Transport Technology Strategy

Transport for NSW

February 2024

transport.nsw.gov.au/technology-strategy

Contents

Cover image: Schoolgirl tapping on Child Opal card while getting on bus

Acknowledgement of Country

Transport acknowledges the traditional custodians of the land and pays respect to Elders past and present.

We acknowledge Aboriginal people as the traditional custodians of the lands and waterways on which we build infrastructure, deliver projects and serve Transport's customers and are grateful to Elders past and present for their continual leadership.

Transport acknowledges for tens of thousands of years the continuous deep relationship and connections of Aboriginal people to their land, language, song, dance, art and story. Transport pays respect to those ancestors who defended, walked and managed these lands for many generations before us and who have left a legacy of strong cultural wisdom and knowledge embedded within Country today.

Transport acknowledges many of the transport routes we use today – from rail lines, to roads and water crossings – follow traditional Songlines, trade routes and ceremonial pathways in Country that Aboriginal people followed for thousands of years. Transport is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas, and their rich contribution to society. We recognise the impacts we make on Aboriginal culture and heritage through our infrastructure projects and commit ourselves to a future with reconciliation and restorative programs at their heart.

The implementation of the Transport Technology Strategy, as noted in Transport's vision for its Reconciliation Action Plan, ensures 'our transport system is a living, breathing network that connects us with each other and which carries our stories across cultural border lines'. This brings us opportunities to work in partnership with Aboriginal people and communities.

As technologies offer new ways to connect, we respect Aboriginal peoples' strong and ongoing connection to Country. Our technology projects will positively reflect the values, sustainability and spirituality of the Aboriginal cultures in the areas where we work.

We acknowledge that our First Nations people and our customers today are still travelling ancient Songlines, still doing business and still moving resources. To do this, we will engage early with Aboriginal people on projects; respect and value their expertise; and integrate their understanding of Country and place into the design process and outcome. This is Planning for Country and Designing with Country.

Far right: Aerial photograph of Sydney at sunset

Message from the NSW Minister for Transport

Technology is rapidly transforming the way we travel, move freight and connect with each other.

As the pace of digital change accelerates, we can use it to strengthen our transport system today and to test the wider use of technologies to deliver benefits for passengers in the future.

The Transport Technology Strategy is the NSW Government's vision for a transport network enabled by world class technology and delivered in partnership with local communities and industry.

It reflects some of the ways that new technology can make someone's everyday transport experience better.

Whether it is using a digital identity to plan and book trips, operational technologies that improve reliability and integration across our transport networks, or city-shaping and precinct-making technologies that can make our communities safer, and more liveable.

Technology like Digital Systems will be essential as we build and maintain an integrated public transport system where passengers can plan and pay for journeys that are seamlessly connected regardless of what mode they are travelling on.

We can restore reliability by strengthening the intelligent transport systems that support our network and by using new tech to monitor and manage network asset maintenance needs.

And getting our buses, trains, and ferries running reliably again is essential if we want to get passengers back onto public transport.

We can do that if we invest in technology and embed it in the way we operate, maintain and improve our transport systems.

This critical investment is already underway. We are upgrading live bus tracking to improve service reliability and deliver accurate information in real time for passengers across our metropolitan network.

The Transport Connected Bus Program is delivering similar outcomes for passengers in our regions.

> We also recognise the importance of our 25,000 strong Transport workforce and making sure that our people have the tools they need to do their work delivering the responsive and resilient transport network that the people of NSW deserve.

Government alone cannot deliver this vision. We need to continue to build on our successful track record of partnerships with industry and in local jobs–from research, analysis, development and roll-out.

Technology is transforming the world, and transport with it. And at Transport our aim is harness it to help make your trip faster, easier, safer, more reliable, and more cost effective than ever before.

The Hon. Jo Haylen, MP
NSW Minister for Transport

Message from the Transport for NSW Secretary

It's my pleasure to present the first Transport Technology Strategy - a holistic roadmap which considers the role of technology in everything we do.

This strategy sets out our ambitious yet pragmatic vision for optimising the use of technologies to offer real benefits for our passengers, road users and our workforce. This directly aligns to our vision of providing a safe, reliable and equitable Transport network for NSW.

> We are already regarded as world leaders in customer information and payments, and this strategy outlines how we plan to grow in this space to expand our service accessibility, including real-time information for all bus and rail services. This means trip-planning will be more personalised and agile to changing conditions, allowing passengers choice in how and when they move throughout a more integrated network.

Leveraging data and technology is already improving our transport system through the home grown, award-winning Public Transport Information and Priority System (PTIPS). PTIPS and other systems are making public transport journeys faster and easier by providing live information on bus, train, light rail and ferry locations and communicating disruptions. The same real-time data is also being used to ensure bus priority at busy intersections, paving the way for faster and more seamless journeys. This is the foundation for a truly adaptable network which delivers value today, while positioning us for the data-led opportunities of tomorrow.

Looking to the future, we will focus on strengthening intelligent transport systems and asset management technologies to enhance the efficiency, reliability and safety of our operations. Critical foundation systems will remain secure and resilient, while we work together with industry to explore potential applications for emerging technologies including connected and automated vehicles (CAVs) and artificial intelligence (AI).

This strategy includes a mix of technologies that are funded and in various stages of delivery, as well as those that are being explored prior to investment approval. This approach enables Transport to maintain and adjust prioritisation according to urgency of need, value for money and ability to deliver on outcomes. We acknowledge that great transport networks are not delivered in isolation. Transport will continue to partner with industry and other government agencies to deliver our ambitious future.

Technology is a fundamental enabler of how we continue to evolve Transport's network and operations to meet the changing needs of NSW. In launching this strategy, we cement our commitment to ensuring technology remains at the core of how we work and deliver for passengers and other users, now and into the future.

Josh Murray
Secretary, Transport for NSW

Message from the NSW Minister for Roads

Across NSW, technology is helping us deliver the road network of the future.

Technology not only improves travel times and reliability across our network, it also plays a crucial role in reducing crashes and improving safety. We are committed to trialling and adopting new technologies across the state that enhance the safety and travel experience of all road users.

Take a drive along the M4 Smart Motorway from Parramatta to Penrith and you will see how technology is transforming travel for motorists, passengers and freight. There are over 100 new live cameras and over 1,300 road sensors continuously monitoring traffic conditions and enabling variable messaging, speed signs and a quick response to incidents. Real time information on message boards helps motorists make informed decisions about their routes. As a result, average journey times are 20% faster and 30% safer thanks to the introduction of this smart infrastructure technology.

Our intelligent traffic management system – known as SCATS – uses enhanced predictive and network prioritisation technologies to manage traffic light signals with real-time data to minimise road delays and optimise the flow of traffic, creating more liveable communities. SCATS provides major time and cost savings by providing a reduction of over 25% in travel times, vehicles stops and a 15% reduction in emissions.

New tolling management systems are supporting the introduction of road pricing changes and tolling relief for motorists and truck drivers and will be a key enabler in implementing the recommendations of the forthcoming Tolling Review, helping to deliver a simpler and fairer road network in Sydney.

Digital technologies are fast becoming the preferred way for people to manage their licences and vehicle registration, and we're already exploring new ways to deliver regulatory services online, leveraging digital identification technology to provide customers with a safe, secure and easy way to interact with the NSW Government.

> Technology is also providing smarter, more cost-effective ways to deliver safe local roads for the community. For example, the NSW Government is funding an innovative trial of Artificial Intelligence (AI) based technology for conducting road audits.

By using dashboard-mounted cameras and sensors on council vehicles along with Machine Learning, we can detect road defects like potholes and cracking before they develop. It means a more frequent, cost-effective and proactive road audit system.

