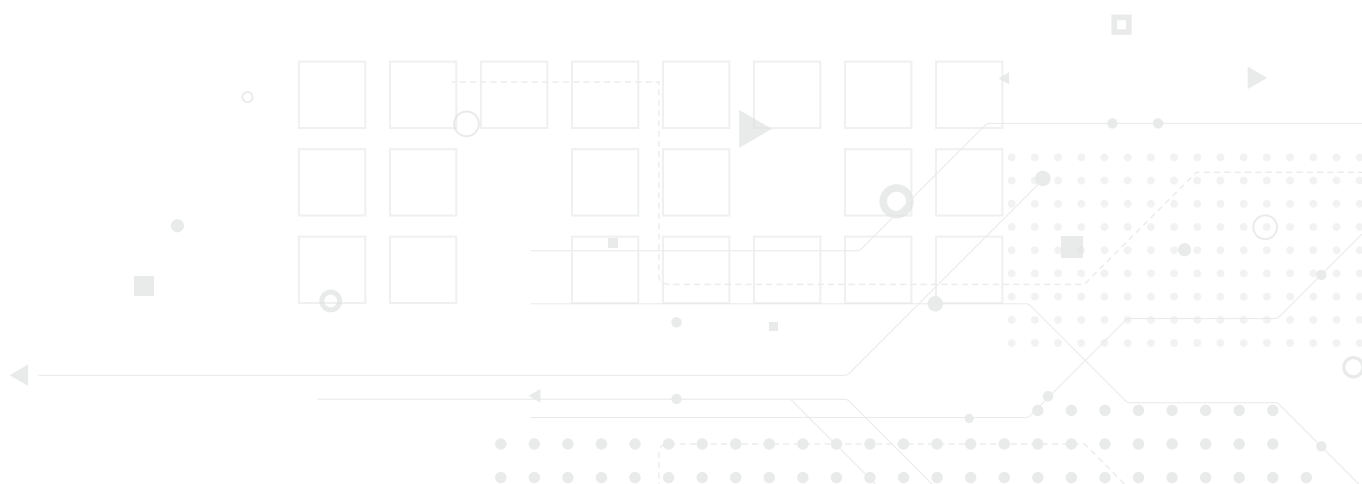
Coordinated planning enables the NSW Government to ensure that jobs, services and housing growth are supported by the right infrastructure at the right time and in the right places.

The NSW Government is increasingly focused on connecting people with jobs, services and amenity by planning for growth and development around public transport infrastructure, such as passenger rail stations, interchange hubs and freight routes.

Employment hubs and economic precincts should meet expected market demand, and investment should be coordinated and staged accordingly. The sequencing and prioritisation of precincts should consider the pace at which the market can absorb new development, including residential, industrial and commercial space, to avoid creating excess supply and underutilised capacity for services and infrastructure.

The complexity in precincts presents significant challenges, including conflicts between public objectives and private commercial interests. The NSW Government's *Precincts Strategy: Practitioner's Guide* is a significant step in providing public sector planners with a methodological approach to precinct development and the increased participation of the private sector.

Opportunities also arise for infrastructure to better reflect history, community identity and place. Done well, new structures and precincts can contribute to the culture and identity of NSW. Investments in regional towns and suburbs of cities can not only lift amenity and liveability, they can create a distinct sense of place and civic pride.



# 8

## STRATEGIC DIRECTIONS



# Design the investment program to endure

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Future demands on the NSW Government budget will continue to be significant. Many important new projects remain to be funded and investment in the maintenance of existing assets is set to increase. The NSW Government will regularly consider the rate and sequence at which infrastructure projects should proceed. This also provides an opportunity to consider projects that will improve transport connectivity in regional, rural and remote areas, including border destinations.

To build an enduring infrastructure investment program, the Strategy recommends tipping the balance of spending towards technology upgrades, augmentation of existing assets and networks, and structured maintenance as the NSW asset base matures.

Augmentation of existing assets includes measures such as technology upgrades and adaptations to improve reliability, safety, functionality, capacity and resilience. To help shift the focus to value-adding investment in existing assets, the NSW Government introduced the Asset Management Policy for the NSW Public Sector in 2019.

The increased role of the private sector in infrastructure over recent decades demonstrates that there are many opportunities for private sector investors to deliver new infrastructure. The demand for infrastructure investment remains strong. The challenge continues to lie in establishing the right balance between risk allocation and value for money.

Defining the future role of government in infrastructure markets will be important to provide investors with certainty to participate in the delivery and operation of infrastructure assets and services.



# 9

## STRATEGIC DIRECTIONS



# School infrastructure

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The work being conducted in school infrastructure aligns with the Strategy in many ways, including the following points listed below.

**Service growing communities:** The Department of Education is delivering the NSW Government's \$8.6 billion investment over the next 4 years, continuing its program to deliver 160 new and upgraded schools to support communities across NSW.

**Embed reliability and resilience:** In addition to the 2022-23 NSW Budget allocating significant funding to deliver new and upgraded schools, there has been a separate funding of \$2.2 billion over 4 years to keep every school across the state well-maintained. This work will be planned with reference to infrastructure condition, functionality and user perception, and directly improves the reliability and resilience of school infrastructure across NSW.

**Achieve an orderly and efficient transition to Net Zero:** The Smart Energy Schools Pilot Project will test new ways to produce, store and share clean renewable energy in NSW public schools. In addition, the LED Lighting Upgrade Program will replace inefficient lights with LED lights in up to 1,200 public schools across NSW.

**Protect our natural endowments:** Education is defining its commitment to sustainability. It will take a proactive role in responding to growing student and community expectations; meeting new and evolving NSW Government policy; and managing risk while maximising economic, social and environmental value for the state.

**Harness the power of data and digital technology:** School Infrastructure NSW (SINSW), in line with the NSW Digital Government Strategy and working with government and industry partners, has a digitalisation program that investigates, integrates, and where required, implements processes and systems, connecting disparate data sets to transform its operations. Examples include enabling data to deliver fast, high-quality master planning; producing e-business cases; standardising the statutory planning due diligence process and utilisation of spatial data in delivering asset management.

**Integrate infrastructure, land use and service planning:** SINSW works closely and openly with its industry partners and seeks partnerships with councils, other government agencies and the private sector. SINSW aims to partner with the private sector to integrate schools into new developments and provide students with modern upgraded schools that respond to student learning and teaching trends in the most cost-effective way. SINSW promotes joint and shared use of facilities to make school assets available to the community outside school hours, as well as giving schools access to community facilities.

**Design the investment program to endure:** SINSW is taking a longer-term view on investment and is working across NSW Government to seek a 10-year Capital Planning Limit that will provide increased certainty, flexibility and efficiency of infrastructure planning and delivery across its portfolio of capital works projects.



# Health infrastructure

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Developed in response to Infrastructure NSW's *State Infrastructure Strategy 2018–2038: Building Momentum*, the NSW Health *20-Year Health Infrastructure Strategy* (HIS) outlines the NSW Government's approach to planning, modernising and investing in the state's health services. The HIS guides the use of our current built assets and decision-making for use of the capital to maximise health outcomes.

To ensure NSW continues to provide a world-class public health system that delivers value based, patient-centred healthcare, NSW Health worked with major stakeholders on the next steps towards implementation of the HIS. The Implementation Plan 2021–2024 sets out immediate and short-term activities that the Ministry of Health will undertake, in its role as system-steward, to support the health system in delivering the long-term vision set out in the HIS.

