
Transport for NSW

Infrastructure and Place

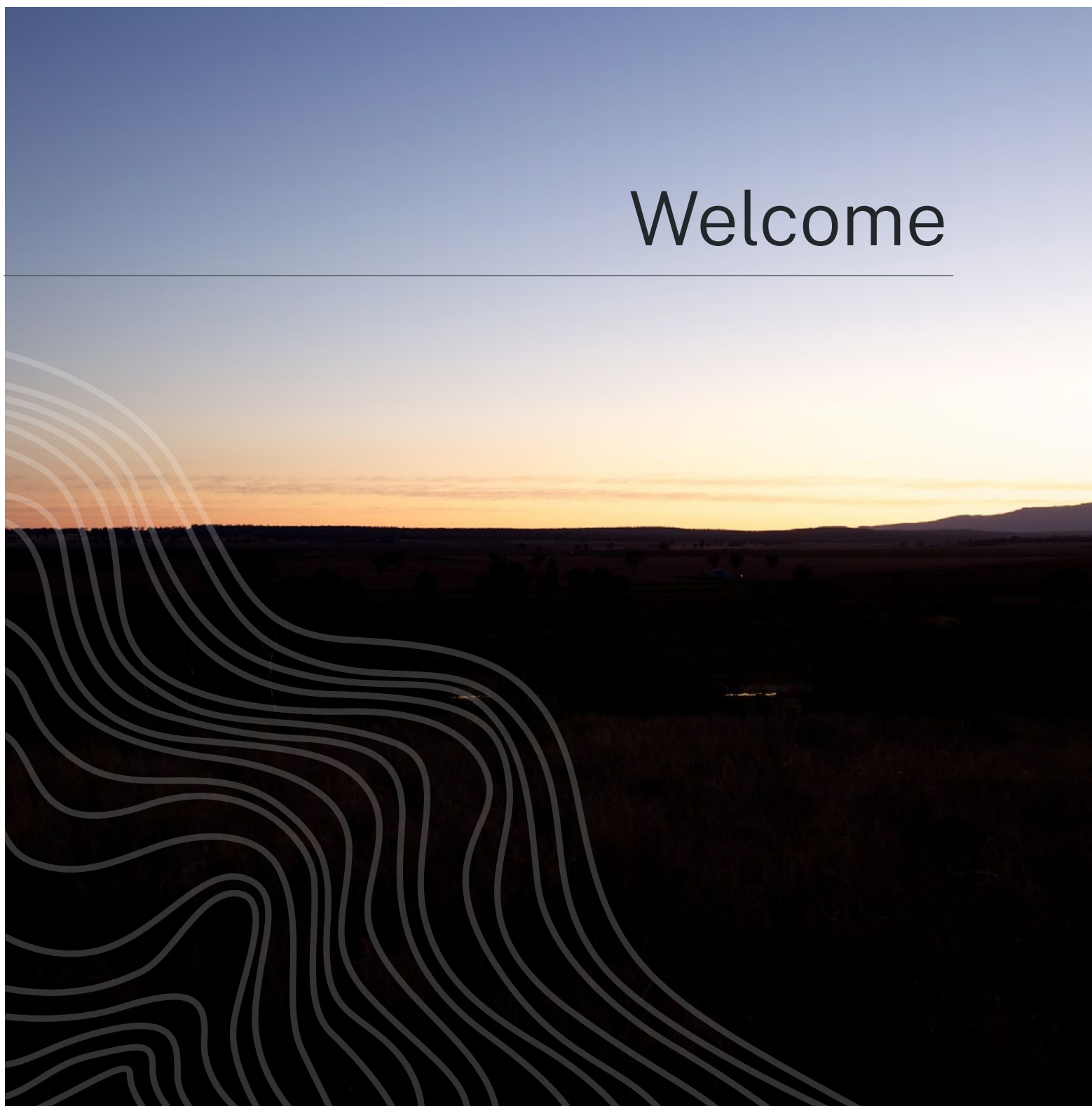
2022 Plan

March 2022

transport.nsw.gov.au



Welcome



Message from Camilla Drover

Deputy Secretary, Infrastructure and Place

I am pleased to present Infrastructure and Place's 2022 Plan. As Transport for NSW's development and delivery division for capital projects other than Sydney Metro, we play a pivotal role in delivering the largest transport infrastructure program in Australia.

The last few years were certainly challenging, given the disruptions from COVID-19, bushfires, droughts and floods. In spite of this, we continued to develop and deliver infrastructure and place-making projects for our customer division clients that are valued by customers and the community. You will see some of our achievements delivered with industry highlighted in this plan that have added great value to the people of NSW.

This plan highlights the scale of the investment in transport infrastructure. We are a multi-modal development and delivery division, with a capital budget exceeding \$8 billion this financial year, encompassing around 500 projects with more than 20 of those classified as mega-projects.

We have a strong pipeline of work, with many large scale projects coming to market over the next five years. Delivery of this pipeline contributes to the achievement of Transport's outcomes as described in the 10 Year Blueprint and NSW Budget:

- Connecting our customers' whole lives
- Successful places for communities
- Sustainable transport systems and solutions that enable economic activity
- Thriving people doing meaningful work

A large part of our success in driving TfNSW outcomes is in the strength of our team and our deeply valued partnership with industry. In this market we need to work together in ways that are increasingly collaborative, efficient and innovative. We need to see each other as partners working towards one goal. The purpose of this plan is to give our team, industry and the community visibility and transparency into what Infrastructure and Place does, who we are, the strategic settings that guide us, and our project pipeline.

We gladly present this plan, and look forward to another successful year developing and delivering transport infrastructure and places that enrich the lives of the people of NSW.



Camilla Drover

A stylized handwritten signature in blue ink, reading 'Camilla Drover'.

Transport pays respect to Elders past and present, and recognises and celebrates the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of NSW.



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Our vision

A person with long hair is seen from behind, looking out from a ferry or boat. The Sydney Opera House is visible in the distance across the water, with the sun low on the horizon creating a warm, golden glow. The ferry's railing is in the foreground.

1

We are making NSW a better place to live, work and visit by connecting people and communities and making journeys safer, easier and more reliable.



\$108.5 billion
infrastructure
investment

The scale of the NSW capital program

Over the coming four years the NSW Government has a significant capital program, investing \$108.5 billion into infrastructure across the State. Of this, the Transport cluster has 66 per cent of the program and Infrastructure and Place is responsible for the development and delivery of the majority of that transport infrastructure, including the heavy and light rail related projects, roads and motorways, active transport links and place-making projects across NSW.



\$71.5 billion
delivering
transport
projects

Integrated transport networks, including road, train, metro, bus, ferry, light rail, cycling and walking, play a critical role in economic growth and wellbeing. Transport infrastructure helps to connect us to each other and to the great places across NSW.

Future Transport 2056

Future Transport 2056 is

Transport's long-term vision as an enabler of economic activity. It lays out the strategy to connect lives through mobility solutions that support end-to-end journeys. It seeks to enable great places with safe and sustainable transport solutions, and will power the NSW economy with efficient freight and passenger connections and networks.

The NSW Government is currently updating this strategy and 'Future Transport – Towards 2061' will be published this year.