With AI playing a greater role on our roads, it is important to have a safe space for testing new and emerging vehicles and technology. Our Future Mobility Testing and Research Centre in Cudal is a world-class proving ground for Connected and Automated Vehicles (CAVs), zero emission and other experimental vehicles, allowing testing and evaluation in a controlled, safe environment with 1.6km of test track.

As the backbone of our private vehicle and on-street public transport network, our roads have never been more important in keeping NSW on the move and technology is a vital part of that story. I invite our business and community stakeholders to join us as we continue to explore and implement new technologies to make your journeys safer, quicker and more enjoyable.

The Hon. John Graham, MLC
NSW Minister for Roads

Message from the NSW Minister for Regional Transport and Roads

Transport and roads are a social determinant of health, education, opportunity and jobs in regional, remote and rural NSW.

Just as technology has transformed the way we live, work and attend to our health and education it can overcome the tyranny of distance when it comes to improving our regional transport and road networks.

Technology is playing a fundamental role in facilitating safer, more efficient, more equitable travel for people living in regional, rural and remote NSW. The NSW Government is committed to ensuring everyone benefits from innovation in the transport and roads sector.

Technology will improve safety on our regional road and rail networks. Our regional Future Mobility Testing and Research Centre is testing and researching automated vehicle technologies to increase the safety of vehicles on our roads. To eliminate level rail crossing crashes and fatalities there are robust and innovative trials utilising driver activated signs and LED warnings.

People in the regions can use technology to track when their bus will arrive on websites and apps, and those travelling for long distances on our regional coaches are able to use wifi and stay connected with friends and family.

> Technology and innovation are transforming the way our road and rail services are operated, maintained and delivered to everyone in NSW.

This will improve the efficiency of our road and rail maintenance, reduce travel times and delays due to network breakdowns and reduce the cost of maintenance. Both in monitoring the network and using new materials which are more resilient to natural disasters, the opportunities offered by technology are vital to the success of regional road and rail networks.

As we move towards a clean energy transport future, trials of new technology to achieve net zero emissions on buses will soon take place in regional NSW.

I commend the Strategy and look forward to leveraging technological advancements and opportunities for safer, more connected and sustainable transport in NSW.

The Hon. Jenny Aitchison, MP
NSW Minister for Regional Transport and Roads

Vision

Our vision is to create the safest, fastest, easiest, most reliable, and most cost-effective transport system in Australia.

We want to create a transport system that helps passengers map out their journeys using intuitive and easy-to-use planning services that incorporate fast and accurate real-time data, and then choose from a range of transport modes that are safe, fast, reliable, and sustainable. These will include public transport and personal vehicles, as well as walking and cycling options, and newer modes including rideshare, electric bike and e-scooter services.

The Transport Technology Strategy sets out how customer technology, operational technology, and information technology converge with emerging technologies to enhance the user experience on our roads, public transport and freight networks. This will be key to delivering our vision for the future of Transport in NSW.

We will apply technologies to improve and strengthen our transport system and create the added resilience needed to manage inevitable disruptions, while also building the capacity to manage the demands and expectations of NSW's growing population.

Critically, we will also build a transport network that is environmentally sustainable, by leveraging emerging technologies in electrification, network operations and asset lifecycle management and recycling.

The prioritisation and integration of digital systems will make our transport networks more cost effective and financially sustainable, while concurrently empowering our passengers to leverage fast and convenient digital platforms to make decisions about how they want to travel no matter where they are.

However, we cannot deliver this vision on our own, so we will partner locally and globally with industry, communities, researchers, other agencies and jurisdictions to harness talent and bright ideas. We welcome start-ups, scale-ups, local businesses, multinationals, universities and other research organisations, investors, and governments to join us in creating the transport technology roadmap that will help transform NSW.

Above: An employee using a large touchscreen map

Left: Bus passenger tapping on using mobile phone

Why technology matters

Technology and data are the catalysts transforming our community and economy, including transport and the mobility of people and goods. Our digital systems are optimising services for customers, enhancing productivity, and creating new economic opportunities. We are fully prepared for this transformation, progressively scaling up our systems to harness the full potential of these technologies, and building local skills, jobs and market capability through partnerships.

While these technologies may not always be visible, they play a pivotal role in ensuring that transport services are tailored to meet the unique needs and preferences of all customers. They also enhance reliability, resilience, safety, and accessibility of transport services.

These critical system technologies boost the efficiency and effectiveness of transport infrastructure and services, delivering improved outcomes and greater value. But our ambitions go beyond that. We aim to use technology to facilitate faster, more accessible, and equitable mobility, attracting more people to public transport, walking, and cycling, fostering liveable communities, improving environmental sustainability, and boosting the productivity of freight.

In addition, we are actively exploring and shaping emerging mobility technologies through collaborative partnerships in pilots, trials, research, and development. This allows us to understand the opportunities and develop new frameworks for policy, infrastructure, and services, ensuring that we are well-prepared for the future.

We are also supporting our Transport workforce, including critical frontline workers who support customers, with a more rewarding work environment using technology tools and systems to help them work more quickly, easily, safely and productively, and to make Transport an employer of choice.

Our approach to technology is both smart and ambitious. We build upon our current strengths to maintain robust and resilient foundations while forging ahead with targeted programs and investments that deliver tangible value to our communities. Together, we are shaping a brighter, more connected future.

Right:
Freight train passing Dubbo Station

Strategy on a page

Benefits and Value

Our Vision – Transport technologies deliver value by transforming experiences for customers, communities and our workforce so that they are:

- Faster and easier
- Safer and secure
- Reliable and resilient
- Sustainable and electric
- Equitable and affordable
- Cost-effective and financially sustainable

Strategic Alignment

Our Transport Outcomes – The outcomes we must collectively deliver every day

- Connecting our customers' whole lives
- Successful places for communities
- Transport systems and solutions enabling economic activity
- Thriving people doing meaningful work

Our Strategic Priorities

- A safe, equitable and integrated transport system
- Restoring reliability and increasing patronage
- City shaping and precinct making
- Focus on local manufacturing and jobs
- Respecting and re-engaging our entire workforce

Priorities

Our Technology Priorities – Key areas of focus for our programs and initiatives

1 Customer information & payments for easy ways to plan, book and pay

Goals

- **Integrated trip planning** for public transport, walking and cycling, with reliable service information and disruption alerts
- Multimodal systems for seamless **bookings and payment choices**
- **Customised and personalised** passenger experiences
- Expand services to more customers, on more modes, in more areas

2 Operational technology systems to optimise networks and services

Goals

- **Intelligent transport systems** for safer, reliable and resilient city shaping transport
- **Real-time data** helps manage disruptions and integrated communications for passengers and freight users
- **Smart places sensors** and systems support safer, liveable, and walkable precincts.
- Digital engineering, **drones and robotics** help manage transport assets and infrastructure.

3 Explore emerging technologies to deliver new value

Goals

- Harness new uses of **connected, automated and low emission** vehicle technologies
- Pilot **new smart technologies** for customer safety and precinct making
- Research and test drones, robotics and AI for **better asset management** and incident management
- Input to transition plans linked to updated policy, services and infrastructure frameworks

4 Sustainable enterprise systems to empower our Transport teams

Goals

- **Technology tools and systems for workforce** ease and productivity
- Systems for frontline workers to improve services and keep customers informed
- **Drones and robots for remote asset monitoring** to improve worker safety and collect data
- **Strong cyber security protections** for integrity of all systems

Technologies

Supported by Major Digital Enablers – Technology that is strategically significant for Transport and NSW Government more broadly

- Digital identity
- Responsible Artificial Intelligence
- Cloud computing
- Digital connectivity
- Cyber security
- Automation
- Data management

Technology transforms transport experiences

2

Transport has an ambitious vision for optimising use of technologies to offer the optimal transport experience for all, our customers, our communities, the transport system and our workforce.