This included the development of the NSW Health State-wide Investment and Prioritisation Framework which sets out investment principles to guide local planning; a new collaborative planning approach; and criteria to assess and prioritise capital investment proposals underpinned by geographic needs and projected growth in demand. These criteria also demonstrate strong alignment with the 9 objectives of the Strategy. They are focused on innovation, transformation and non-capital solutions, as well as resilience, sustainability and the broader economic and community benefits that investment in health facilities brings.



# Implementation of the Strategy

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The lead agencies identified in the recommendations response table are responsible for the implementation of the recommendations and should consult with other clusters and agencies to share responsibilities as appropriate.

It is proposed that lead agencies develop implementation arrangements to align with the NSW Government's response to the Strategy. The implementation arrangements should consider timeframes for delivering the actions outlined in the recommendations, using Infrastructure NSW timeframes where appropriate.

Note that the implementation of these recommendations will be informed by relevant privacy analysis and the implementation of safeguards as required to manage privacy risk. It is also important that Aboriginal communities and organisations are consulted when it comes to implementing many of these recommendations, particularly in consideration of any impacts on Aboriginal cultural heritage, and lead agencies will be charged with doing so.

The implementation of recommendations will be subject to a range of factors including final funding decisions, assurance processes, fiscal and deliverability assessments and overarching infrastructure prioritisation considerations.

Consideration of any infrastructure investment arising from the State Infrastructure Strategy will be subject to the Budget process and must comply with the Infrastructure NSW Infrastructure Investor Assurance Framework.

The recommendations listed in the table are at various stages in the funding lifecycle. Some recommendations are unfunded, others have received early-stage funds and many relate to existing programs that will require top-up funding.



# Recommendations response table

## 1. Boost economy-wide productivity and competitiveness

No.	Recommendation
<b>1</b>	Invest in public transport networks to support growth of Greater Sydney.
<b>1a</b>	Deliver rapid bus networks that service key centres and corridors across Sydney, with a priority focus on Parramatta Road and Victoria Road.
<b>1b</b>	Invest in programs to lift the capacity, reliability and operational efficiency of existing Sydney Trains networks including the More Trains More Services (MTMS) program and the Digital Systems Program component of the MTMS.
<b>1c</b>	Preserve corridors needed for future extensions to the Greater Sydney metropolitan rail network, with an initial focus on links to improve connections between Parramatta to Epping and Parramatta to Kogarah.
<b>1d</b>	Improve public transport within the metropolitan cities of Newcastle, Central Coast and Wollongong.
<b>2</b>	Produce detailed prioritised lists of smaller improvement and optimisation works for existing metropolitan road and rail networks for inclusion in the upcoming Service and Infrastructure Plans: <ul style="list-style-type: none"> <li>• specific detail on pinch points, technology upgrades, asset hardening and other improvements that have been prioritised for action</li> <li>• basis for prioritisation</li> <li>• timing and delivery strategy.</li> </ul>
<b>3</b>	Progressively deliver the Western Parkland City Transport Program to meet emerging and long-term demand from Western Sydney International (Nancy-Bird Walton) Airport and the Aerotropolis.
<b>3a</b>	Deliver the enabling road network for the Aerotropolis, including Elizabeth Drive upgrade, Eastern Ring Road and Fifteenth Avenue.
<b>3b</b>	Deliver a rapid bus network (including new fleet, services, technologies and infrastructure) between the Western Sydney International (Nancy-Bird Walton) Airport and key metropolitan centres of Liverpool, Campbelltown and Penrith.
<b>3c</b>	Preserve corridors to protect long-term options for a future mass transit network to and within the Western Parkland City. Initial priority corridors include: <ul style="list-style-type: none"> <li>• Sydney Metro West extension from Parramatta to Western Sydney International Airport</li> <li>• Sydney Metro North West to Sydney Metro Western Sydney International Airport connection</li> <li>• Sydney Metro City and South West from Bankstown to Liverpool</li> <li>• Sydney Metro Western Sydney International Airport extension to Campbelltown-Macarthur</li> <li>• Rail line linking Bradfield City Centre, Leppington, Liverpool, and Parramatta.</li> </ul>
<b>4</b>	Progressively fund and deliver the Fast Rail Strategy based on a prioritised and staged program of network enhancements.



Government position	Lead agency/ agencies	Timeline
Support in principle – see responses to sub-recommendations below.		
Support. Noting the priority of Victoria Road and that delivery of improved public transport connectivity for part of the Parramatta Road corridor is a condition of WestConnex. Further, note that parts of the Parramatta Road corridor will also be serviced by future Sydney Metro services, which also addresses the WestConnex condition.	Transport	Immediate Priority
Support. The government notes the importance of reliability, capacity and operational efficiency of the Sydney Trains and NSW TrainLink services. NSW Government notes that further funding decisions are required to support further delivery of MTMS.	Transport	Immediate Priority
Support in principle. NSW Government understands the importance of identifying and preserving rail corridors subject to budget constraints, planning time frames, forecasts around expected use and the need to respect the interests of current landholders.	Transport	Immediate Priority
Support. NSW Government recognises the importance of strong public transport networks to deliver the Six Cities vision.	Transport	Extended Program
Support in principle. The existing Service and Infrastructure Plans (2018) will be replaced by Future Transport Plans which will be published in 2022-23. These plans will build on the Future Transport Strategy to detail proposed services, infrastructure, and technology initiatives. However, specific detail for smaller and discrete improvements or optimisation works will be developed in subsequent more localised strategies and plans.	Transport	Immediate Priority
Support in principle – see responses to sub-recommendations below.		
Support. The government will progress these road networks and other important road upgrades to enable the Western Parkland City. The NSW Government will consider the appropriate timing for this work in the context of the overall investment pipeline.	Transport	Immediate Priority
Support.	Transport	Immediate Priority
Support in principle. NSW Government understands the importance of identifying and preserving rail corridors subject to budget constraints, planning time frames, forecasts around expected use and the need to respect the interests of current landholders.	Transport	Extended Program
Support in principle – see responses to sub-recommendations below.		

## No. Recommendation

- 4a** Define stages and sequencing for the delivery of the Fast Rail Strategy that take into account demand and economic development objectives.
- 
- 4b** Fund a long-term annual investment program at a level that ensures a sustained program of work.
- 
- 4c** Finalise a detailed delivery strategy that considers the staging/sequencing as well as network operations, possessions and procurement approach.
- 
- 5** Deliver next stages of the 16 Regional Cities Services Improvement Program to enhance regional NSW connectivity, including additional public bus, active transport and on-demand service options for greater customer convenience.
- 
- 6** Plan and deliver projects to increase the efficiency and reliability of freight networks in regional NSW.
- 
- 6a** Develop a prioritised and actionable investment program to enhance the regional freight network through:
- better local connections, in particular first- and last-mile connections on local roads
  - corridor-level enhancements to improve connectivity, safety, network resilience and accessibility for High Productivity Vehicles (HPVs), including augmentations to alleviate key pinch points such as road and bridge capacity upgrades, level-crossing removals and addressing inadequate road geometry
  - options to capitalise on the Australian Government’s Inland Rail project and its associated programs.
- 
- 6b** Plan for the next stages of the Northern Sydney Freight Corridor augmentation before demand for rail freight between Newcastle to Sydney reaches capacity within the next decade.
- 
- 7** Support the growing Greater Sydney freight task through investments and initiatives that leverage existing and emerging international gateways.
- 
- 7a** Pursue previously identified pinch points and bottlenecks, including:
- strategic road network enhancements at the Moorebank intermodal precinct, the M5 and the Liverpool CBD bypass
  - Parramatta Outer Ring Road and Parramatta CBD bypass.
- 
- 7b** Optimise efficiency along the Sydney Gateway to Port Botany international gateway corridor through:
- strategic land use planning and transport network enhancements
  - investigation of options to augment the missing link between the Sydney Gateway and Port Botany, including opportunities for private sector co-funding.
- 
- 7c** Preserve corridors to enable future delivery of dedicated freight rail lines, including the:
- Western Sydney Freight Line
  - Lower Hunter Freight Corridor.
- 
- 7d** Develop and implement initiatives to boost freight efficiency and capacity of the metropolitan shared rail network, consistent with findings of the 2021 Auditor-General’s Report on Rail freight and Greater Sydney.
- 
- 8** Undertake strategic land use planning and corridor protection to enable efficient movement of both container and bulk freight in the future, including:
- 
- 8a** Expansions to Greater Sydney’s intermodal network such as the Mamre Road Precinct, and effective management of surrounding land uses and transport network.
- 
- 8b** Define shortlisted options to protect land for a future bulk freight receivable site in Western Sydney.
- 
- 8c** Undertake transport network planning to support the future second container port at Port Kembla, including road and rail linkages to major logistic hubs such as Western Parkland City.
- 
- 9** Review progress of cultural and sporting infrastructure strategies and investigate new investment opportunities to support the visitor economy.
-