Our 2056 Strategy is focused on six principles

Customer focused

Successful places

A strong economy

Safety and performance

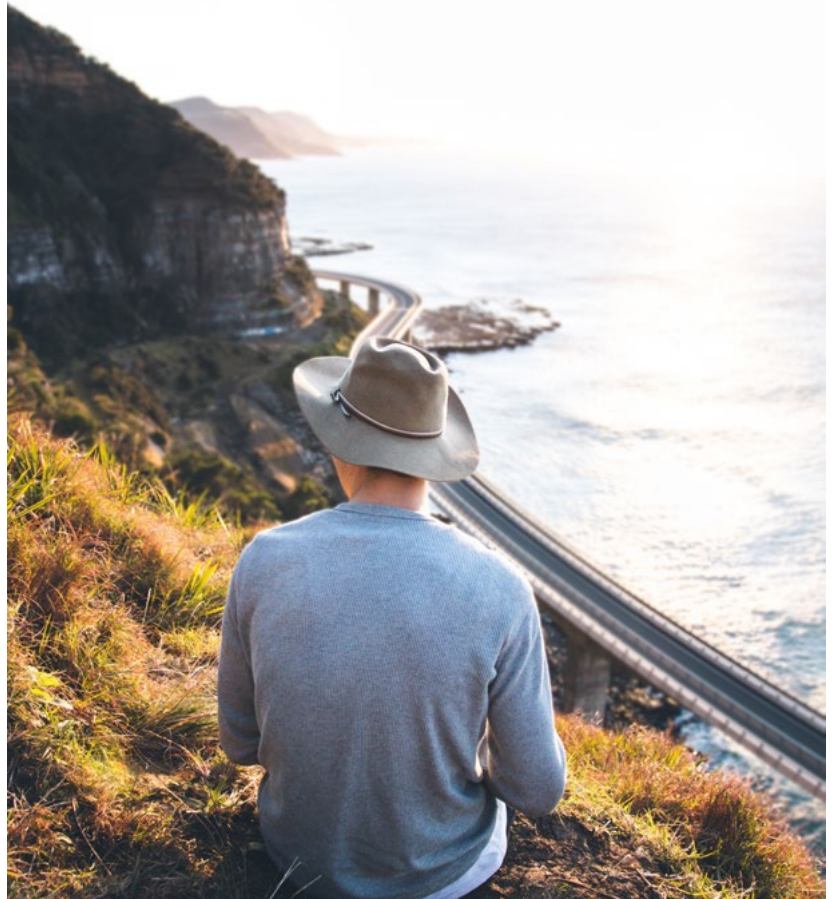
Accessible services

Sustainability



10 Year Blueprint

Our [10 Year Blueprint](#) describes the Transport outcomes, ambitions and strategic priorities for the next 10 years. It is built on the four primary outcomes shown below, which describe the highest order value Transport creates for customers, communities, the people of NSW and the people of Transport. The 10 Year Blueprint directly links into Future Transport 2056.



Our purpose: Making NSW a better place to live, work and visit

Strategic priorities

Areas that need special focus to deliver our outcomes and ambitions

- Working in partnership
- Data-driven decision making
- Technology and innovation
- Place-based integrated service design
- Enabling the mobility ecosystem
- Financial sustainability
- Evolution of work

10 year ambitions

What we want to achieve by 2029

For customers

People love public transport and active transport: They are the preferred choice in Greater Sydney, and a real option in the regions

For communities

Transport makes communities across NSW great places to live, work, visit

For the people of NSW

Transport-led economic growth

For the people of Transport

Transport is the best place to work in Australia

Primary outcomes

The end result of our efforts

Connecting with our customers

Successful places

Transport systems and solutions that enable economic activity

Thriving people doing meaningful work

Our key focus areas, by outcome

These outcomes focus our efforts and guide our priorities, as well as the measures we put in place to gauge our success. They describe how we are focusing our efforts to ensure we are setting the right trajectory to impact on our outcomes.



Connecting our customers' whole lives

Making transport safe for all:

Develop innovative data, technology, infrastructure, regulatory and policy solutions to become the safest transport network in the world

Understanding our customers:

Use technology and data to build deeper insights about our customers' journeys and their diverse needs and expectations

Managing demand:

Proactively manage how and when people and goods are using the transport network

Providing end-to-end journey solutions:

Enable effective movement across the network through integrated options for people and goods

Delivering and transforming customer experience:

Delight customers at every touchpoint through excellent service and technology, every day

Introducing future mobility solutions:

Adopt new mobility solutions and vehicles

Successful places

Contributing to place-making:

Create transport solutions that enhance the character and identity of local communities and enable access for all

Towards net zero emissions:

Accelerate switching to alternate sources of energy and adoption of zero emissions vehicles

Protecting the environment:

Place the environment at the forefront of design, service delivery and operations

Strengthening regional connections:

Create new options for connecting regional communities and effective movement of goods

Increasing network resilience:

Strengthen our network and assets to minimise disruptions from extreme events

Enabling active lives:

Make active modes a real option for our customers and communities

Engaging respectfully with communities to deliver transport solutions:

Consult, listen to and respect all communities, including Aboriginal communities, where we and our contractors work



Strong economy and quality of life

Delivering and planning future assets:

Deliver portfolio of projects and strengthen long range planning processes to maximise available assets and funding

Managing our assets and resources effectively:

Introduce new approaches to gain more from assets and resources across the whole lifecycle

Moving goods productively and sustainably:

Use technology and data to improve supply chains and local area distribution

Smarter financial decision-making:

Reshape how investment is prioritised and drive effective procurement and commercial outcomes

Modernising mobility legislation:

Create the best regulatory environment to facilitate growth and innovation in the transport sector

Opening up economic opportunity through transport solutions:

Connect communities and businesses to markets, employment and investment

Thriving people doing meaningful work

Our people feel safe, included and respected:

Embed consistent, safe and inclusive practices across Transport

Evolving how, when and where we work:

Equip our people with the tools they need to do their job and build people and capability for now and the future

Working smarter:

Establish ways of working that promote collaboration, agility, efficiency, diversity of perspectives, and empowerment

Growing capabilities and careers:

Foster the right plans, career pathways and learning opportunities for our people

Creating great people experience:

Treat everyone with a sense of fairness and respect, so that they feel safe to speak up and are engaged in the work they do

Building our workforce diversity:

Remove barriers and create opportunities to help people reach their full potential

Living our values

At Infrastructure and Place we strive to live our values every day, and those values translate directly into real world outcomes through our projects.



Customer focus



Collaboration



Integrity



Safety



Solutions



Industry capability programs

Albion Park Rail bypass project

The \$630 million extension of the M1 Princes Motorway between Yallah and Oak Flats to bypass Albion Park Rail will complete the ‘missing link’ for a high standard road between Sydney and Bomaderry, improving safety and travel time.

Transport recognises the critical skills shortages in the construction and infrastructure sectors, and is committed to supporting industry to build the skills and capability to meet the unprecedented investment pipeline, as well as address areas of disadvantage experienced within our communities.

During the construction of the bypass Fulton Hogan, the principal contractor, committed to working with Transport to develop workforce skills and deliver social outcomes for disadvantaged groups in the community that meet targets aligned with the Industry Skills Legacy Program.



These included the following key focus areas:

- Workforce skills development
- Increasing Aboriginal Participation
- Refugees and asylum seekers
- Local employment opportunities
- Youth employment
- Increasing the participation of women in construction
- Upskilling long-term unemployed
- Apprenticeship targets

Targets	State targets	Project average
Local employment	-	72%^
Learning workers	20%	24%^
Apprentices	20%	28.5%^
Aboriginal workers	4%	8.5%^
Women in non-traditional roles	2%	4.3%^
Young people (under 25)	8%	12%^
Long-term unemployed and refugees	3%	2.4%

^ Project average has exceeded the State target

The project was a great success which opened early, largely due to the collaborative relationship between Transport and Fulton Hogan.

Environmental sustainability

Delivering on sustainability

Sustainability is not just something we are planning for, but something we are doing. Implementation is based on a collaborative and multidisciplinary leadership approach across Transport – embedding sustainable outcomes across energy and carbon, materials and waste, climate change, infrastructure rating, and sustainable governance into procurement documentation. A key focus is to enhance markets for recycled materials and the associated supply chain and supporting infrastructure, helping to foster and support the circular economy.