At the core of this vision is how we deliver value using existing and emerging technologies to deliver against six key benefits:

1. Faster and easier
2. Safer and secure
3. Reliable and resilient
4. Sustainable and electric
5. Equitable and affordable
6. Cost-effective and financially sustainable

Left: Employee helps passengers plan their trip using a mobile phone

Above: NSW TrainLink employee on a platform at Dubbo Station

Benefits and value

Faster and easier

Whether you're taking public transport, driving, walking, cycling, or moving freight, every journey begins with a plan and often involves transactions like fares, tolls or parking fees. While technology already plays a role in these aspects, the next wave of technology promises to be smarter and more personalised for your journey.

Imagine an app that not only alerts you to the next train service but also directs you to a nearby ride-share bicycle to reach the station. If you're driving, it informs you about available parking spaces and seamlessly handles payment for the services you use.

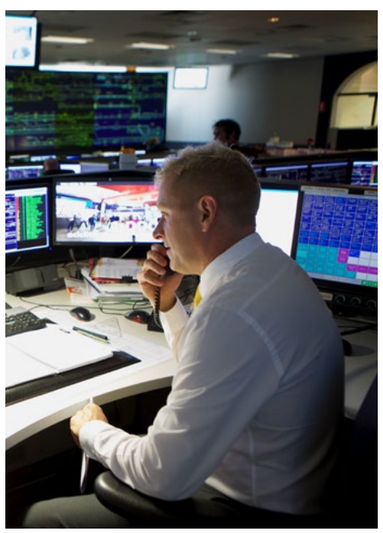
While you are travelling, intelligent systems will optimise our roads and rail networks, ensuring efficient freight movement and enabling faster, more frequent bus and rail services. Traffic management systems (SCATS) will enhance and streamline the trip experience and enhance liveable cities. These systems will empower transport operations staff with intuitive, comprehensive network alerts, enabling swift incident responses and keeping everyone informed. Regional customers will enjoy more service information and easier payment choices.

Case study: Opal Next Gen
Public transport users in NSW will be able to access new ticketing technologies and features thanks to a major upgrade to the Opal ticketing system. Known as Opal Next Gen, the upgrade will leverage new technologies to enhance passengers' ability to plan, pay and get information about their journey, and allow Transport to keep pace with emerging technologies and changing customer needs.

Find out more at
transport.nsw.gov.au/technology-strategy-case-studies

Up to 15% faster bus trips with the use of SCATS Priority Engine and PTIPS

2.4m
Passengers use Transport's mobile app for trip planning and card management



Top right: Passenger using a smartwatch to tap on

Centre right: Cyclist using an Opal card to open a secure bike storage facility

Bottom right: Employee on the phone looking at computer screens

Safer and secure

Our transport network has always been designed and operated to rigorous safety standards and new technology will help raise that bar even higher. Technologies improve safety on roads, public transport, and when walking and cycling.

Automated safety features protect drivers and passengers while digital systems, service robots and drones on our rail network are strengthening the safety of maintenance crews.

In times of natural disasters, transport technology will come to the fore, offering real-time guidance on the safest routes to evacuate affected areas. Transport works closely with other agencies to protect our customers, assets and our workforce, and to enable continued delivery of essential services, including through use of critical technologies and data.

As transport is increasingly digitised, strong cyber security protection for customers, integrity of the technologies running and supporting the network is of paramount importance.

Up to 30% reduction in crashes when Smart Motorways are introduced

Case study: Level Crossing Technology Trial
A trial of innovative technology designed to improve safety at railway level crossings is underway in regional NSW.

Find out more at
transport.nsw.gov.au/technology-strategy-case-studies

Above: Two employees using a drone

Reliable and resilient

Every transport network experiences periodic disruptions, whether due to planned maintenance, major events, natural disasters, or unforeseen incidents. Operational technologies help road and rail networks to be resilient to disruptions, with operations centres using rich real-time data to quickly manage incidents and minimise disruption before it can grow.

Operational technologies improve the reliability of road and rail networks for bus, train, active and freight transport services, while green light priority for buses offer passengers faster, more reliable bus journeys and Digital Systems help train passengers with reliable rail services. Machine learning traffic cameras also count and classify road freight movements, to better inform planning.

Reliability is increased by modernising the network with systems that provide accurate live information and intelligence to increase network capacity and reduce network downtime. The same systems provide better predictive capability for asset failure and a framework for proactive maintenance to prevent failures.

They provide network resilience by facilitating the intelligent re-routing of transport services and providing options for network recovery from incidents, generating live alerts and alternative route recommendations for passengers. Technologies must also be appropriately designed for reliable and resilient operation.

Technology is also essential for the routine operation of our networks, to optimise timetables, crew management and asset management. It's the digital backbone that keeps our transport systems running smoothly.

Finally, establishing an efficient regulatory ecosystem will support product innovation and leading customer experiences.

Case study: Digital Systems Program
Our existing signalling and train control technology is currently being replaced with modern, internationally proven, intelligent systems. The Digital Systems Program will provide more reliable services, reduced journey times and enhanced real-time information, while also being a key enabler for a future increase to the capacity of the rail network.

Find out more at
transport.nsw.gov.au/technology-strategy-case-studies

13%

estimated reduction in rail delays using Digital Systems once deployed across the network

Left: Train stopped at track intersection

Left: An employee at Roads Maintenance Centre

Above right: Bus driver with Zero Emission Bus charging cables

Sustainable and electric

Transport's Net Zero and Climate Change Policy sets out a plan for transitioning the NSW transport sector to net zero emissions. This includes continued transitioning of the public transport bus fleet to zero emissions buses, electrifying Transport's ferries, supporting rollout of electric vehicle charging and supporting technologies, and investing in green energy technologies based at Transport sites. It also includes collaborating with the freight sector to support the uptake of zero emission technologies, as well as supporting the creation of a sustainable aviation industry in NSW.

Sustainable transport networks reduce our carbon footprint by adopting technologies such as electrification that reduce reliance on fossil fuels. Infrastructure technologies such as smart charging stations and green hydrogen refuelling stations facilitate this adoption process, while tracking technologies help measure environmental impact by monitoring factors such as energy consumption and the carbon footprint of the supply chain.

As the second largest sector for emissions, it is essential the transport sector helps to meet NSW's goal to reach net zero emissions by 2050. Smart customer technologies play an important role in encouraging walking, cycling and other active transport options and public transport services will be increasingly provided by low and zero emissions vehicles. While electric vehicles and zero emission buses are already growing quickly in number, we are focussed on developing new electric and green hydrogen technologies to address emissions reduction in other modes such as aviation, long haul road and rail freight.

Case study: Zero Emission Buses
The majority of Transport for NSW's public transport carbon emissions come from buses. The transition of the state's public transport bus fleet to zero emissions technology is now underway and will bring a range of benefits for the environment, passengers, the community and industry.

Find out more at
transport.nsw.gov.au/technology-strategy-case-studies

509,000 tonne

estimated reduction in carbon emissions a year by moving to a 100% Zero Emissions Bus fleet

Equitable and affordable

Transport is an essential service for all people in our community and technology must help enhance that transport experience for our diverse customers. To support this, we are rolling out Opal Contactless ticketing to provide convenient frictionless ticketing on all public transport across NSW, including regional communities, with cash and paper tickets maintained where needed.

We have made it easier for customers with disability and mobility impairments to access trip planning services and to plan for more accessible journeys through transportnsw.info and transport accessibility apps. Transport's websites and applications use leading accessibility tools and experts to ensure we are continually striving for the highest standards of digital equity to deliver technology services that are suitable for all customers. Hearing loop technologies and contactless payments also support accessibility.