Government position	Lead agency/ agencies	Timeline
Support. The NSW Fast Rail Strategy has not been released yet. Note that consultation and agreement with the Australian Government will need to be undertaken to progress Fast Rail.	Transport	Immediate Priority
Support in principle, subject to future funding decisions with the Australian Government.	Transport	Extended Program
Support.	Transport	Extended Program
Support in principle. The government is currently delivering the 16 Regional Cities Services Improvement Program which focuses on bus and on-demand services. Opportunities to extend the program are yet to be investigated. The NSW Government is investigating opportunities for improving active transport in Regional NSW.	Transport	Extended Program
Support – see responses to sub-recommendations below.		
Support.	Transport	Immediate Priority
Support.	Transport	Medium Term Need
Support in principle – see responses to sub-recommendations below.		
Support.	Transport	Immediate Priority
Support.	Transport & Planning and Environment	Immediate Priority
Support in principle. NSW Government understands the importance of identifying and preserving rail corridors subject to budget constraints, planning time frames, forecasts around expected use and the need to respect the interests of current landholders.	Transport	Immediate Priority
Support.	Transport	Immediate Priority
Support – see responses to sub-recommendations below.		
Support.	Transport	Immediate Priority
Support.	Transport	Immediate Priority
Support.	Transport	Extended Program
Support.	Enterprise, Investment and Trade	Immediate Priority

## 2. Service growing communities

### No. Recommendation

- 10** Fund and deliver enabling infrastructure to support approved or pending housing supply. The initial focus should be on:
- North West Growth Areas and South West Growth Areas in Sydney
  - Greater Macarthur including Wilton, and Greater Penrith to Eastern Creek
  - Greater Newcastle and Hunter Region new housing areas
  - regional areas affected by growth in Special Activation Precincts (SAPs) and Regional Job Precincts (RJPs), and areas identified in the forthcoming review by the Regional Housing Taskforce.
- 
- 11** Fund and deliver a prioritised active transport infrastructure program to support liveability and 15-minute neighbourhoods including a connected metropolitan cycling network for Greater Sydney and major regional centres.
- 
- 12** Establish a financially sustainable social housing and related infrastructure program.
- 
- 12a** Deliver a planned and preventative capital maintenance program to improve the quality and extend the life of homes, including properties used as domestic and family violence refuges and for transitional housing.
- 
- 12b** Deliver a housing program that delivers new and diverse social, affordable and market housing supply to meet demand in partnership with the community housing and private sectors.
- 
- 12c** Develop a sustainable long-term housing funding model that leverages Land and Housing Corporation (LAHC) land, private sector investment and National Housing Finance and Investment Corporation (NHFIC) financing through community housing partners.
- 
- 12d** Ensure strategic land use plans consider social and affordable housing developments in locations well connected to key infrastructure, services and amenities, and promote mixed tenure and diverse community outcomes.
- 
- 13** Deliver Aboriginal housing and enabling infrastructure programs in partnership with local communities, including:
- 
- 13a** Recommit to the Roads to Home program.
- 
- 13b** New supply and housing upgrades through current and future rounds of the Aboriginal Housing Office capital works program and Aboriginal Community Housing Investment Fund (ACHIF). Initial priorities in remote areas include Cobar, Broken Hill and Bourke.
- 
- 13c** Initiatives to enhance the Roads to Home Program and the ACHIF to meet basic infrastructure and health needs of remote Aboriginal communities including potable water, electricity, and internet connection.
-

Government position	Lead agency/ agencies	Timeline
Support. NSW Government approved a \$2.8 billion housing package in the 2022-23 Budget. This includes \$300 million for a third round of the Accelerated Infrastructure Fund to support the delivery of priority infrastructure projects to unlock housing supply in high growth areas of the State, including \$120 million for regional areas and \$180 million for Greater Sydney.	Planning and Environment, Transport and Regional NSW	Extended Program
Support. NSW Government supports investment in Active Transport including through the establishment of first Minister for Active Transport. The 2022-23 Budget included \$60 million for an active transport path connecting Greater Sydney from Sydney Opera House to Parramatta Park.	Planning and Environment & Transport	Extended Program
Support – see responses to sub-recommendations below.		
Support. The government allocated \$300 million in the 2022-23 Budget for maintenance and upgrades to more than 15,800 social housing properties, extending the life of social homes and ensuring tenants have safe accommodation.	Planning and Environment & Stronger Communities	Immediate Priority
Support. This recommendation aligns with the NSW Government’s strategic direction for social housing, as outlined in Future Directions for Social Housing. Through programs such as Communities Plus, the Community Housing Infrastructure Fund, and the Social and Affordable Housing Fund, the NSW Government is working in partnership with the private sector and Community Housing Providers to increase the supply of social and affordable housing.	Planning and Environment	Extended Program
Support.	Treasury & Planning and Environment	Medium Term Need
Support. This recommendation aligns with the Six Cities vision and Housing 2041 Action Plan.	Planning and Environment	Extended Program
Support – see responses to sub-recommendations below.		
NSW Government allocated \$149.8 million in the 2022-23 Budget for 200 new and 260 upgraded homes for First Nations people, as well as 4,400 climate resilience and energy saving upgrades, helping to reduce overcrowding and improve the quality of life for tenants. The NSW Government also approved \$32 million to deliver planning and infrastructure upgrades to First Nations communities through the Roads to Home program, supporting access to essential services. These recommendations are consistent with the 2022-24 NSW Implementation Plan on Closing the Gap.		
Support.	Planning and Environment	Extended Program
Support. NSW Government notes the importance of planning with Aboriginal communities is critical if links to vital services are to be integrated. Planning needs to consider the cultural connections for how communities live, interact for support and to thrive.	Planning and Environment	Extended Program
Support. The government allocated \$32 million in the 2022-23 Budget for Roads to Home to deliver planning and infrastructure upgrades to Aboriginal communities, and support access to essential services.	Planning and Environment	Extended Program