With our scale we understand the positive impact we can make by recycling, switching to environmentally friendly construction materials, and acting in a sustainable manner. That is why we are taking an active role in working with our supply chains and contractors to reduce the carbon intensity of our projects.



WestConnex 3B Rozelle Interchange

The Rozelle Interchange will provide a new underground motorway interchange which will connect to the M4-M5 Link Tunnels and the City West Link, and an underground bypass of Victoria Road between the Iron Cove Bridge and the ANZAC Bridge. The Rozelle Interchange will also provide a connection to the future Western Harbour Tunnel (WHT).

With our scale we understand the positive impact we can make by recycling, switching to environmentally friendly construction materials, and acting in a sustainable manner. That is why we are taking an active role in working with our supply chains and contractors to reduce the carbon intensity of our projects.



101m³

Lower carbon concrete poured for WHT roof protection slab

97%

Soil diverted from landfill to-date

670

Recycled concrete blocks sent for reuse on other projects

82%

Waste diverted from landfill to-date

21%

Green power

Rozelle Interchange
Sustainability Report Q2
April – June 2021

The project is an excellent example of Infrastructure and Place's commitment to improved sustainability, recycling and innovation.

Reuse of tunnel sandstone internally from piling pads to prevent import of additional sandstone material

Reusing tunnel spoil for piling pads and haul roads, as well as tier 1 projects (such as Western Sydney Airport)

Recycled concrete being used as road base

Reuse of precast concrete blocks from James Craig Road on other parts of the site

Use of biodegradable soil polymers to reduce water consumption and plastic geo-fabric use

Reuse of sandstone piling pads material as backfill for retaining walls

Transformation of the former Rozelle Rail Yards into a new open green space of up to ten hectares



36%

reduction in carbon emissions through construction and operations

Leading sustainability ratings

The Parramatta Light Rail project has achieved an Infrastructure Sustainability Council of Australia 'leading' rating for design, demonstrating the project's commitment to achieve sustainable outcomes. Transport and Parramatta Connect, the infrastructure works contractor building the light rail, have worked together to deliver a raft of innovative and sustainable outcomes for the project. Parramatta Light Rail will be the first in NSW to have 'grass track', as well as achieve significant and positive outcomes for the project and community.

The project will achieve a 36 per cent reduction in carbon emissions through construction and operations, simply by designing areas with a wire free system, using supplementary and recycled materials in concrete and asphalt, and reusing existing rail, sleepers and ballast.

The Mariyung (New Intercity) Fleet has also achieved an Infrastructure Sustainability Council of Australia 'leading' rating, and our Transport Access Program station upgrades are on track to exceed their target ratings.



Innovation and technical applications to transport infrastructure

Digital engineering is a collaborative way of working using digital processes threaded through projects, to enable more productive methods of planning, designing, constructing, operating and maintaining our assets.

To complement this, Transport has developed the Digital Engineering Framework, which is the foundational platform for the infrastructure industry to enable convergence of data capture, design, construction and operational information aligned to the 3D design, and the project digital twin to increase savings and benefit from leveraging modern technology to turn data into information and give insights for operational performance and value to customers across the spaces we live.

Infrastructure and Place released the first Digital Engineering Framework in September 2018. This framework is now business as usual for Infrastructure and Place, enabling digital collaboration across an asset's lifecycle. This includes: 3D planning, design and construction, scheduling, and operational metadata on our projects. Additional capabilities such as drone-based laser scanning for utilities and augmented reality for elements of design review have recently been added.

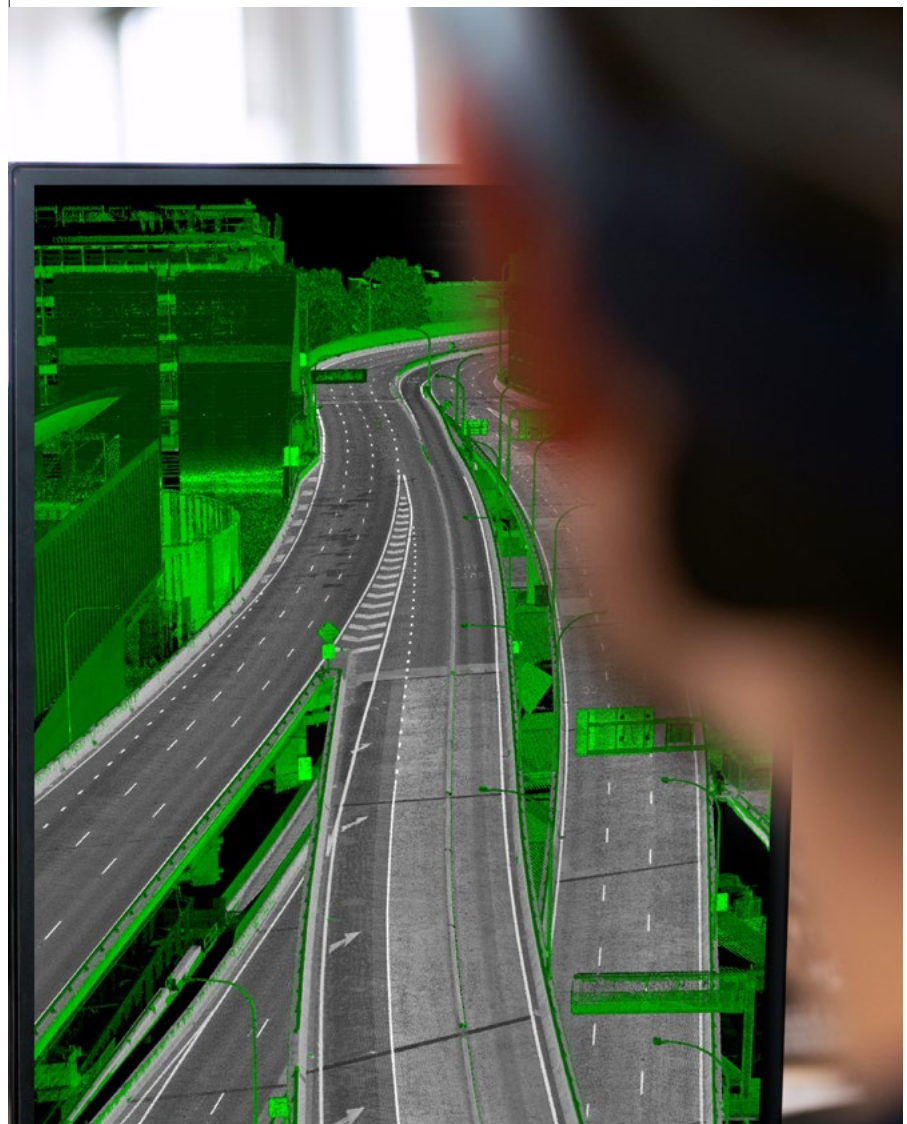
Digital twin

The digital twin enables project team members and stakeholders to easily understand the design intent in the planning phases to make better design and place-making decisions for customers and Transport.

The foundation of the digital twin is survey accurate pointcloud data derived from 3D laser scanning. Laser scanners collect millions of survey accurate data points per second. They deliver outstanding range, speed and achieve high definition and quality.

Laser scanning surveys can be carried out remotely, thereby reducing our exposure to traffic and other safety hazards for field surveyors, and avoiding or minimising the need for road and rail shutdowns, which reduces the impact on operations and our customers.

The Circular Quay Precinct Project currently has the most mature 3D project portal that combines GIS and 3D models to create a digital representation of the design.



Aboriginal and Torres Strait Islander participation, and recognition of heritage


M12 acknowledgement of Aboriginal heritage

Infrastructure and Place is delivering the M12 Motorway to provide direct access to the Western Sydney International (Nancy-Bird Walton) Airport at Badgerys Creek and to connect to Sydney's motorway network. At its inception, the project identified a high-level objective to 'create a unique and distinct identity interpreting the rich sense of place, Aboriginal and cultural heritage'.