On our roads, we will use technology to modernise and improve our road tolling with motorist experiences enhanced by the Toll Relief Programs and Toll Compliance Management System.

3,000 regional bus services will have real-time tracking by end of 2025

Case study: Transport Connected Bus Program

We're expanding the range of transport services and technologies available to customers outside metropolitan areas to improve equity and help more people access public transport more easily. New technology allows regional bus passengers to use websites and apps to see where their bus is in real time, how soon it is due to arrive and how full it is.

Find out more at transport.nsw.gov.au/technology-strategy-case-studies

Left: A passenger and their guide dog exiting a train

Cost-effective and financially sustainable

Technology plays an important role in ensuring cost-efficiency and best value for money in state funding expended on transport assets and services. Integrated planning of technologies with infrastructure and services solutions is critical. Digital-by-Default assessment of digital solutions enables planning ahead for technologies to improve efficiency, and to potentially reduce or defer the costs of other infrastructure and services solutions.

Operational technologies are shown to improve the efficiency and effective capacity of road and rail network infrastructure, with infrastructure agencies moving to technology-enabled smart infrastructure. Asset management technologies also improve the cost-efficiency, scalability and financial sustainability of asset condition monitoring, maintenance and management.

We also invest in fewer, better core foundation systems that are more sustainable, with integrated technology planning, prioritisation and investment providing opportunities to re-prioritise and integrate digital systems for less duplication and more cost-effective value. This will include the greater use of State Digital Assets (SDAs) supporting the Government's focus on establishing a framework of common services.

Right: A camera monitor fixed to a windscreen

Case study: Asset AI®

Digital technologies are helping us to plan, deliver, operate, and maintain transport network assets and services cost-effectively. A trial of dashboard-mounted cameras and sensors on council vehicles linked to machine learning algorithms will detect road defects like potholes or cracking before they happen or cause major damage.

Find out more at transport.nsw.gov.au/technology-strategy-case-studies

Transport Priorities

3

Transport is committed to delivery of key transport priorities, including through use of the full range of technologies available. These include:

A safe, equitable and integrated transport system

- Customer apps offer easier, seamless and more consistent ways to plan, book and pay for more public transport services, with more information for passengers to make informed choices.
- These systems provide real-time service information so passengers can feel confident about service availability, reliability and performance across travel modes.
- Real-time operational service data helps operations centre teams to optimise service integration, manage disruptions safely and advise passengers through integrated communications.

Restoring reliability and increasing patronage

- Operational technologies improve safety and reliability of road and rail networks for bus, train, active and freight transport.
- Green light priority for buses offers faster, more reliable bus journeys and Digital Systems keep trains operating to timetable, to attract more passengers and better utilise the network.
- Customer technologies keep public transport passengers informed on service reliability with accurate real-time information.
- Real-time multimodal incident detection and management, responds quickly to incidents and will minimise disruption before it grows.

City shaping and precinct making

- Easy, fast and personalised trip planning for local walking and cycling, tailored to easy, medium or most direct routes.
- Smart places technologies support liveable, safe and walkable neighbourhoods.
- Digital connectivity on major transport corridors and around transport hubs supports live customer information and transport operations.
- Preparing for technology to enable any accepted recommendations from the independent toll review.
- Intelligent traffic management enables placemaking, movement and public policy objectives via enhanced road network prioritisation.

Local manufacturing and jobs

- Share our Technology Strategy to steer and support market confidence to participate and invest in local jobs to build the solutions that we need.
- Build on our successful track record of partnerships with industry at all stages – in early stage pilots, proofs of concept and scaled-up service procurement – building local capacity.
- Leverage NSW's leading position in technology research, start-ups and scale-ups, by building collaborative partnerships with technology, infrastructure and manufacturing industries.

Respecting and re-engaging our entire workforce

- A more rewarding work environment with technology tools and systems to help our workforce do their work more quickly, easily and productively.
- Technologies help frontline workers with quicker information gathering, decision-making support and information for customers.
- Drones and robots provide remote asset condition checks, to improve worker safety and to collect data automatically for review by workforce specialists.

Far left: Passengers using a pedestrian crossing

Technology Priorities

4

Left: A passenger talks to an employee at the Transport Information desk

Transport has four key priority areas of technology over the next two to ten years to offer the most benefits when delivering towards our outcomes and strategic priorities.

Work under each technology priority will build on the strong foundations we have already built in critical systems, and progressively scale over the next two, five and ten year horizons to deliver increasing value to our passengers, road users, the wider community and our workforce.

Right: Two passengers talk while using the wheelchair space on a Sydney Metro service

01

Customer information and payments for easy ways to plan, book and pay

Our vision

It is faster and easier for passengers to plan multimodal trips on a range of public and private transport options, and to access, book and pay with confidence for end-to-end journeys.

Passengers can opt-in for alerts about service disruptions and drivers receive notice of road closures. Walkers and cyclists can access and input information on safe routes to use.

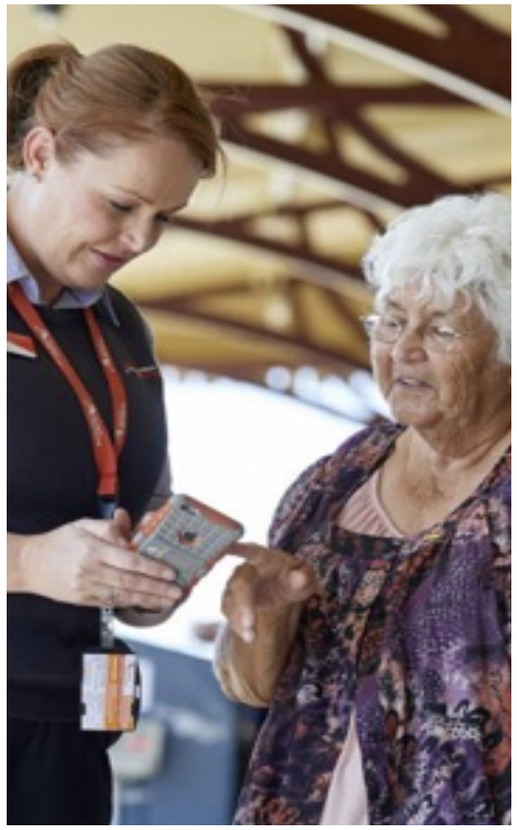
This makes public transport, walking and cycling more attractive choices that, in turn, increase patronage, reduce reliance on cars and improve environmental outcomes.

Motorists and freight providers have greater visibility of disruptions on the road network and improved tolling services.

This also supports equitable access for all communities across NSW and supports the visitor economy.

What is it?

Passenger information and payment technologies, like trip planners, real-time service information, disruption alerts, booking systems, tolling and payment platforms. Current systems are globally recognised and, in the next 2-5 years, will be enhanced and extended to reach more passengers across various services with more personalised solutions.



Right: An employee helps a passenger plan her journey using a smartphone

What can customers and industry partners expect?

2025

- Easy to use apps, online services and live displays provide reliable real-time service information, empowering passengers and road users to make safe choices with confidence.
- Online bookings make it easier for passengers to arrange services they need at each stage of their journey.
- A wider choice of ways to pay for different modes of transport, particularly for regional passengers when using contactless payment technology.
- Train guards and station staff have fast digital notice of disruptions, to help support passengers.

2028

- Passengers can easily plan, book and pay for personalised multimodal journeys, including public transport and connecting services like On Demand buses, taxi and rideshare.
- Passengers can choose and plan trips based on their preferences, including environmental factors.
- Concession holders can easily use contactless ticketing across Opal-linked services to receive their concession fare.
- Passengers have an integrated account and secure digital identity to perform travel related tasks.
- Integrated passenger information and ticketing supports easier visitor access to regional areas and events.
- Boating apps and safety beacons keep boating customers safer.
- Freight customers can plan their journeys through improved network access decision making.