## No. Recommendation

- 14** Improve efficiency and service quality in the social infrastructure sectors through co-location, and divestment of legacy assets.
- 
- 14a** Pursue opportunities for divestment and adaptive reuse of assets and facilities that no longer meet modern service standards, including those constrained by heritage requirements. Divestment proceeds should be reinvested to deliver local infrastructure and services.
- 
- 14b** Explore co-location opportunities to improve customer service and efficiency at key decision points such as new investments and upgrades.
- 
- 15** Establish a prioritised program of investments for Justice and TAFE NSW infrastructure services, and identify options to complement initiatives outlined in the 20-year health and education sector infrastructure strategies.
- 
- 15a** Justice sector priorities include:
- increasing the operational capacity and capability of courthouses in key locations across regional NSW, including through digitisation and augmentation
  - providing modern, fit-for-purpose court facilities in the Sydney CBD
  - delivering additional correctional capacity within Greater Sydney to address existing and projected prison bed capacity issues
  - developing the investment case for additional court capacity in South West Sydney.
- 
- 15b** Progress planning and delivery of key investments consistent with the forthcoming 20-year TAFE NSW Infrastructure Strategy.
- 

## 3. Embed reliability and resilience

### No. Recommendation

- 16** Adopt a whole-of-system approach to enhance risk identification and assessment.
- 
- 16a** Confirm responsibilities and outcomes for a comprehensive whole-of-government resilience approach.
- 
- 16b** Integrate natural hazard risk data from across government/s and develop a statewide natural hazard risk model.
- 
- 16c** Adopt climate, pandemic and other risk scenarios within the standard suite of Common Planning Assumptions.
- 
- 16d** Conduct a statewide hazard risk assessment to identify the locations and infrastructure assets most at risk across NSW.
- 
- 16e** Develop a publicly accessible digital platform for natural hazard risk and infrastructure asset data.
-

Government position	Lead agency/ agencies	Timeline
Support – see responses to sub-recommendations below.		
Support.	Planning and Environment & Stronger Communities	Extended Program
Support. This recommendation aligns with the <i>NSW Government Asset Management Policy</i> . The NSW Government is supportive of a ‘precinct’ model which would apply to police stations and courts being side-by-side as well as other social services. This recommendation could also include initiatives that address ‘better access to essential services for vulnerable and disadvantaged communities’.	Health, Education & Stronger Communities	Extended Program
Support – see responses to sub-recommendations below.		
Support.	Stronger Communities	Extended Program
Support. Note that the government approved the TAFE NSW 20-year Infrastructure Strategy in May 2022.	TAFE NSW	Extended Program

Government position	Lead agency/ agencies	Timeline
Support in principle – see responses to sub-recommendations below.		
Support. NSW Government notes the importance of allowing for diversity within the whole of system approach is critical to support cultural, family, social and religious diversity.	Stronger Communities	Immediate Priority
Support. This recommendation aligns with ‘Priority 1 - Develop robust and trusted metrics and information on climate change’ of the NSW Adaptation Strategy.	Planning and Environment, Customer Service & Stronger Communities	Immediate Priority
Support.	Planning and Environment	Immediate Priority
Support. This recommendation aligns with ‘Priority 2 Complete climate change risk and opportunity assessments’ of the NSW Adaptation Strategy.	Planning and Environment & Stronger Communities	Immediate Priority
Support in principle. This recommendation aligns with ‘Priority 3 Develop and deliver adaptation action plans’ of the NSW Adaptation Strategy. The NSW Government will also consider natural hazards and risk assessment as part of the response to the Independent Flood Inquiry.	Planning and Environment, Customer Service & Stronger Communities	Medium Term Need

## No. Recommendation

- 17 Develop place-based resilience and infrastructure adaptation strategies that assess local risk and incorporate infrastructure and non-infrastructure solutions for vulnerable locations across NSW.
- 
- 18 Fund and deliver an investment program designed to improve the resilience of the State's most vulnerable and critical assets
- a. Adopt consistent and standard approaches to understand and measure hazard risk across the NSW asset portfolio.
  - b. For vulnerable assets, require service reliability and contingency planning under shock and stress scenarios.
  - c. Use asset management routines and reporting to prioritise investment in asset maintenance, upgrades, renewal and adaptation in each place and in each agency
  - d. Develop and apply digital approaches to collect and share asset data and asset interdependencies.
  - e. Incorporate 'build-back better' outcomes into asset management plans, investment policies and funding mechanisms.
- 
- 19 Establish a program of prioritised resilience infrastructure and accelerate project delivery.
- 19a Warragamba Dam wall raising.
- 
- 19b Local road improvements in the Hawkesbury Nepean Valley.
- 
- 19c Regional water security and resilience investments.
- 
- 19d Wianamatta South Creek integrated land use and water cycle management.
- 
- 20 Improve transport network response and recovery performance through service continuity planning, investment in evacuation and alternative routes, and infrastructure upgrades, guided by place based strategies.
- 
- 21 Propose new funding models for ongoing and reliable investment in resilience infrastructure and asset hardening.
-



Government position	Lead agency/ agencies	Timeline
Support. NSW Government recognises the need for place-based strategies that address the needs of local communities.	Planning and Environment, Regional NSW & Stronger Communities	Immediate Priority
Support.	Treasury, Infrastructure NSW & Planning and Environment	Immediate Priority
Support – see responses to sub-recommendations below.		
Support. NSW Government recognises the need for investment in building asset resilience, with the EIS and Independent Flood Inquiry noting the importance of the wall raising project for flood mitigation.  The project is in the final stages of assessment by DPE. Once assessments are completed, the NSW Government will make a final investment decision, noting that this project will require approval and joint funding from the Australian Government to proceed.	Planning and Environment	Immediate Priority
Support. This recommendation aligns with the Hawkesbury Nepean Flood Risk Management Strategy.	Transport	Immediate Priority
Support. This recommendation aligns with the NSW Government’s continued implementation of the Safe and Secure Water Program, the NSW Water Strategy, Regional Water Strategies and flood recovery.	Planning and Environment	Extended Program
Support. To facilitate Integrated Water Cycle Management, Sydney Water has been identified as the Regional Stormwater Authority for the initial Aerotropolis precincts and Mamre Road precincts within this region and is developing its business case to deliver on this initiative.	Planning and Environment	Extended Program
Support. The government supports investment in building asset resilience. As part of this, digital systems and connectivity should be upgraded to support real-time community alerts, network response and recovery. Investment in evacuation routes as a safety concern and alternative routes as an access concern are important elements to the network response and recovery.	Transport	Extended Program
Support. Note that embedding climate risk within decision-making policies and processes may mean new funding models are not ultimately required.	Treasury & Stronger Communities	Immediate Priority