During the Environmental Impact Statement stage of the project, Transport sought proposals to translate the strategic high-level objective into a meaningful physical design interpretation of Aboriginal heritage for integration into the motorway concept design.

The interpretation was further enriched through stakeholder involvement, identifying how the motorway corridor and broader area is considered and valued by Aboriginal people including how it may have changed over time. The overarching theme of "interconnectedness" depicts the central Aboriginal tenet of physical and spiritual belonging to Country.

Based on the consultation responses and analysis, themes and opportunities were developed to inform the design process.



Aboriginal and Torres Strait Islander recognition and respect is fundamental to us. We understand the impact we have through our procurement power, employment opportunities on projects, and in promoting public recognition and respect for Aboriginal and Torres Strait Islander heritage and art and recognising place names and Aboriginal connection to project sites.

Several concepts exploring these themes were developed and curated so that the corridor expresses strongly:

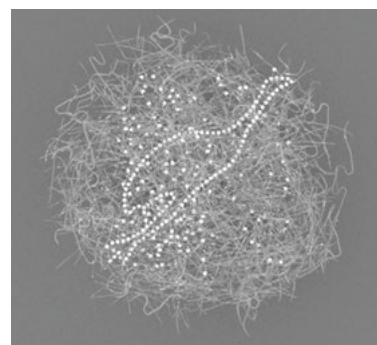
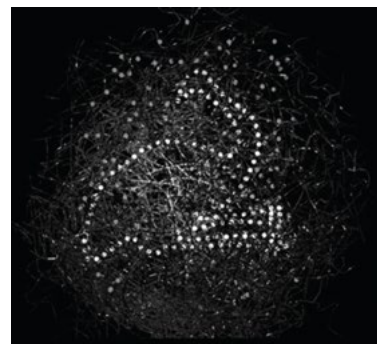
Great Emu in the Sky – This concept is inspired by these stories and the Emu imagery, which featured in many of the local artists’ works. This piece would be a stand-alone artwork situated in the proximity of the interchange near the entry to the airport where it will be visible to motorists, shared path users, metro passengers and from the air.

Dharawal Six Seasons – The Six Seasons Planting concept allows travellers to experience being ‘in Country’ and will reinforce the broader art strategy at specific locations near each shade canopy on the shared path, and more subtly through broader areas of the M12 corridor.

Emu overbridge – The narrative of the Emu’s ascent into the Milky Way will be integrated across the throw screens on project’s overbridges as a celebration of the resilience of culture, and linking themes of people, spirit and land.

Emu footprints – Embedding Emu footprints across the project shows a connection to the land and stories of those that have travelled the route before us.

Gum leaf shade canopies – This concept explores the importance that the landscape plays within Aboriginal culture and the community’s ability to read the nuances of land in shade structures located along the shared path.



The Signposting Country project

In 2021 the Signposting Country project was completed, showcasing fantastic collaboration between Infrastructure and Place, Transport more broadly and members of Indigenous communities from across the State. This involved:

- Installations of signs designed to acknowledge the Country on which the road resides and interpret country through the incorporation of culturally relevant artwork
- Infrastructure and Place developing the Signposting Country Manual, which was launched mid-June 2021. This was the result of extensive consultation supporting the installation of Acknowledgment to Country signage on all State roads in NSW.

Aboriginal participation – Regional Rail

The NSW Government's Regional Rail project involves replacing the ageing NSW regional rail fleet, and building a new maintenance centre, named Mindyarra, in Dubbo to support the new fleet, stimulate the regional economy and help create sustainable job opportunities and skills. Aboriginal participation and providing opportunities for Aboriginal people is a key project objective.

An Aboriginal Working Group was established to support Transport and its delivery partners to achieve Aboriginal participation outcomes and provide pathways for Aboriginal businesses and people into the project. Key initiatives have included:

- Tender writing workshops
- A school-based traineeship program
- A pre-employment program with Aboriginal participants



Eighteen Aboriginal businesses have been engaged on the project. This includes a \$20 million contract for the Mindyarra Maintenance Centre awarded to ARA Indigenous Services, an Aboriginal business building a local presence, including recruiting electrician and trade assistant roles locally in Dubbo.

57%

of the project's apprentices were Aboriginal

(10% requirement)

13%

of the level 1 supervisor and above positions were held by Aboriginal people

(5% required)



Industry culture, reform and development

We are committed to working collaboratively with industry to improve the culture, diversity and sustainability of the sector for the long term. We know that the construction industry lacks diversity. The culture can be combative and overly commercial at times and long working hours are impacting on the wellbeing of its workforce.

As we look to deliver a record pipeline of investment in NSW, we will need to work closer with our industry partners to capture the best ideas and implement them throughout the portfolio. Our focus will be on working smarter, not harder to achieve better project outcomes and this will mean more collaboration and earlier in the project lifecycle.

We have a new Industry Engagement and Development team that has been established to partner with our project teams to deliver on our commitments under the 10 Point Commitment to the Construction Industry through initiatives such as pipeline updates and market interactive processes. The team will also work more broadly across Infrastructure and Place to champion change within our own organisation to enhance innovation and excellence.

This year, we will be focusing on three key collaborative initiatives to improve the way we work:

- Procurement reform
- Sustainability in infrastructure delivery
- Culture in construction (as part of the Culture in Construction working groups and through trialling the standard on projects)

Mariyung Fleet

We are delivering a new, state-of-the-art fleet of intercity trains that will provide a new level of comfort and convenience for the thousands of customers who travel between Sydney and the Central Coast and Newcastle, the Blue Mountains, and the South Coast.

In April 2021, it was announced that the New Intercity Fleet is being named 'Mariyung', the Darug word for emu, in acknowledgement of local Aboriginal culture.

The Mariyung fleet will run through many Aboriginal Countries such as Darug Country, as well as at final destinations in Wiradjuri Country in the west at Lithgow;

Awabakal Country to the north of Newcastle and Dharawal Country to the Kiama.

The artwork for the trains has been designed by Darug woman, Leanne Mulgo Watson.

The M12 project also acknowledges 'Mariong' and the Western Line has a 'Marayong' station. These are all derived from the Darug word for emu, however as Aboriginal languages are not based on the Latin alphabet, having multiple accepted ways to spell words is common.

Our team

2

We develop and deliver integrated transport infrastructure that our customers and communities need. We are a team of around 3,500 people who are thinking beyond transport infrastructure to larger urban renewal, with a focus on technical expertise across modes.



Our mission

Make NSW a better place to live, work and visit

Deliver the biggest transport infrastructure program NSW, or in fact Australia, has ever seen – on time, and on budget

Adopt sustainable measures and practices across our business, and embrace innovative and technology to deliver smarter outcomes

Support our communities with tens of thousands of jobs over the coming years through our projects