2033+

We expect to see:

- Passengers receive personalised communications to support their travel preferences and tailor their end-to-end journeys.
- ID-based or cloud-based ticketing systems can be used for more services, including incentives and rewards.
- Hands-free frictionless and voice-activated technologies help people with disabilities.
- Integrated ticketing and customer platforms support greater visitor access across NSW.
- Integrated booking and payment systems include newer modes and emerging technologies.

Above: A cyclist uses their smartwatch to tap on

02

Operational technology systems to optimise networks and services

Our vision

Road and rail networks and services are safer, faster, more productive, reliable, resilient to disruptions, keeping people and goods moving on core passenger and freight services.

Disruptions are addressed quickly before congestion grows.

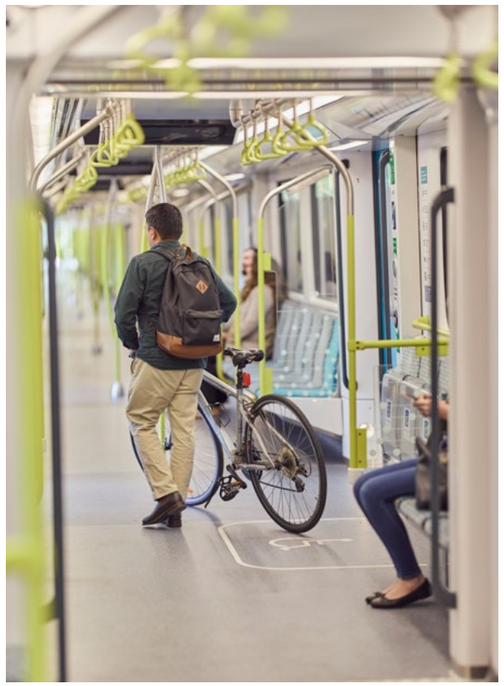
Reliable on-time running and network capacity are improved, with less need for costly additional physical infrastructure.

Real-time data is supplied for passenger information and for network management by operations centres. Smart precincts offer safe, inclusive and accessible neighbourhoods with great amenity.

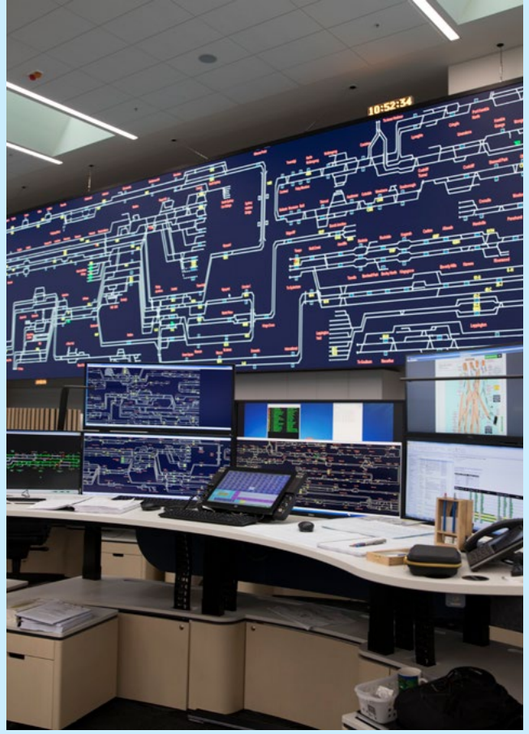
Networks are ready for connected and automated vehicles and other emerging technologies, such as SCATS vehicle-to-infrastructure capabilities to enable red light and road user warnings.

What is it?

Operational technologies, like Intelligent Transport Systems (ITS), smart infrastructure and digital engineering technologies, use smart sensors, drones, robotics, digital twins, Artificial Intelligence (AI), machine learning and advanced computing to keep people and goods moving quickly and reliably. They collect and process large volumes of data to optimise road and rail networks for better safety, reliability and resilience. This also allows better quality, more timely information for passengers about services and network disruptions.



Right: A cyclist holds his bicycle on the Metro service



2025

- Bus passengers have reliable service information and rapid bus services are faster and more reliable with priority at traffic signals.
- Road and rail networks and public transport services operate more reliably, with real-time insights for operations centres to manage disruptions quickly.
- Advanced train control technology improves reliability, capacity and passenger experience on rail services.
- More information for new cycleways and to support walking, cycling and multi-modal trips.
- Smart places technologies improve amenity in precincts and hubs.
- Faster, automated decisions on access assessments with heavy vehicle operators.
- Last-mile freight delivery trials and new forms of electric micromobility offer mode choices and low cost mobility.

2028

- Digital systems strengthen planning, design, delivery and management of road and rail transport assets, services and resources.
- More connected trucks provide insights that help optimise road networks for freight.
- Drones and robotics proactively monitor and predict asset condition for more effective maintenance.
- Digital twins enable faster and better informed infrastructure design and delivery.
- Digital connectivity expands to more regional and outer metropolitan road and rail corridors, helping passengers access live information and operation centre management.

2033+

We expect to see:

- Operational technologies enable more integrated insights across the network, for kerb-to-kerb journeys across more modes.
- Traffic signals prioritise pedestrians in urban centres and near schools.
- More edge and cloud computing, with trials of more powerful quantum computing, enable faster insights and more automated management across networks.
- New priority road projects embed cooperative-ITS and Connected and Automated Vehicle (CAV)-ready infrastructure and services.
- Communities can explore and give feedback on proposed infrastructure and services with immersive augmented and virtual reality experiences.

Top left: Computer monitors displaying code
Top right: An employee using a large touchscreen

03

Explore emerging technologies to deliver new value

Our vision

Emerging technologies deliver new value to the way we move people and goods, and support liveable, connected centres and smart places. Mobility is more reliable, sustainable, safer and better connected with customers and operations staff.

As technology development accelerates, we explore and shape the best outcomes for NSW, in ways that involve and build trust in the community.

Transition plans for adopting and scaling new technologies link to updated policy, services and infrastructure frameworks, and are supported by the community.

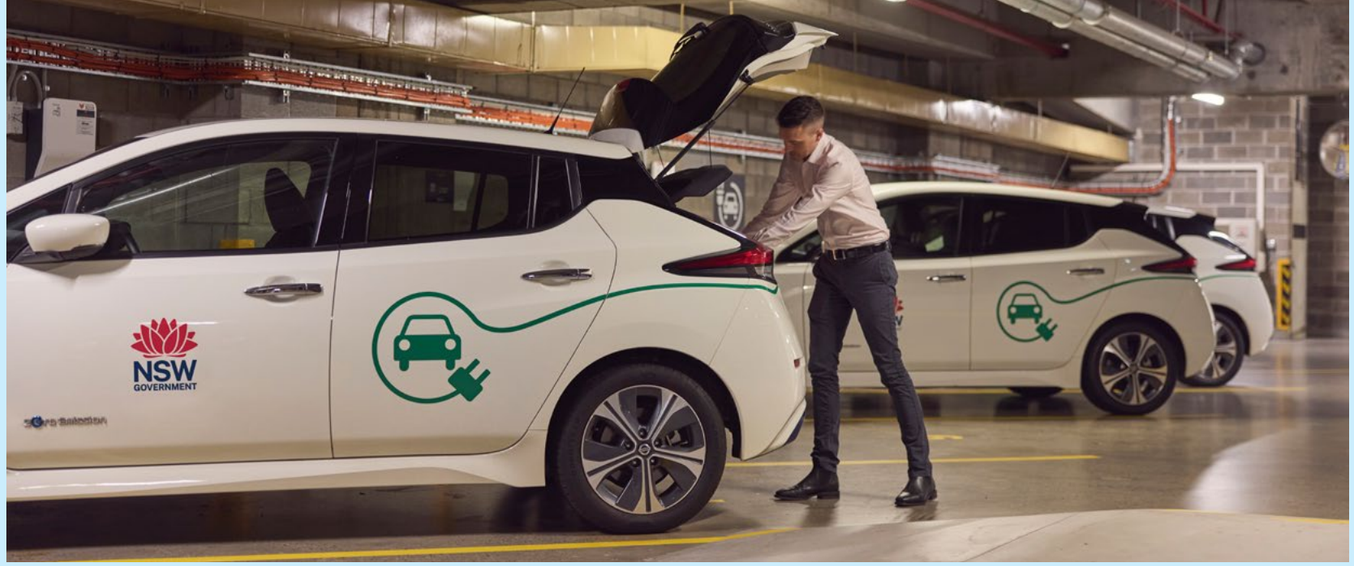
Industry and research partnerships on emerging technologies lead to local jobs and economic growth.