## 4. Achieve an orderly and efficient transition to Net Zero

### No. Recommendation

- 22** Steadfast implementation of the NSW Electricity Infrastructure Roadmap in support of reliability and affordability
- Promote steady and reliable investment in new renewable and firming capacity and/or long duration storage to match demand and replace retiring plants.
  - Limit cost impacts on consumers and the risk exposure of the NSW Government by achieving the best possible long-term agreements (and forgoing proposals in periodic tenders that are unlikely to be efficient in the longer term).
  - Balance long-term investment certainty with the transitional nature of the scheme, with a view to returning to a market that can thrive.
  - Support a technology neutral approach to the energy transition through adoption of the most efficient low carbon innovations across the energy sector.
- 
- 23** De-risk the planned delivery of a large program of new transmission infrastructure
- Adopt best practice approaches to engaging transparently with local communities on electricity infrastructure corridors to secure social licence and minimise planning risk across the delivery of new transmission network infrastructure.
  - Mitigate planning and environmental risk in the development and delivery of transmission infrastructure by drawing on the practices of NSW Government agencies experienced in major infrastructure delivery.
  - Support capability and capacity building with private sector partners tasked with delivery of network infrastructure – both technical skills as well as program oversight practices.
- 
- 24** Uplift capability and capacity across government and industry partners to secure delivery of the infrastructure needed in the NSW Electricity Infrastructure Roadmap
- Raise the capacity of the NSW Government to manage the risks associated with the large-scale infrastructure required to implement the Roadmap.
  - Develop and foster industry level forums with delivery partners to canvass and mitigate delivery challenges, similar to the approach taken with the Construction Leadership Group.
  - Work with the Renewable Energy Sector Board to develop a Renewable Energy Sector Skills and Training Strategy that addresses key short-term and long-term skills and labour gaps in the market.
  - Secure Federal–State co-funding to establish a nationally recognised training program for target skills (for example, transmission infrastructure construction) and/or accreditations.
  - Coordinate the delivery of infrastructure across regions where specialist labour is anticipated to be in high demand.
- 
- 25** Share the benefits of the Electricity Infrastructure Roadmap with the regions hosting infrastructure and with communities in transition
- Build skills and economic development to allow maximum participation in opportunities for affected communities.
  - Pursue the re-use of existing infrastructure endowments in areas affected by the transition.
  - Provide opportunities for Aboriginal economic development from the transition to renewable energy, including hosting infrastructure on Aboriginal owned land.
  - Apply place-based approaches to identify and prioritise investment in strategic service and infrastructure priorities needed to support communities affected by the transition.
- 
- 26** Finalise a roadmap to meet emissions reduction targets in transport, beyond forecast fleet transition
- Determine the most feasible and cost efficient emissions reductions through private fleet turnover and transition.
  - Propose options for the NSW Government’s consideration on how to close the gap between trajectory and target, including further accelerating private fleet transition, increasing the availability and desirability of public transport, pursuing updated vehicle emissions standards in partnership with the Australian Government and providing incentives for managed and efficient traffic levels.
-

Government position	Lead agency/ agencies	Timeline
<p>Support. The recommendation aligns with the priorities of the NSW Government Net Zero Plan Stage 1 2020-2030. The recommendation also aligns with Electricity Infrastructure Roadmap, as well as the announcement of Transmission Acceleration Facility funding made in the 2022-23 Budget.</p>	<p>Treasury (Office of Energy and Climate Change)</p>	<p>Extended Program</p>
<p>Support. The NSW Electricity Infrastructure Roadmap and its supporting legislation, the <i>Electricity Infrastructure Investment Act 2020</i>, exists to deliver these objectives.</p> <p>EnergyCo is the statutory authority responsible for leading the delivery of Renewable Energy Zones (REZs) and some Priority Transmission Infrastructure Projects as part of the NSW Government’s Electricity Infrastructure Roadmap.</p> <p>NSW Government allocated \$850 million in the 2022-23 Budget to the Transmission Acceleration Facility to fund early development works for critical new transmission infrastructure.</p>	<p>Treasury (Energy Corporation) &amp; Infrastructure NSW</p>	<p>Medium Term Need</p>
<p>Support. The NSW Government manages energy policy development through various governance structures in the Office of Energy and Climate Change.</p> <p>For example, the Renewable Energy Sector Board is an advisory body representing unions, industry, and NSW electricity consumers. The Board has advised the Minister for Energy and the NSW Consumer Trustee on maximising use of goods, services, workforce and skills in delivery of renewable energy infrastructure.</p> <p>The government has appointed an Electricity Infrastructure Jobs Advocate to advise on matters such as workforce strategies, education and training in the NSW renewable energy sector.</p>	<p>Treasury (Office of Energy and Climate Change) &amp; Infrastructure NSW</p>	<p>Medium Term Need</p>
<p>Support. Note that the NSW Electricity Infrastructure Roadmap and its supporting legislation, the <i>Electricity Infrastructure Investment Act 2020</i>, exists to deliver these objectives through EnergyCo and there are provisions in the Act that exist for funding community and employment purposes in Renewable Energy Zones.</p> <p>The government supports the engagement of relevant agencies, including Aboriginal Affairs, and Aboriginal organisations to support the delivery of this recommendation.</p> <p>The NSW Government has issued First Nations Guidelines on consultation and negotiation with local Aboriginal communities for energy infrastructure delivered under the Electricity Infrastructure Roadmap. The Renewable Energy Sector Board Plan aligns with the First Nations Guidelines.</p>	<p>Treasury (Office of Energy and Climate Change), Regional NSW &amp; EnergyCo</p>	<p>Extended Program</p>
<p>Support. The government has committed to further set aside almost \$2 billion to begin the transition of more than 8,000 buses across NSW and invest in local jobs, subject to consideration of a final business case. The government allocated \$74 million in the 2022-23 Budget to develop a Final Business Case and to commence enabling works for the transition to a low-emission bus fleet. Funding models to deliver the transition of the NSW bus fleet will need to be considered. This recommendation also aligns with the Hydrogen Hubs initiative and the NSW Electric Vehicle Strategy.</p>	<p>Transport &amp; Treasury (Office of Energy and Climate Change)</p>	<p>Immediate Priority</p>

## No. Recommendation

- 27** Develop a roadmap for NSW public infrastructure to achieve Net Zero
- Identify cost-efficient, practical and implementable pathways to Net Zero for public infrastructure.
  - Adopt industry best practice approaches to emissions reporting and disclosures for infrastructure across government.
  - Account for Net Zero targets in government infrastructure-related service delivery and future investment decisions.
  - Boost adoption of low-emissions building materials and practices for public infrastructure using NSW Government procurement levers.
- 

## 5. Enhance long-term water security

### No. Recommendation

- 28** Increase the resilience of Greater Sydney's water supply through a full range of options, including better conservation and more diverse sources.
- 

- 28a** Increase investment in water conservation programs in partnership with public and private sectors.
- 

- 28b** Progress planning and development for rainfall-independent water supply projects, including desalination, recycled water and interconnections.
- 

- 28c** Adopt integrated water cycle management approaches across the development of all NSW Government-led precincts and major projects.
- 

- 28d** Incorporate stormwater harvesting and recycled water projects as standard practice of land use planning.
-

Government position	Lead agency/ agencies	Timeline
Support in principle. NSW Government notes that this class of infrastructure should be carefully integrated as there will be some time until roadmap activation.	Planning and Environment, Treasury (Office of Energy and Climate Change) & Infrastructure NSW	Immediate Priority

Government position	Lead agency/ agencies	Timeline
Support – see responses to sub-recommendations below.		

<p>Support. NSW Government is consulting with water utilities, local government, industry leaders and the wider water sector to develop a statewide Water Efficiency Framework. This will inform future investments and the Government will continue to deliver water efficiency projects and initiatives across both metropolitan and regional areas.</p> <p>The government is investing in various water efficiency and conservation initiatives such as the Washing Machine Replacement Trial, leakage detection and reduction programs, and the Smart Approved Water Mark program.</p>	Planning and Environment	Immediate Priority
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<p>Support. This is consistent with key actions in the Greater Sydney Water Strategy:</p> <ul style="list-style-type: none"> <li>• making the best use of assets we have by optimising the use of the Sydney Desalination Plant (action 2.2)</li> <li>• planning for new infrastructure with a focus on rainfall-independent supply (action 2.3)</li> </ul> <p>It is also a key focus area identified in Regional Water Strategies for major regional centres, including for Tamworth, and central NSW centres including Orange and Bathurst.</p>	Planning and Environment	Immediate Priority
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<p>Support. Integrating water cycle and land use planning is a key action in the Greater Sydney Water Strategy (action 3.1), and underpins the Lower Hunter Water Security Plan and Regional Water Strategies.</p> <p>The Safe and Secure Water program also provides funding to Councils to undertake Integrated Water Cycle Management planning for their communities. The Government is developing a state-wide Integrated Water Cycle Management framework.</p>	Planning and Environment	Immediate Priority
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<p>Support. The Greater Sydney Water Strategy recognises that improved management and greater use of stormwater and recycled water will diversify water sources for improved security, contribute to cooling and greening the city, improve water quality and waterway health and support design principles.</p> <p>This was released on 29 August 2022 and notes the importance of the Warragamba supply, and provides a framework for future water security infrastructure planning.</p> <p>The NSW Government is developing, and will consult on, a policy framework for stormwater harvesting.</p>	Planning and Environment	Immediate Priority
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## No. Recommendation