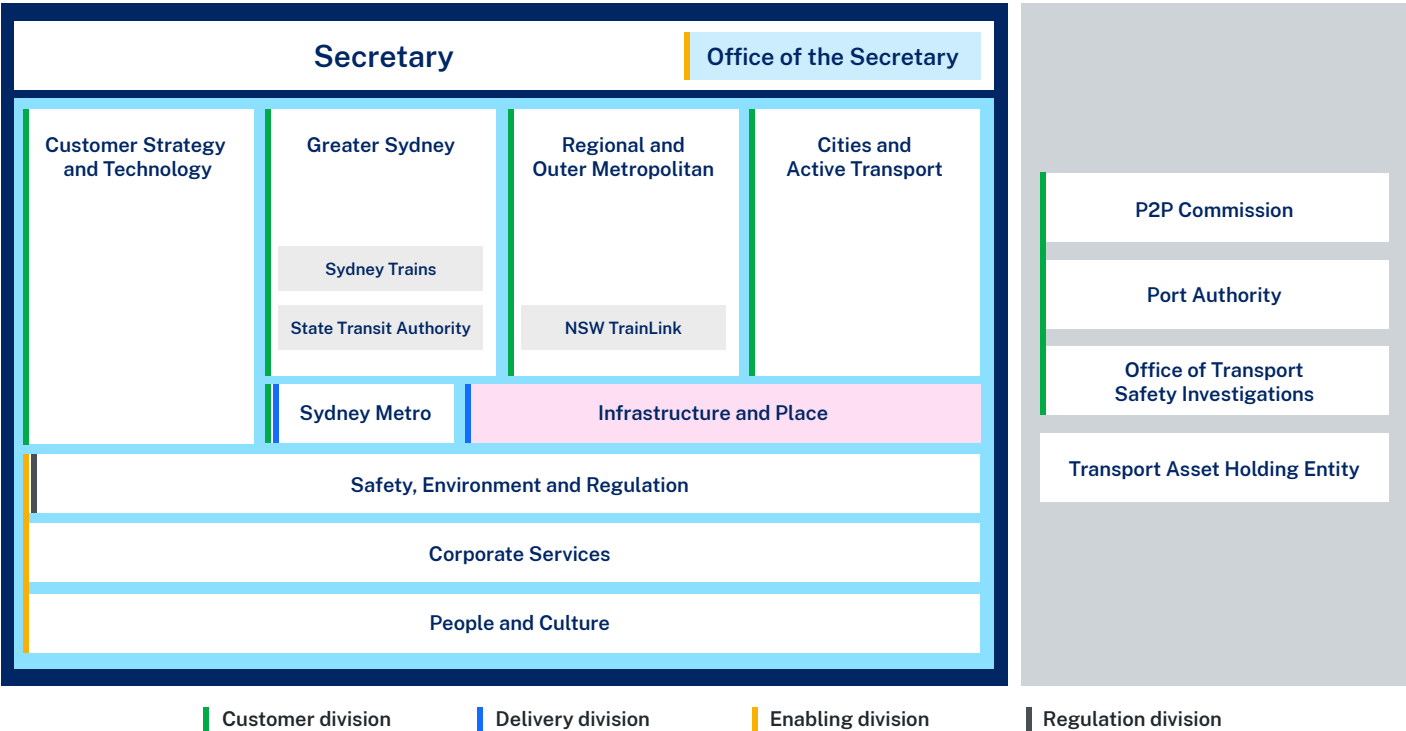
Build local skills and capabilities, creating employment pathways for a wide range of new entrants

Minimise our impact on the environment, be financially efficient, and deliver projects that stand the test of time

What we do

Our role in Transport’s operating model

We seek to be a trusted partner to our clients, developing and delivering smart, integrated and sustainable infrastructure and places that are valued by customers and communities. The diagram below shows how we fit into Transport’s value chain, and how Transport’s divisions support each other in delivering outcomes for the State.



Our branches

Infrastructure and Place is composed of six branches working closely together to carry out the development and delivery of our project portfolio.



Marta Bach,
Director, Office of the
Deputy Secretary,
Infrastructure
and Place

Office of the Deputy Secretary

The Office of the Deputy Secretary works closely with the branches to support the collective IP Executive. As a team we strive to proactively support our Deputy Secretary to ensure the success of our whole division, working collaboratively with our branches, our clients, Office of the Secretary, and other areas of Transport as well as the Ministers’ Offices.

Our accountabilities:

- Proactive Executive support
- Support for change programs
- Business operations and process improvement
- Business reporting, continuity and governance
- Government Services including Ministerial, Parliamentary, Cabinet and GIPA
- Internal communications and engagement



Gillian Geraghty,
Acting Chief
Development Officer

Development

Development creates transport and place solutions across NSW that deliver economic, social and environmental benefits.

Our accountabilities:

- Preparing and coordinating strategic and final business cases, including design, funding and financing strategies, and procurement and delivery strategies.
- Undertaking procurement for large-scale and complex transport infrastructure that safeguards whole-of-life outcomes.
- Leadership in working with the private sector to develop and implement innovative partnership models to fund and finance infrastructure and places.
- Leadership of all precinct renewal and property development projects through the project lifecycle with a dual focus on place-making and revenue generation.



Glen Mace, Head
of Sydney Project
Delivery

Sydney Project Delivery

We are a trusted partner to our clients, developing and delivering smart, integrated and sustainable infrastructure and places across Greater Sydney that are valued by our community.

Our accountabilities:

- Deliver projects within Greater Sydney safely and sustainably, on time and on budget for our client, providing value to our customers and minimising disruption to our communities.
- Work collaboratively with industry to find better ways to deliver value for money and quality infrastructure across Greater Sydney.
- Maximise the power of the matrix and embedded functions, working as one team to ensure delivery of successful projects and places.
- Partner and collaborate with Greater Sydney to scope movement and place-making solutions, and provide timely and accurate advice to make decisions that ensure project success and smooth handover.
- Foster in-house and industry capacity, capability and diversity to create jobs for a stronger economy and resilient communities.
- Meet the intent of the Government's 10-point Commitment in infrastructure delivery.



Martin Donaldson,
Acting Head of
Regional Project
Delivery

Regional Project Delivery

We deliver high quality transport infrastructure for the people of regional NSW. We make sure projects are delivered safely, to a high standard and on budget, minimising impacts on the environment and communities.

Our accountabilities:

- Care for our people and develop internal capabilities and expertise in order to provide the highest possible public value in the delivery of transport infrastructure in regional NSW.
- Deliver projects and services to improve NSW regional communities and places.
- Manage the projects and services to the time, cost, scope and risk requirements.
- Manage the safety, quality, environmental and community impacts.
- Manage the professional services and construction contracts on behalf of our clients.
- Provide timely and accurate advice and project reporting to our clients.



Pete Church, Head of
Rail Delivery

Rail Delivery

We create sustainable legacies by improving customer and community experiences and outcomes, through the successful delivery of rail projects across NSW.

Our accountabilities:

- Delivery leadership, and project management of safe and successful rail projects that are fit for purpose and meet client expectations.
- Deliver projects to enhance or fundamentally change the way the rail network operates to improve customer and community outcomes.
- Enable the smooth transition and integration of rail programs and projects from delivery to operations.
- Lead and contribute to innovative solutions in design and delivery of rail infrastructure.
- Develop and manage partnerships with industry to build capability and enable efficient delivery of solutions.
- Develop internal capabilities, systems and processes to drive efficient, sustainable outcomes for our projects.



Pamela Henderson,
Executive Director
Technical Services

Technical Services

We provide Transport with specialised technical capability and services for the multi-modal delivery, operations and management of our transport network. We are the centre of engineering expertise, driving innovation, value and best practice.

Our accountabilities:

- Development and oversight of the standards, specifications and policies relating to technical development, design, delivery, operations and maintenance of transport infrastructure and places.
- Managing the technical risk of transport infrastructure (including due diligence, assessment and review of externally produced technical design).
- Managing and delivering technical expertise and services throughout the development, delivery and operations and maintenance of transport infrastructure.
- Developing, maintaining and integrating technical and engineering management systems and compliance assurance for these systems.



James Sherrard,
Head of Commercial,
Performance and
Strategy

Commercial, Performance and Strategy

We provide best practice commercial and project management of our infrastructure delivery, place making, property management, acquisition and divestment. We are responsible for overseeing commercial and business contracts including procurement strategy, execution and controls.