What is it?

Emerging mobility technologies are technologies that are still in development and have the potential to deliver significant benefits for transport. This includes technologies like vehicle connectivity and automation, newer forms of low and zero emissions vehicles and more advanced digital systems and products, including smart and connected technologies, digital twins, immersive digital tools and use of generative AI.

The value of these technologies is validated through trials, then scaling to wider deployment and is aligned to Transport outcomes and priorities. Partnerships with industry and research groups support innovation and lead to new markets and opportunities for local industry growth. This work also co-designs integrated policy, regulatory, infrastructure and services frameworks with key stakeholders.

Above: A Zero Emission Bus at a bus stop in Annandale



What can customers and industry partners expect?

2025

- More vehicles with connected and automated driver assistance technologies improve road user safety.
- New road projects embed connected and automated vehicle -ready infrastructure and services standards.
- More vehicle safety technologies are tested at the Future Mobility Testing and Research Centre for wider deployment.
- More zero emissions buses offer cleaner, quieter centres and streets.
- More taxis, rideshare and delivery vans switch to electric vehicles for lower running costs.
- Smart places technologies tested and piloted to deliver great places.
- More micromobility services available for short city journeys and tested for last mile freight deliveries.
- Digital twins, digital engineering and other immersive technologies support community engagement and planning, design, operations and maintenance, particularly for major infrastructure projects.
- Drones and service robots examine transport asset condition in safety-critical settings and emergencies, for safer information and access.

2028

- EV chargers and green hydrogen refuelling stations are hosted on Transport properties.
- There will be around 1,700 zero emission buses operating on Sydney roads by the end of 2028.
- Road freight scales up use of low and zero emissions trucks.
- Vehicle-to-load EV charging technologies help balance energy use in homes, businesses and depots.
- Input to regulatory frameworks that enable safe commercial deployment of automated vehicles.

2033+

We expect to see:

- Transition to zero emission buses to be complete in Greater Sydney by 2035.
- 55-100% of new passenger vehicles sold will include Active Safety Systems and 5-50% will have Interoperable Co-operative ITS (Austroads).
- EVs will be over 50% of new car sales and EV chargers are accessible and faster for most road users. Low and zero emissions long haul heavy-duty trucks are more common.
- Widespread use of 4D spatial digital twin and digital engineering tools improve asset design, operations and maintenance, and boost community engagement in infrastructure and services programs.
- Smart sensors supply new data insights that support better experiences with movement and place.

Above: An employee putting something into the boot of a Transport for NSW electric car

04

Sustainable enterprise systems to empower our Transport teams

Our vision

Reliable core systems that are seamless, responsive and easy to use help Transport staff to do their work more quickly, effectively and intuitively. Transport systems leverage State Digital Assets to support the delivery of common services across Government, where fit for purpose.

Frontline workers are empowered with systems that help improve service delivery, manage the network, and transform the way we deliver regulatory activities and keep our customers informed.

Staff are helped to develop their technology and data capabilities, with training and skills development, so they can focus their skills and experience on more meaningful tasks.

What is it?

The Transport workforce is skilled and empowered with smarter, seamless, reliable and responsive enterprise-grade information technology systems and tools that use Artificial Intelligence (AI), metaverse, low-code and no-code technologies, cloud and quantum computing and hyperscalers to digitise and optimise processes. These include internal enterprise systems for managing finance, human resources, capability, asset management, enterprise risk, communications, regulatory activities, procurement, contract and property management, and other workflows, and do this using real-time insights, AI, trusted data, and automated work flows to maximise value. Staff also work with other agencies to streamline systems for better customer experience.

Above: An employee using a computer

What can customers and industry partners expect?

2025

- Digital timetabling and workforce management systems for faster, easier rostering and more reliable rail services.
- Seamless and intuitive systems that support diverse workforce needs.
- Improved resilience by strengthening core foundational systems.
- Solid foundational technologies that are scalable, intuitive, cyber secure and power key enterprise systems, assets and network reliability.
- Enhanced connectivity and sustainable technology landscape.
- Digitisation and automated workflows eliminate paper-based and manual steps.
- Actionable real-time insights built on trusted data and data enablers
- Strong cyber security protection is maintained.
- AI driven competency and capability management platforms that are scalable and adaptable to meet current and future skills needs.
- Transport workforce can gain additional digital and data capabilities.
- Transport is an advanced purchaser and partner in technology projects and procurement.
- ‘Next generation’ regulatory operations system enabling a better and safer experience for our customers, staff and regulator partners by being an integrated single source of insights to support Transport’s decision-making at the operational, strategic and policy levels.

2028

- Empowered workforce through democratisation of technology and real-time insights.
- AI-augmented workflows to give time back to our workforce and foster creativity.
- Workforce pioneers modern and hybrid ways of working.
- Leading-edge technology provides the foundation for more employee-centric processes and seamless experiences.

2033+

We expect to see:

- Technology supports and maximises our workforce potential by providing commercial and actionable insights via integrated technologies.
- Our diverse workforce is supported through AI and cloud enabled virtual toolkits, open applications and personal virtual assistants.
- Technologies that allow Transport workforce to better explore, create and learn.
- Technologies that help attract, train and retain teams that can navigate a rapidly changing world.

Above: Several employees gathered around a computer screen

Delivering Transport's Technology Strategy

5

Delivery principles

Transport is committed to delivering practical benefits and value to customers, communities and Transport teams.

To best meet outcomes and priorities in ways that are effective, secure, and technically and financially sustainable, we will apply the following delivery principles.

- Customer focus
- Digital-by-Default
- Resilient and integrated technology foundations
- Collaborative innovation
- Successful partnerships
- Clear governance and frameworks

These principles are being embedded in our program assurance and governance to ensure they are met and applied throughout planning, prioritisation and investment processes.

Customer focus

Customers and communities rely on transport every day, so we work hard to understand customers' needs and preferences, and to incorporate those needs into the design and development of technology solutions. Whether for public transport passengers, walkers, cyclists, drivers or freight customers, and whether in cities or regional areas, we look for ways technologies can create better experiences, equity and accessibility for the needs of our diverse customer groups.

With a human-centred design approach, we involve customers and communities in the design of digital solutions and ensure they are accessible and inclusive for all. We also use technologies to improve how we engage with communities and gather feedback, such as for major infrastructure projects and future services.

Digital-by-Default

This approach ensures that technology and data solutions are assessed at early stages of identifying options for delivering Transport objectives and solutions, alongside policy, services and infrastructure. It reflects the growing need to transition towards more digital solutions and is used in other agencies, including infrastructure agencies.

This approach enables technology to be better planned, prioritised and invested in from the start of new program development, rather than added at a later stage and at greater cost. Transport is updating its frameworks and governance processes so that the most efficient and effective combinations can be selected and progressed from early stages.