- 29 Develop a roadmap for the adoption of purified recycled drinking water, including measures to build community support and demonstrate the efficacy of the technology.
- 
- 30 Improve water security and quality in regional NSW  
Complete the suite of Regional Water Strategies and progress investigations and planning for new water infrastructure identified within each catchment.
- 
- 31 Investigate and propose alternatives to the delivery of major dam projects in the Peel, Lachlan and Border Rivers catchments.
- 
- 32 Bolster long-term funding and capability to support financial sustainability of Local Water Utilities and ensure minimum service levels are achieved.
- 32a Review DPE's regulatory framework in partnership with the local water utility sector.
- 
- 32b Establish a specific and ongoing program to improve asset management methods, routines and skills in local water utilities.
- 
- 32c Investigate extension of the Safe and Secure Water Program to reduce public health and water security risks to an acceptable level.
-

Government position	Lead agency/ agencies	Timeline
<p>Support in principle. There are no plans to introduce purified recycled water into drinking water supply at this time. Any future decision to include purified recycled water would be subject to community consultation and require stringent Government approvals.</p> <p>The Greater Sydney Water Strategy highlights the use of recycled water for greening and cooling the city, especially in the western growth regions.</p>	Planning and Environment	Immediate Priority
<p>Support. NSW Government is well progressed on the finalisation of all 12 Regional Water Strategies across NSW. One strategy is finalised and being implemented, 8 final strategies will be published by December 2022 and 3 remaining strategies will finish second round consultation by the end of 2022.</p> <p>The Strategies identify a range of policy, operational and infrastructure options to address the water challenges and needs specific to each region. Short-listed infrastructure options, when initiated by relevant triggers (e.g. population growth) or staging considerations, will be subject to comprehensive assessment through feasibility studies and Business Cases, in line with infrastructure gateway processes.</p>	Planning and Environment	Immediate Priority
<p>Support in principle. Noting that options analysis ordinarily forms part of all Government business cases.</p> <p><b>Border Rivers catchment</b> The proposed Mole River Dam project will not proceed. The Strategic Business Case for the Mole River Dam project investigated both infrastructure and non-infrastructure options. It found that while technically feasible, the proposed project was not viable due to the cost as well as the potential environmental and cultural heritage impacts.</p> <p><b>Namoi Catchment (including Peel valley)</b> The Dungowan Dam and Pipeline Project Final Business Case was completed in January 2022, when it was submitted to Infrastructure NSW and Infrastructure Australia for their review processes. The Final Business Case involved a rigorous options identification and shortlisting process, and considered all the 56 long-listed options from the draft Namoi Regional Water Strategy.</p> <p><b>Lachlan catchment</b> The Final Business Case for the Wyangala Dam Wall Raising project is currently being developed. It is using the same process as used for the Dungowan Dam and Pipeline Project to identify the preferred option.</p>	Planning and Environment & Regional NSW	Immediate Priority
Support – see responses to sub-recommendations below.		
<p>Support. From 1 July 2022, a new Regulatory and assurance framework for local water utilities applies to local water utilities in regional NSW. The framework was designed in collaboration with the sector through the Town Water Risk Reduction Program.</p>	Planning and Environment	Immediate Priority
<p>Support. This recommendation aligns with the Town Water Risk Reduction Program.</p>	Planning and Environment	Immediate Priority
<p>Support. The current program will continue to be delivered to minimise water security risks to regional NSW.</p> <p>As part of the 2022-23 NSW Budget, the NSW Government invested a further \$90 million in the Safe and Secure Water Program. This funding is being provided to allow Local Water Utilities to develop projects to address the most extreme risks to town water security, water quality and the environment to a tender ready stage.</p>	Planning and Environment & Regional NSW	Immediate Priority

## No. Recommendation

- 32d** Investigate alternative funding arrangements, including a needs-based community service obligation (CSO) funding model, to ensure all communities have access to water that meets quality standards.
- 
- 32e** Establish a sustainable market for training in water operations to build capability and skills.
- 

## 6. Protect our natural endowments

### No. Recommendation

- 33** Improve sustainability throughout the infrastructure lifecycle
- Adopt sustainability standards for major infrastructure projects developed and/or delivered by the NSW Government.
  - Support industry development in sustainable construction materials and practice through project procurement.
- 
- 34** Expedite development of a NSW Biodiversity Strategy and Biodiversity Offset Bank to strategically manage NSW biodiversity assets and improve the offset system.
- 
- 35** Promote the development of a blue-green infrastructure network across NSW
- Develop blue-green infrastructure strategies as a fundamental part of place-based initiatives.
  - Incorporate blue-green infrastructure as an integral part of the delivery of linear and vertical infrastructure, and convert unused transport corridors to blue-green infrastructure where possible.
- 
- 36** Identify and plan for future waste infrastructure needs as part of the Greater Sydney Region Plan and Regional Plans.
- 

## 7. Harness the power of data and digital technology

### No. Recommendation

- 37** Accelerate investment in digital connectivity in State sponsored precincts.
- 
- 37a** Adopt a targeted and sequenced State digital connectivity enablement investment program commencing with high-priority precincts:
- complete the shared infrastructure model trials in Western Sydney to support greater and faster roll-out of 5G connectivity
  - deliver globally competitive digital connectivity plan for the Sydney Innovation and Technology precinct (Tech Central)
  - deliver enhanced connectivity in regional SAPs and along major transport corridors.
- 
- 37b** Explore planning and regulatory options that enable greater shared infrastructure arrangements within precincts and major transport projects and corridors.
-



Government position	Lead agency/ agencies	Timeline
Support. Phase 1 of the Town Water Risk Reduction Program includes analysis of the financial needs and capacity of diverse local water utilities to meet their service obligations in their local circumstances, to inform future policies. Phase 2 of the Program will include investigating options for alternative funding arrangements of Local Water utilities.	Planning and Environment	Immediate Priority
Support. Through the Town Water Risk Reduction Program, a Draft Skills Action Plan has been developed jointly between water and training sectors to address demand and supply side opportunities to attract and retain accredited water operators, especially in regional NSW. The second Phase of the Program will include implementing the Skills and Training Action Plan.	Planning and Environment & Education	Immediate Priority

Government position	Lead agency/ agencies	Timeline
Support. NSW Government recognises the importance of embedding sustainability standards and outcomes in infrastructure projects. Infrastructure NSW is developing principles for driving resource efficiency of emissions reductions in large infrastructure projects through refined procurement processes.	Planning and Environment & Infrastructure NSW	Immediate Priority
Support in principle. The government allocated \$106.7 million over 3 years in the 2022-23 Budget to establish the Biodiversity Credits Supply Fund. This Fund will increase the supply of biodiversity credits required for critical projects such as renewable energy zones, regional infrastructure initiatives and the expansion of housing and manufacturing.	Planning and Environment	Immediate Priority
Support. This will include identifying best practice blue-green infrastructure design and delivery processes, to ensure consistent consideration across infrastructure projects.	Planning and Environment & Transport	Extended Program
Support. The Department of Planning and Environment's <i>NSW Waste and Sustainable Materials Strategy</i> provides a framework to guide investment that supports a pipelines of waste infrastructure. This recommendation aligns with the NSW Government's Circular Economy Policy Statement.	Planning and Environment & Transport	Immediate Priority