Our accountabilities:

- Lead the procurement for all construction contracts, including development and implementation of strategic and operational sourcing, contracting and supply management strategies.
- Provide end-to-end specialised property expertise to develop, deliver and manage smart, integrated and sustainable infrastructure and places.
- Lead engagement with the construction and infrastructure industry early and often for Transport, building networks to foster business, industry, innovation and partnerships to elevate the delivery of infrastructure projects.
- Strategic advice, support and best practice management in the development, procurement and commercial management of infrastructure delivery, precincts and commercial development projects.
- Identify strategic opportunities for improvement and develop and deliver innovative processes, systems or business model solutions to operational pain points.
- Support project development and delivery by providing deep project insights through analytics and applications, and best practice engagement with industry with a focus on developing capacity and sustainability of the sector.

Our specialisations

Infrastructure and Place owns many of the specialist skill sets that are needed in taking capital projects from Gate 1 to 5 of the Infrastructure Investor Assurance Framework process including the business case itself, but also financial modelling, procurement and commercial, funding and financial analysis, and industry engagement.

The Business Case Centre of Excellence

Infrastructure and Place has been building specific areas of specialisation and expertise, and is now one of the primary areas within Transport tasked with development and delivery of Strategic and Final Business Cases. A key initiative in developing this function is the establishment of the Business Case Centre of Excellence (CoE), with multiple strategically important projects already being delivered by the team. The CoE provides a variety of services including leadership of business cases, economic modelling, and traffic/demand modelling management. In addition to these hands-on roles, the team provides ongoing subject matter expert support on how to optimally manage professional services contracts and develop program governance, funding, and assurance approaches, and provides overall strategic guidance to ensure that the best possible projects are developed for the State.

Concurrent to the CoE's direct involvement on projects, the Centre is also focussed on helping the cluster develop its in-house project development capabilities by becoming the home of business case related intellectual property, including:

Identifying best practice wherever it is observed in the organisation

Documenting it for other practitioners

Disseminating it to interested project development teams

In doing so the team aims to ensure that knowledge and lessons learned during development of major projects are retained and subsequently used to inform the development of new business cases, encouraging a culture of continuous improvement to deliver better value for the organisation in all its project development initiatives.

The Private Finance & Public Private Partnership (PPP) Centre of Excellence

Infrastructure and Place is Transport's PPP, unsolicited proposals and private finance CoE, deploying specialised capability across the Transport cluster more broadly in relation to funding, finance and strategic commercial matters across all Transport modes.

The Private Finance & PPP CoE leads the development of innovative funding and financing solutions, supporting greater financial sustainability and better whole-of-life project outcomes. It houses capability in:

Financial analysis

Funding and financing strategy

Unsolicited proposals and direct dealing

Special situations and complex negotiation

Financial modelling

PPPs / private capital solutions

Innovative financing approaches

Commercial and financial advice

The Private Finance & PPP CoE also houses Transport's expertise in tolling, toll roads and motorway finance, having deployed that expertise to support WestConnex (both delivery and sale process), Sydney Gateway, M6 Stage 1, Western Harbour Tunnel and Beaches Link.

The CoE acts as a key relationship interface between Infrastructure and Place and central Government agencies with similar specialised skill sets, including NSW Treasury Commercial Division (Infrastructure and Structured Finance Unit & Transactions Unit) and Investment NSW Commercial Partnerships branch.

The Property Group Centre of Excellence

The Property Group within Infrastructure and Place has four key areas of specialisation and expertise, and is the lead division for the whole of Transport for the acquisition of land and property to support the delivery of our infrastructure pipeline.

Property & land acquisition

Land information

Property & asset management

Property divestment

The Property Group also plays a key role in the day-to-day management of our non-operational property portfolio, which is made up of over 10,000 interests and includes important and high-profile locations such as Central Station and Circular Quay.

The Property Group CoE provides services to multiple clients across the Cluster and also provides an important link with our community and the tenants that occupy and use our extensive portfolio. The CoE is directly involved in ensuring that projects are able to be delivered, and that the purchase, management or divestment of associated land or buildings is done with the highest level of governance and professional expertise.

The CoE aims to be the trusted partner and enabler to our clients by providing end-to-end property expertise. It acts as an enabler in partnership with projects and clients throughout the property lifecycle to ensure the success of Transport with a strategic and holistic long-term approach in the delivery of the services provided by the CoE.

Technical Services

Technical Services is the centre of engineering expertise, driving innovation and best practice. They are a team of more than 900 diverse people across NSW, covering all fields of engineering and technical specialities.

Technical Services provides high quality specialised technical capability and services that our clients and delivery partners need, throughout the whole project and asset lifecycle.

Digital engineering

Asset handover support

Road design

Tunnel engineering

Fire engineering

Alternative fuels and renewable energy support

Configuration management assurance

Survey and spatial data

Smart infrastructure

Bridge and structure engineering

Track engineering

Electrical engineering

Systems engineering and integration

Intelligent transport systems

Utility interface management

Pavement, material and geotechnical

Testing and laboratory

Rail and traffic signalling

Civil engineering

Systems safety

Research and development into sustainable materials

Project Performance

Project Cost Control

Our Project Cost Control function provides cost control leadership, governance and guidance to drive sustainability and improve outcomes for the Infrastructure and Place portfolio of projects. The accountabilities of Project Cost Control include:

Cost management: Develop and operate a cost management and control system (and procedures) that deliver a consistent and reliable forecasting process

Simplify: Simplify and align costing systems utilised by Infrastructure and Place into a single consolidated portfolio level control process that can proactively identify and manage change

Guidance: Control and guide projects such that cost and contingency management is transparent, consistent and can be referenced back to benchmarks and risk profiles

Forecasting: Provide reliable cost forecasting and reports to our clients and partners

In doing so the team aims to ensure that knowledge and lessons learned during development of major projects are retained and subsequently used to inform the development of new business cases, encouraging a culture of continuous improvement to deliver better value for the organisation in all its project development initiatives.

Estimating

Our estimation function provides estimating leadership, governance and data driven intelligence that drive improved project development and delivery outcomes for Infrastructure and Place. The accountabilities of the estimation function include:

Robust estimates: Apply the necessary and required degree of rigour to the information (scope, schedule, risk, cost and delivery method) to support the development of robust estimates and apply them to each stage of the project lifecycle

Consistency: Promote and ensure consistent estimate structures across the Infrastructure and Place portfolio to enhance project benchmarking

Assessment: Facilitate assessment of pre-tender estimates against project returns for improved estimate accuracy and decision making

Cost analysis: Collect, curate and analyse actual project cost outturn data and generate benchmark data and insights for use in assessing future project estimates

Concurrence: Produce consistent concurrence reports that allow for ease of comparisons for estimating quality between similar projects

Commercial Services

Commercial Services works in collaborative partnerships with Transport's development and delivery teams, our clients and industry to deliver value for money for the NSW taxpayers. The accountabilities of the Commercial Services function include:

Subject matter expertise: Provide subject matter expertise to manage the consistent delivery of procurement and commercial support across Infrastructure and Place to enable end-to-end development, design, build and operation of transport infrastructure and places

Procurement: Drive procurement excellence for construction projects and programs, through both deployed and non-deployed resources

Commercial: Develop commercial strategies, design strategies, packaging options, contracting models and procurement strategies as part of the delivery strategy

Support: Champion and provide tools, support and training on commercial best practices and development of commercial capability

Industry: Support our Industry Engagement and Development team with market interaction processes and building meaningful partnership with industry

Our projects

Capital project development and delivery is our core business. With close to 500 projects currently underway, this section provides a selection of highlights from our project portfolio.