> "The benefits of data and digital technology are maximised when considered at the planning stage of government services and infrastructure.... (This will) require all Strategic Business Cases to include 'if-not-why-not' options to utilise digital technologies as an alternative to new physical infrastructure, either through digital service provision or through augmentation of existing physical assets."
>
> **NSW State Infrastructure Strategy**

Learn more about Transport's Digital-by-Default principles at

transport.nsw.gov.au/technology-strategy/digital-by-default

Resilient and integrated technology foundations

Transport manages an extensive array of technology systems, platforms, and digital tools, each serving a range of purposes.

These systems, much like physical infrastructure, require ongoing maintenance to preserve their reliability and ensure they continue to deliver essential services to the community, including for emergency management. This maintenance incurs both initial development costs and ongoing operational expenses.

Our focus at Transport is the consolidation of fewer, high-quality systems to serve as robust and dependable foundations for critical activities, such as the management of road and rail operations or emergencies. This resilience underpins the safe and efficient operation of our transport networks. Any lapse in system reliability could lead to substantial disruptions in passenger and freight movements.

Investing in strong core systems provides us with the flexibility to expand their functionality without duplication and the associated costs of fragmented systems.

As technology systems increasingly converge and interact with each other, such as operational technologies supplying real-time data that support customer information technologies (eg. trip planning apps); we also recognise the significance of integration and scalability in today's technology landscape. Transport's commitment lies in designing, developing, and maintaining systems that are fully integrated, inter-operable, and scalable to meet future demands.

Duplication and disconnected systems not only fail to serve the community effectively but also result in higher costs. Transport adheres to industry standards that enhance integration and interoperability, ensuring a seamless and valuable experience for both customers and communities. This commitment allows Transport to maximise immediate benefits and future potential.

Collaborative innovation

Transport values and invites collaborative partnerships with industry, researchers, local governments and others to bring together the diverse capabilities needed to deliver for communities. Start-ups, scale-ups and local businesses can team with Transport to help bring the benefits of technologies to reality, with many partnership pathways available.

Transport has a broad program of innovative pilots, trials and proofs of concept that allow us to test and learn in smaller scale operations. These help us gather real evidence and insights that inform how to best shape and scale our use of technologies for optimal results.

Pilots and trials take place across all technology fields, and Transport also has purpose designed facilities for use across Transport and with industry partners. For example:

- Transport's Digital Accelerator supports collaborative innovation, by bringing together design thinking and agile approaches to address complex customer needs. We partner public sector expertise with private sector creativity to solve real problems.
- The Future Mobility Testing and Research Centre is a leading testing facility for advanced vehicle and other emerging technologies and supports improved safety, sustainability and productivity outcomes.
- Smart Places Acceleration Program includes Smart City Innovation Challenges to uncover novel technology solutions in new partnerships between the technology and innovation sector and the NSW Government.

Successful partnerships

People and organisations who do business with Transport, support us in delivering the best outcomes for our technology aspirations. Industry partners, accredited service providers and suppliers help to position us as a global leader in transport technology. These critical working partnerships keep us well prepared and informed for new advancements and innovation, particularly where external expertise can support us on the journey.

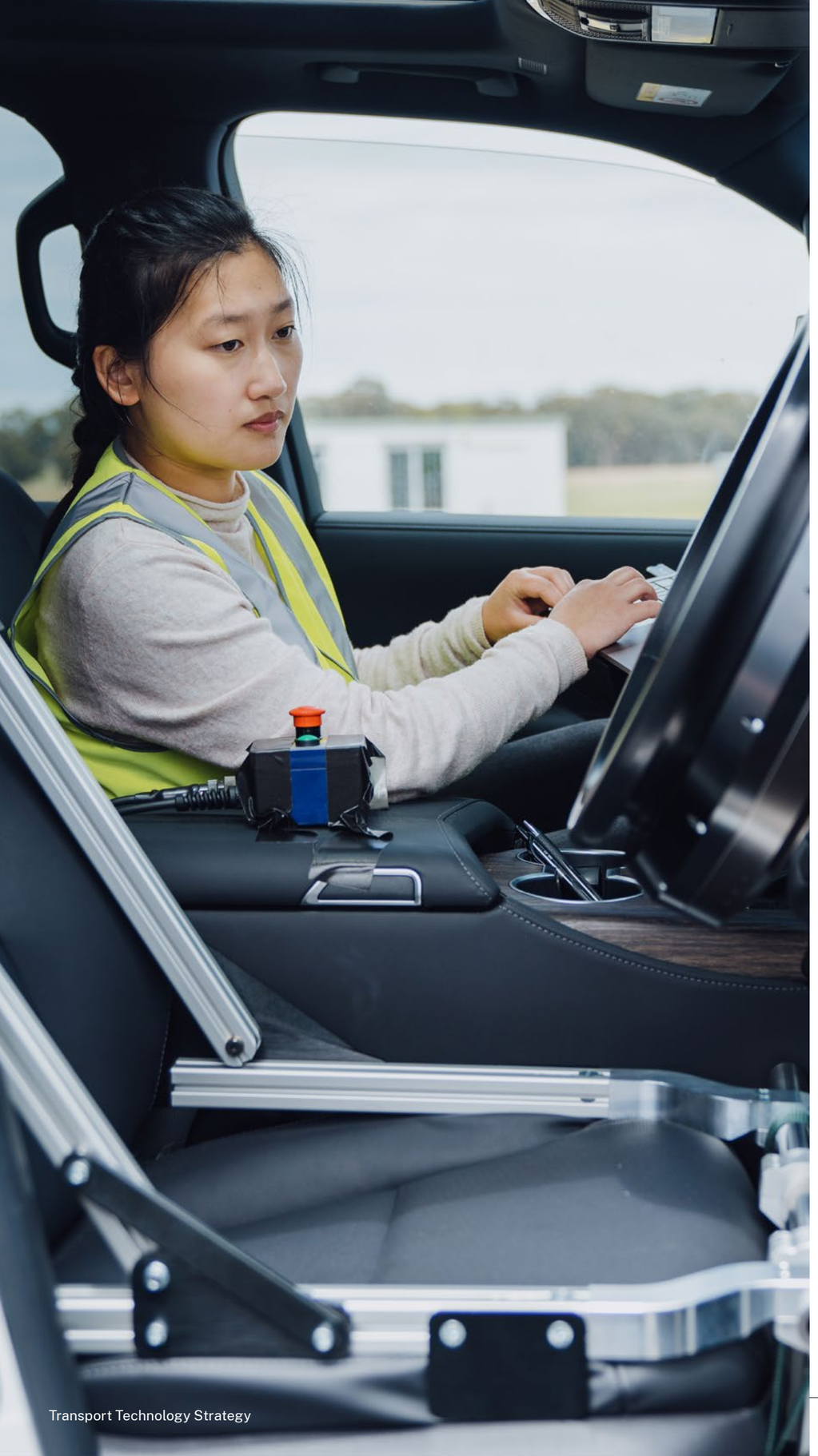
Transport is committed to forging partnerships that are mutually beneficial, productive and move our technology ambitions forward.

Clear governance and frameworks

Our technology and wider business governance processes will use this Strategy to help guide technology decisions made through planning, prioritisation and investment governance frameworks, including for lifecycle management of technology assets.

Reference to this Strategy will ensure that governance and assurance processes are integrated, aligned and linked to strong business processes to deliver the most value towards Transport's strategic objectives and outcomes.