Government position	Lead agency/ agencies	Timeline
Support – see responses to sub-recommendations below.		
Support. NSW Government supports improvements in digital connectivity infrastructure in State sponsored precincts.	Customer Service, Transport and Regional NSW	Immediate Priority
Support.	Customer Service & Transport	Immediate Priority

## No. Recommendation

- 37c** Ensure project business cases consider investment requirements to support delivery of the Whole of Government Connectivity Strategy.
- 
- 37d** Facilitate private participation and competition through new delivery and commercial models in State-led connectivity initiatives.
- 
- 38** Adopt the use of digital technology in infrastructure planning, delivery and operation.
- 
- 38a** Develop a roadmap for widespread use of digital planning and engineering tools such as spatial digital twins and Building Information Modelling (BIM) throughout the infrastructure lifecycle, aligned with the LiveNSW Program and Digital Built NSW Program.
- 
- 38b** Drive efficiencies through the integration of land use planning-related systems, platforms and instruments into the Spatial Digital Twin and LiveNSW Programs.
- 
- 38c** Build capability across government asset managers to accelerate adoption of digital engineering tools.
- 
- 39** Prioritise and invest in technology upgrades to improve efficiency of passenger and freight transport networks as a core part of rebalancing and diversifying the infrastructure program.
- 
- 39a** Partner with the Australian Government's National Freight Data Hub to standardise freight data and investigate the merits of the Freight Community System in enhancing freight supply chain productivity and efficiency.
- 
- 39b** Accelerate Smart Motorways and other Intelligent Transport Systems (ITS) applications on motorways and major roads in metropolitan and regional centres.
- 
- 39c** Ensure interoperability of existing and new data repositories and platforms to enable a coordinated approach that supports evidence-based and customer-centred government service planning and delivery.
- 
- 40** Prioritise digital service delivery over building new physical infrastructure where the goals of the initiative can be feasibly achieved in that manner.
- 
- 40a** Review and update the Business Case Guidelines, ICT and Infrastructure Investor Assurance Frameworks such that infrastructure business cases are required to include 'if-not-why-not' options to use digital technologies where feasible as an alternative to new physical infrastructure capacity, either through digital service provision or through augmentation of existing physical assets.
- 
- 40b** Ensure appropriate digital infrastructure and systems (including digital identity) are reused and leveraged to support delivery of critical government services.
- 
- 41** Deliver an investment program to digitise government services and infrastructure.
- 
- 41a** Pursue immediate opportunities for digitisation of critical frontline systems including Virtual Care, Clinical Systems, Telehealth, Remote Learning and Digital Courts.
- 
- 41b** Establish a prioritised investment program and a long-term, sustainable funding model for digital and ICT investment that could include smart infrastructure, digital platforms and cyber security.
- 
- 42** Uplift cyber security capabilities and practices in infrastructure planning, delivery and operation.
- 
- 42a** Continue to invest in cyber security capabilities and practices to effectively mitigate the risks associated with increasing digitisation of infrastructure and service delivery.
-

Government position	Lead agency/ agencies	Timeline
Support. NSW Government supports enhanced collaboration across agencies to implement NSW Telco Authority's Whole of Government Connectivity Strategy.	Multiple	Extended Program
Support.	Customer Service	Extended Program
Support – see responses to sub-recommendations below.		
Support. NSW Government will consider appropriate resourcing for the development of a roadmap that supports the adoption of digital systems and technologies across the infrastructure lifecycle.	Customer Service & Transport	Immediate Priority
Support. NSW Government allocated \$31.3 million in the 2022-23 Budget for the Spatial Digital Twin.	Customer Service	Immediate Priority
Support.	Customer Service & Infrastructure NSW	Immediate Priority
Support – see responses to sub-recommendations below.		
Support. NSW Government welcomes the opportunity to work towards nationally consistent standards in partnership with the Australian Government.	Transport	Immediate Priority
Support. NSW Government recognises ITS applications will contribute to key outcomes in Future Transport 2056 relating to successful places, a strong economy and sustainability.	Transport	Immediate Priority
Support.	Customer Service & Transport	Extended Program
Support – see responses to sub-recommendations below.		
Support. The government will review and update business case guidelines and frameworks to identify projects with the best long-term benefits.	Treasury & Infrastructure NSW	Immediate Priority
Support.	Customer Service	Extended Program
Support – see responses to sub-recommendations below.		
Support. NSW Government supports digitisation of infrastructure and services consistent with the outcomes pursued by current initiatives under the Digital Restart Fund.	Multiple	Immediate Priority
Support. NSW Government notes that the investment program and funding model could extend to include consideration for maintenance of data and technology assets in long-term funding models.	Customer Service	Immediate Priority
Support – see responses to sub-recommendations below.		
Support.	Multiple	Extended Program

## No. Recommendation

- 42b** Agencies should ensure ‘Secure by Design’ principles are adhered to in technology-enabled investments and monitored through updated ICT and Infrastructure Assurance Frameworks.
- 
- 42c** Agencies should target appropriate maturity and funding levels to increase cyber security capability, informed by reporting on and analysis of compliance with the NSW Cyber Security Policy.
- 

## 8. Integrate infrastructure, land use and service planning

### No. Recommendation

- 43** Optimise the use of industrial and urban services lands through integrated strategic land use planning with infrastructure investment
- Consider long-term requirements to maintain an efficient statewide supply chain network.
  - Review the efficacy of planning constraints placed upon the use of industrial and urban services lands, recreational facilities and associated infrastructure.
- 
- 44** Deliver more housing, jobs, amenities and services in locations where there is spare capacity in existing and planned infrastructure.
- 
- 45** Preserve and strategically manage protected corridors for future use
- Ensure corridor preservation needs for NSW are considered in the sequencing and prioritisation of infrastructure delivery and land use decisions.
  - Effectively manage preserved corridors with appropriate and staged ‘meanwhile use’.
  - Manage lands adjacent to preserved corridors to avoid encroachment of incompatible use through strategic and statutory planning.
- 
- 46** Increase private sector participation, co-design and co-investment in State-sponsored precinct delivery.
- Update the Precincts Strategy: Practitioner’s Guide with input from industry to ensure consistent practice across NSW Government agencies.
  - Develop a flexible outcome and output-based approach that can deliver key government growth, economic, environmental and social objectives.
  - Engage early with the market to increase private sector participation in and the deliverability of government-led precincts.
- 
- 47** Actively reflect history, culture and heritage in places and infrastructure
- Reflect Aboriginal people, culture, history and Country in the design of infrastructure and precincts to recognise and celebrate the living history of Aboriginal communities.
  - Reinforce civic purpose wherever possible in new assets, including local infrastructure, by recognising the ‘best of the best’ and providing advice.
  - Use the expertise of NSW arts, culture and creative institutions to support infrastructure and its use as civic assets.
  - Capitalise on digital forms to enliven buildings and structures with civic identity.
-

Government position	Lead agency/ agencies	Timeline
Support.	Customer Service & Infrastructure NSW	Immediate Priority
Support.	Multiple / Customer Service	Immediate Priority