3

Collaborative contracting for the Nowra Bridge

The Nowra Bridge Replacement over the Shoalhaven River on the Princes Highway aimed at:

- Improving safety, capacity and efficiency across the Shoalhaven River
- Better traffic flow
- Improving freight movements
- Improving pedestrian connectivity
- Improving access to the South Coast
- Preserving the heritage of the old southbound bridge



Due to the nature of the project, where risks and requirements could not be reasonably passed through to the private sector, a collaborative contracting approach was used. Collaborative contracting is a form of relationship-based contracting in which the State collaborates with one or more non-owner parties (e.g. designer, constructor, other key stakeholders etc.) to share the risks and responsibilities in delivering the construction phase of a project.

Integrity



Open and honest interactions (including financial) by:

- Doing what you say you will do
- Planning together to do it once and do it right
- Early identification and collective resolution of risks

Customer Focus



Appreciating the customer and community perspectives by:

- Understanding through deep listening and questioning
- Accurately informing and proactively managing expectations
- Seeking opportunities to promote

Collaborative



Build trust and ownership of actions by:

- Knowing our team and ensuring we work together well
- Leveraging our differences to creatively challenge and improve
- Growing others through role modelling and coaching

Solutions focus



'Best for Project' attitudes and resolutions by:

- Ensuring all lessons learned and ideas are on the table to drive quality outcomes
- Partnering to ensure defensible decisions
- Managing risks, clear communications and escalating the right way

Hallmarks of the Nowra Bridge collaborative contracting approach

Regional Rail

We are replacing the ageing NSW regional fleet of XPT, XPLOER and Endeavour trains.

The new trains will provide improved safety, accessibility, facilities and reliability for customers who travel from many NSW regional centres to Sydney, as well as Canberra, Melbourne and Brisbane.

The new regional fleet consists of 29 new trains including 117 new carriages, forming 10 regional intercity, nine short regional and 10 long regional trains.



Artist render



Bi-mode technology, providing a more environmentally friendly rail service



Comfortable seating with charging ports for mobile devices and tray tables suitable for laptops



Modern buffet car in the long and short regional trains



Automatic selective door operation for stations with short platforms



Improved customer information through digital information screens and announcements, and CCTV throughout the train



Improved accessibility including accessible toilets on every train, wider doors, single-deck carriages, priority seating and accessible help points

Placemaking at Tech Central

As the future focal point of Sydney's innovation and technology community, Tech Central will create a vibrant precinct in the heart of Sydney's CBD with strong links to nearby institutions, international markets, Greater Sydney and the rest of NSW. Infrastructure and Place is working in close collaboration with the Greater Sydney Commission and Investment NSW on delivering the placemaking objectives of Tech Central

In the Western Gateway sub-precinct, the NSW Government is working with existing lease holders to leverage private sector capital, expertise and ambition to achieve public outcomes. The unsolicited proposals and direct deal pipeline includes three separate proposals, Atlassian, Dexu / Frasers (joint proponents) and Toga as tenants, owners and delivery partners.

The Western Gateway developments will support the delivery of the Tech Central Strategy by creating over 16,000 innovation jobs of the future and will be the home of Atlassian's new Global Headquarters. The Atlassian building will provide over 50,000m² of technology floor space and will include affordable accommodation for start-ups and early stage firms.

The Western Gateway is one of eight sub-precincts that form the Central Precinct, and aims to be a vibrant and exciting place that unites a world-class interchange with innovative and diverse businesses and high quality public spaces. It will embrace design, sustainability and connectivity, celebrate its unique built form and social and cultural heritage and become a centre for the future and economic growth.

The unsolicited proposals over the Western Gateway site will provide place-making benefits by way of:



Pedestrian linkages and wayfinding to Central Station and future Metro services



High quality public spaces



Enabling the delivery of services to future precinct development



Increasing economic activity and attracting technology tenants to the precinct



Redfern North Eveleigh Precinct renewal

Infrastructure and Place is playing a pivotal role in transforming one of the most well-connected areas, the Redfern North Eveleigh Precinct, into a great new place for Sydney. Development in the precinct will enable the jobs of the future, provide housing, and create new open spaces and places for people to socialise.

We aim to create a place that celebrates the rich industrial, Aboriginal and creative roots of the Precinct and where everyone feels welcome both day and night.

The key benefits will include:



Providing a mixed-use precinct with housing, offices, new open spaces and places to socialise



Respecting the rich Aboriginal and industrial heritage of the precinct



Supporting the delivery of Australia's biggest technology and innovations hub at Tech Central, enabling high quality office space to support the jobs of the future



Opening up the precinct for the first time in about one hundred years and improving connections to surrounding areas



Upgrading Redfern Station, including a new southern concourse to improve accessibility and connections to key destinations in the area



Source: Redfern North Eveleigh Strategic Vision

Coffs Harbour Bypass – innovative procurement

The Coffs Harbour Bypass project saw a step change in how Transport procures and delivers design and construction contracts. In order to achieve value for money while not exceeding the approved budget, Transport sought to leverage industry's innovative ideas, design smarts and construction methods to identify optimal solutions for the project.

The innovative procurement process provided Tenderers with the flexibility to propose amendments to the scope of works, technical criteria, and the technical specifications so as to identify cost effective and innovative design solutions that would be acceptable to Transport.

A key element of the innovative approach was the interactive tendering process. Transport conducted this structured process as a part of the request for tender phase.



Promote collaboration, open communication and dialogue between the Tenderer and Transport



Promote commercial discussions with regard to any proposed commercial departures and the Tenderer's strategy for not exceeding the maximum contract value



Maximise the certainty that the Tenderer submits a high quality and well considered confirming Tender by the closing date



Artist render

M6 Stage 1 – collaborative approach to contracting

The M6 project sees twin four kilometre tunnels linking the M8 at Arncliffe to President Avenue at Kogarah, with ramps between the main motorway tunnel and the surface intersection at President Avenue. The project will result in the removal of 2000 heavy vehicles a day from surface roads, reduce traffic on General Holmes Drive by 10,000 vehicles a day and deliver faster travel times by bypassing 23 sets of traffic lights on the Princes Highway.

The collaborative approach to design the agreement for the M6 works highlights Infrastructure and Place's deep commitment to working with industry as a partner to arrive at the best solution for NSW. The tender and ultimate contract award for the M6 Stage 1 was the result of an extensive and exhaustive process undertaken in collaboration between Transport and the Tier 1 contracting industry. Based on a reference design the tender evaluation process included a thorough risk evaluation and opportunity consideration between the tender parties in line with the principle that risk allocation should be to the party best placed to manage a risk.

Key risk allocations in the agreement centre around contamination, non-contestable utilities, and similar items that are difficult to predict. The collaborative process between government and industry has led to an optimised design and construct agreement, including appropriate risk and opportunity allocation.



2k

Heavy vehicles removed from surface roads each day

10k

Vehicle reduction on General Holmes Drive per day

Sydney Gateway – active transport

Sydney Gateway will deliver over three kilometres of new pedestrian and cycling pathways to help connect the Bayside and Inner West communities and provide missing links in the strategic network.

The first section of this new path was prioritised in the construction program to provide an early and important deliverable for the local community.

There was a requirement from Transport to ensure continued, quality access for pedestrian and cyclists was maintained during construction. The successful contractor (John Holland Seymour Whyte joint venture (JV)) overcame engineering challenges to develop the new shared path as one of the first construction deliverables.

John Holland Seymour Whyte JV and Transport also worked closely to develop an urban design uplift strategy to enhance placemaking opportunities for the project. The Place Design Landscape Plan incorporated Aboriginal design and local storytelling which has been reflected along the shared path and at the two rest areas.

The development of these new shared paths has been achieved in collaboration with Inner West Council and Sydney Airport Corporation and has been widely acknowledged by Bike NSW, Inner West, Bayside and City of Sydney Council's as a highly collaborative consultation and design process.