Government position	Lead agency/ agencies	Timeline
Support. NSW Government will undertake further work to understand the best approach to land use, including reviewing the outcomes from the Planning Reform Action Plan.	Planning and Environment & Transport	Extended Program
Support. NSW Government has approved a \$2.8 billion housing package in the 2022-23 Budget which will help to unlock housing supply.	Planning and Environment & Transport	Immediate Priority
Support. The government will explore ways to preserve and strategically manage protected corridors for future use. Each specific corridor decision is subject to any required funding being provided.	Planning and Environment & Transport	Extended Program
Support. NSW Government supports appropriate models of shared private sector investment in the delivery of State sponsored precincts.	Multiple including Planning and Environment & Infrastructure NSW	Immediate Priority
Support. This recommendation aligns with existing policies and strategies, including Create NSW's Cultural Infrastructure Plan and the NSW Government Architect's Connecting with Country Framework. The government has committed to reforming the <i>Heritage Act 1977</i> and supporting systems, which will help the Government achieve this recommendation.	Planning and Environment & Transport	Extended Program

## 9. Design the investment program to endure

### No. Recommendation

- 48** Reconsider the timing and sequence of future megaprojects to diversify the State's investment program and mitigate delivery risks
- Reconsider the urgency, need and timing of megaprojects in the State's forward pipeline and focus on those with the greatest benefits and need.
  - In the foreseeable future, sequence megaprojects to ensure their best chance of success, ideally once existing projects are in stable delivery.
  - In the sequencing exercise, reconsider the timing and need for Beaches Link, the M6 Stage 2, Parramatta Light Rail Stage 2, the central tunnel for the Great Western Highway - Katoomba to Lithgow upgrade, further stages of the Sydney Metro or rail projects (Sydney CBD to Zetland, Western Sydney International Airport to Leppington or Campbelltown) and regional major dam projects (New Dungowan, Wyangala).
  - Refocus the investment program by bringing forward programs of smaller to mid-sized projects identified by portfolio agencies.
  - Resolutely apply procurement practices for large complex projects that de-risk projects, reduce the costs of participation for bidders and increase participation by tier 2 and tier 3 contractors and new entrants.
- 
- 49** Make asset maintenance and augmentation a high priority for the future infrastructure program
- Implement a whole-of-government approach to asset maintenance and renewals.
  - Foster the adoption of technology-driven, predictive maintenance methods.
- 
- 50** Adopt data-enabled asset management and investment decision-making across the NSW Government, including:
- Continued focus on delivering cross-government asset data structures and asset information platforms.
  - Centralised collection of essential asset data into a register, including performance, location, and condition.
  - Uplift of data capabilities to drive technology solutions for smarter, effective asset management.
- 
- 51** Publish a pipeline of major asset maintenance, upgrade and renewal opportunities as part of the NSW Major Projects Pipeline, and promote the use of innovative, outcome-based asset management service contracts.
- 
- 52** Partner with the Australian Government to achieve sustainable co-funding arrangements
- Request Australian Government compliance with Timely Information on Infrastructure Projects on co-funded infrastructure projects.
  - Support procurement practices that suit large, complex projects, including early engagement on risks, scope and design solutions, and open book approaches.
- 
- 53** Develop a roadmap for long-term reform of user contributions across the road and public transport networks.
- 
- 54** Utilise all viable commercial models and approaches to enable additional opportunities for private sector investment in infrastructure, including:
- Leases or sales of commercial brownfield assets to traditional infrastructure investors.
  - Complementary development of assets that deliver additional services and benefit to offset the public infrastructure costs.
  - Development of infrastructure with direct operating cost benefits to operators.
  - Packages of private investment for public asset augmentation and maintenance.
  - Development of infrastructure assets in a manner suitable for PPP procurement.
  - Use of emerging data assets from the increasing digitisation of infrastructure to underpin new commercial delivery models.
-

Government position	Lead agency/ agencies	Timeline
Support in principle. The NSW Government considers the timing and sequencing of all megaprojects on an ongoing basis with respect to economic and market conditions, fiscal constraints, risks to benefits realisation and other material factors.	Infrastructure NSW & Treasury	Immediate Priority
Support. These actions will be considered as part of a review of asset maintenance within the context of the Asset Management policy for the NSW Public Sector.	Infrastructure NSW & Treasury	Immediate Priority
Support.	Customer Service, Infrastructure NSW & NSW Treasury	Immediate Priority
Support.	Infrastructure NSW	Immediate Priority
Support.	Treasury & Infrastructure NSW	Immediate Priority
Support in principle. Further work needs to be conducted regarding the long-term reform of user contributions across the road and public transport networks.	Treasury & Transport	Extended Program
Support. NSW Government will explore opportunities for private sector involvement in infrastructure investment, while taking steps to ensure that commercial agreements are directed towards the economic and social benefits of networked infrastructure.	Treasury & Infrastructure NSW	Immediate Priority

## No. Recommendation

- 55 Update investment planning and decision-making frameworks to improve options identification, scenario analysis and test deliverability of projects.
- In the next round of the refresh of business case guidelines, the following should be considered:
- Formally incorporate scenario planning into investment decision-making that extends beyond the standard sensitivity analysis currently used in business case development.
  - Explore the use of Real Options Analysis (ROA) to support greater flexibility to deal with uncertainty, such as high impact and low frequency events.
  - Strengthen upfront thinking, sound problem definition and benefits realisation testing to ensure a range of compelling investment options that lead to intended benefits.
  - Require early engagement with industry on commercial viability and program deliverability (including market sounding) to inform options.
  - Ensure alignment of investment proposals with government strategies and outcomes in a measurable and evidence-based manner.
  - Review the methodology for estimating the appropriate discount rate to reflect current conditions.
  - Periodically review assumptions underpinning infrastructure planning and delivery, including accounting for uncertainties and disruptive events.
- 
- 56 Support innovation in construction through productivity initiatives jointly sponsored with industry
- Develop agreed methods to encourage innovation in project procurement and delivery.
  - Provide seed and pilot funding to drive forward infrastructure-related digital transformation.
  - Partner with industry and academia to pilot new technologies, such as through Cooperative Research Centres (CRCs).
- 
- 57 Develop new skills and capabilities required for infrastructure projects, and widen opportunities for communities to participate through targeted actions in training and employment initiatives
- Enhance training and development for infrastructure delivery agencies, particularly in the areas of commercial skills for large projects (bidding, pricing, contract administration, procurement, evaluation) and Project, Program and Portfolio leadership.
  - Deliver joint government and industry certification and training for staff engaged in large, complex project development and delivery.
  - Work with the construction industry to co-design training for projects, from entry level to project management.
  - Improve regional NSW local council capability in business case development, strategic planning, project management and assurance and asset management.
  - Where possible, provide information on the pipeline of infrastructure work for the regions so that local communities and businesses can better prepare for employment and business opportunities.
  - Work with local Aboriginal communities and businesses to support employment opportunities and business growth by:
    - forming partnerships between Aboriginal-led training organisations, TAFE NSW, infrastructure delivery agencies, businesses and local communities.
    - improving agencies' data collection with regard to the application of the Aboriginal Procurement Policy, including through cross-agency knowledge sharing.
-



Government position	Lead agency/ agencies	Timeline
Support. NSW Government will review and reform options analysis, business case analysis and discount rates to ensure projects identified produce the best long-term benefits.	Treasury & Infrastructure NSW	Immediate Priority
Support.	Infrastructure NSW	Immediate Priority
Support. The NSW Government allocated \$772.5 million in the 2022-23 Budget to deliver economic growth, social development, wellbeing, and community amenity across regional NSW, through locally based infrastructure projects and vital job creating projects for families and businesses across regional NSW.	Infrastructure NSW	Extended Program





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