Sydney Gateway will deliver:



A shared pedestrian and cycle pathway on the north side of the Alexandra Canal, to replace the current route on Airport Drive (target delivery in March 2022)



A new connection from the existing Alexandra Canal shared path to Seventh Avenue, close to the Domestic terminals (delivered by end 2024)



Artist render

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Reflecting on our first year's performance, it is very evident that the significant investment in risk understanding and allocation at tender has laid the platform for successful delivery and a best for project way of doing things. It has without doubt helped shape the collaborative culture that is now the hallmark of Sydney Gateway.”

Ivan Karaban, Project Director of John Holland Seymour Whyte Joint Venture

Sydney Gateway – collaborative risk sharing

Early in the development phase the Transport project team understood the project's complexity and was careful in the consideration of risk allocation. Early engagement with industry (including with design, contracting and independent verification services) provided good feedback and enabled the project team to shape appropriate contracting arrangements that were fit-for-purpose. During the procurement process, the project team worked closely with all tenderers listening to areas of concern and working through solutions that focused initially on reducing the risk as much as possible. Taking into account the complex and high-risk nature of the project a collaborative approach was adopted in working through the definition of risks and the ultimate ownership of these. This required significant work from the project team to consider and ensure clarity and precision when defining these often high-risk matters. With a number of bespoke risk sharing arrangements this was a necessarily demanding process.

Being one year into delivery, many of the risk sharing arrangements have now been tested, including several of those unique to Sydney Gateway. This has demonstrated the work up-front in both fair allocation as well as precision in defining the risk has paid off. In particular, the ongoing culture of problem solving with an openness in managing the commercial matters when they arise has been key.





Our partners

4

We have an ambitious capital program and we want to attract the best local and international talent to help us deliver it. The partnerships we form with industry, the broader NSW Government and the Commonwealth, and the trust we develop through project development and delivery will be critical to our plan to deliver these state-shaping projects for NSW.

Challenges

Our clients and the communities we work within expect significant economic, social and environmental benefits from their projects. They seek value for money through greater efficiency, enhanced workplace safety, social inclusion, gender diversity and a reduction in carbon intensity.

In turn, we recognise our partners face a broad range of challenges that impact on the sustainability of the sector. Our contractors continue to encounter challenges around project certainty, capability and capacity constraints, risk management, diversity and culture, productivity and recently, COVID impacts.

Engagement progress

Regular and robust engagement with our industry partners is critical. We recognise that forums like the Construction Industry Leadership Forum and ongoing dialogue with industry has helped enhance approaches to project procurement and execution.

In particular, the Premier's memorandum on procurement for large, complex infrastructure projects was developed in response to industry feedback and is helping to guide our procurement practices. The memorandum expands on the NSW Government's 10 Point Commitment to the Construction Industry and seeks to increase industry participation and cooperation to deliver our capital program.

Infrastructure and Place is also working collaboratively with the Construction Industry Culture Taskforce to improve productivity and offer a great workplace experience for employees in the construction sector through the [Culture Standard](https://cultureinconstruction.com.au) (cultureinconstruction.com.au).

Elevating our engagement

With the growth in project numbers and scale, Infrastructure and Place recognises the need to elevate our engagement with industry to drive greater efficiency through collaboration with our partners. Over the coming year we will look to expand opportunities for early and robust engagement with industry to guide the delivery of our portfolio.

Our engagement approach will focus on three key pillars:

Knowing our stakeholders

We want to ensure we have a deeper understanding of the issues encountered by our industry partners through more regular engagement events and activities.

Engaging with one voice

We will continue to leverage the Transport Infrastructure Industry Portal as a "one-stop-shop" for relevant resources and information and a hub for our engagement activities.

Collaborating to make our industry better

We will support greater alignment between industry and Transport on key initiatives to enhance the productivity, diversity and sustainability of industry.

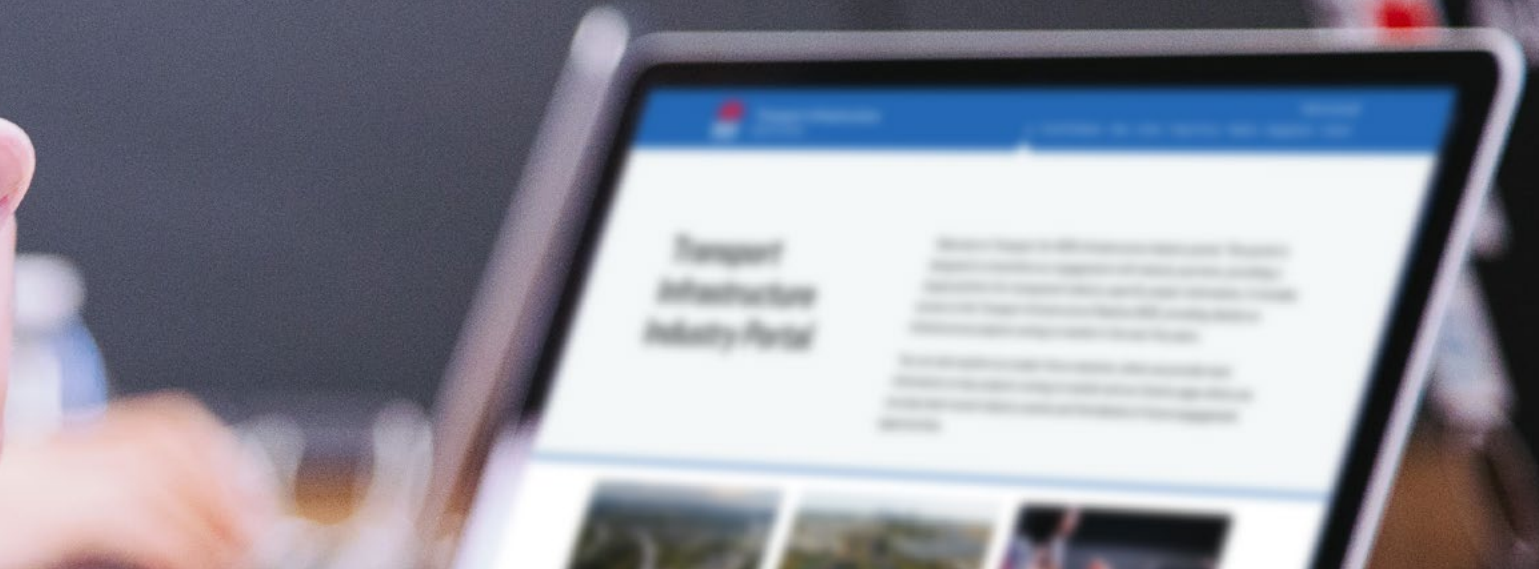


Project pipeline

Over the coming five years we will deliver a capital program of unprecedented size and scale. To efficiently deliver these essential transport infrastructure projects, we need to work with our industry partners to capitalise on innovative solutions and to enable increased capacity to benefit our shared communities and customers.

A key factor for success is visibility of what is planned to come to market over the five year horizon. An invaluable resource for industry is the Transport Infrastructure Industry Portal, which is designed to provide a single platform for transparent industry specific project information. The portal is updated twice a year and can be found at [Transport Infrastructure Pipeline 2025](#).

Further engagement



We want to hear from you

The Transport Infrastructure Industry Portal is a central home of engagement and communications between Transport and industry. The portal is designed to streamline our engagement with industry partners, providing a single platform for transparent industry specific project information.

The portal includes access to the Transport Infrastructure Pipeline 2025, providing details on transport infrastructure projects coming to market in the next five years. It also features a news section, where we provide information on key projects coming to market, and an events page where users can play back recent industry events and find details of future engagement opportunities.

The Transport Infrastructure Industry Portal is found at [Transport Infrastructure](#).

The views of the public and our industry partners are critically important to us. On the portal, we have a section where you can provide feedback anytime. The portal is designed to streamline and support our partnership with industry. We welcome feedback, ideas and input into making both the portal, and our approach to engaging with and partnering with industry better.

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