Digital enablers



Left: An employee using a laptop to study an automated vehicle at the Future Mobility Testing and Research Centre

To deliver against our Technology priorities, Transport will leverage and support major digital enablers, including several wider NSW initiatives that are transforming the use of technology and are strategically important across the NSW Government and nationally:

- Digital identity
- Responsible AI
- Cloud computing
- Digital connectivity
- Cyber security
- Automation
- Data management

Digital identity

Digital identification technology is being developed in NSW as a safe and secure way to prove your identity when accessing services or completing transactions online and in-person, including for customer transactions such as registration, licensing, concessions and ticketing.

Offering an alternative to the need for face-to-face interactions or physical identity documents, digital identification makes it easier for customers to deal with government. Key Transport workforce will also be able to access digital identity where needed, including for management of emergency events.

Transport works closely with Department of Customer Service and Service NSW to develop and enable ways to provide customers with the convenience of digital identity options for key transport transactions, and ensuring these remain safe, secure and easy to use.

Responsible Artificial Intelligence

Artificial Intelligence (AI) is the use of advanced computing algorithms that support human decision making by identifying meaningful patterns in data. The role of AI is developing rapidly, with the emergence of generative AI.

AI can provide valuable insights and guide decision making very quickly and accurately. Transport uses AI-enabled systems to support our customers and empower our workforce, such as by detecting disruptions, analysing traffic patterns, managing crowded places and improving safety of pedestrians and other road users. AI can also help predict operations and maintenance programs.

NSW's Artificial Intelligence Strategy and Artificial Intelligence Ethics Policy set guardrails for use of AI in government, to ensure it avoids bias and is used safely, securely and in line with privacy requirements. As the use and value of AI continue to grow, Transport will enable its technologies to use AI where appropriate, in compliance with these requirements.

Cloud computing

This refers to computing systems that are on-demand and available to organisations in a self-service manner, including computing power and data storage that is distributed over multiple locations. It enables technology applications to be developed more rapidly, and to be scaled and maintained more responsively with lower initial costs to build.

Consequently, to achieve modernisation and agility with security, NSW is making a strategic shift to cloud consumption through use of public and private cloud services. Transport is focused on ensuring this greater use of cloud services is applied where it adds value and embedded with the required controls.

Digital connectivity

Availability of competitive high-speed digital connectivity is critical for enabling fast transfer of large volumes of data needed to operate our transport technologies, and for wider economic and social outcomes, including better digital inclusion and equity.

NSW's Connectivity Strategy optimises state-wide connectivity programs to achieve a modern, high-speed digital network available to all. Transport's role is to help deliver enhanced connectivity along major transport corridors, and to explore shared infrastructure arrangements in major transport projects and corridors.

This work is underway to enable our smart customer and operational technologies to function and to prepare for more connected customers, vehicles, infrastructure and better places for people. Dedicated emergency communications are also being put in place for reliable communications during emergency events.

> "Competitive high-speed connectivity is fundamental to economic and social outcomes (... and should) be built into new government precincts and infrastructure projects."
>
> **NSW State Infrastructure Strategy**

Cyber security

> "Cyber security is the spine of a strong digital society, providing a trusted environment necessary to grow digital transformation and the confidence needed to advance digital adoption."
>
> **NSW Cyber Security Strategy**

Across our technology programs, we can and must protect our customers and our systems from ongoing growth in cyber threats, to keep them safe, private and secure, so systems are resilient and there is confidence in their use.

NSW's Cyber Security Policy and Strategy outlines requirements that NSW agencies must meet for ensuring cyber risks are properly managed across our digital systems, transport networks and fleets.

Transport updated its Cyber Security Strategy in 2023 to align cyber protection resources and activities, investment and governance for managing risks across its own systems and its suppliers, so we can deliver safer connected journeys NSW can rely on every day.

Automation

Automation is rapidly transforming digital processing, network operations, vehicle safety technologies, and workflows, yielding faster, safer, easier and precise results. Many new vehicles already feature automated driver assistance technologies (such as Auto Emergency Braking and Lane Keeping Assist), and by 2025, all new Australian passenger cars are expected to include such features.

Transport's CAV Readiness Strategy outlines six priorities for NSW to embrace these vehicle technologies safely, and we evaluate performance of such automated features at the Future Mobility Testing and Research Centre.

In operational technologies and intelligent transport systems, AI and machine learning are driving automation for more effective management of road and rail networks, enhancing safety and reliability.

Automation and AI are also supporting and empowering our workforce, supporting decision making with tools that streamline tasks, offer role-specific support and free up staff time through user-friendly digital systems, coupled with training and career development opportunities.

Data management

Technology and data work in partnership, mutually enhancing each other's capabilities. For example, operational technologies generate real-time data to manage road and rail networks, keeping customers informed of disruptions. Many technology systems also use data, AI, machine learning, and advanced computing to optimise mobility services.

The full potential of digital tools and platforms is reliant on consistent, trusted, and accessible data. Implementing standards, classifications, and robust data management practices throughout the technology lifecycle is essential, including management of data as a critical asset with appropriate privacy and commercial protections.

The NSW Government Data Strategy defines collaborative, coordinated, and secure data usage and sharing across government, for driving informed decisions and optimal outcomes for NSW's people and businesses.

Transport's Transport Data Strategy 2022-2025 envisions unlocking the value of data for seamless, safe, and connected journeys, recognising that the role of data is central in decision-making and planning. The Transport Data Strategy complements this Transport Technology Strategy, emphasising the importance of fit-for-purpose data platforms within the enabling ecosystem.

Above: Employee looks at illustrative map on a tablet device

Measuring success

It is paramount that with our commitment to advancing technology solutions, we closely monitor and assess our priority programs to ensure the people of NSW enjoy improved community, economic, and environmental benefits.

Transport adopts an outcomes-driven approach for prioritisation, investment, monitoring, and measurement. Technology programs already contribute to key success indicators, including safety, customer satisfaction, increased public transport usage, liveable and sustainable communities, engagement, innovation, economic growth, and workplace safety.

We will monitor delivery of the Transport Technology Strategy using the transport outcome measures and technology-specific delivery metrics. These technology measures will assess project delivery, adoption rates, customer usage, and satisfaction.

Given experience with recent technology projects, we anticipate strong results but remain adaptable to ensure success and prioritise customer outcomes in our approach.

Below: Three employees sitting at a table having a meeting

Partner with us

Our vision thrives on successful partnerships. We want to expand our track record of valuable collaborations, from early-stage pilots to scaled-up goods and service procurement. We're also investing in our team's skills and fostering innovation for fulfilling careers.

We want to partner with the transport and technology industry, communities, researchers, and other jurisdictions to pool our talents, skills, and expertise for a common purpose. Partnerships enable us to capitalise on each other's strengths, delivering the best transport outcomes and creating more local job opportunities.

We welcome and invite industry partnerships, including start-ups, scale-ups, local businesses, advanced manufacturers, and investors, to collaborate on our Transport Technology Strategy. Together, we'll solidify NSW's position as a global transport technology leader, shaping world-class mobility solutions for our people and communities. Join us and be a part of this transformative journey.

Transport Technology Partnership Portal

Would you like to explore partnerships that suit your interests and register for updates?

Register at: yoursay.transport.nsw.gov.au/transport-technology-partnership-portal

Transport Digital Accelerator

Looking for ways to facilitate direct collaboration between industry, start-ups and Transport?

Visit: transport.nsw.gov.au/data-and-research/digital-accelerator/transport-digital-accelerator

Contact: digitalaccelerator@transport.nsw.gov.au

Future Mobility

Are you interested in collaborating in the research and development of innovative, safe transport technology that benefits both the industry and our communities?

Visit: transport.nsw.gov.au/data-and-research/future-mobility

Contact: future.mobility@transport.nsw.gov.au

Future Mobility Testing and Research Centre

Do you need a safe place to physically test your connected, automated or sustainable technology and an objective testing team to support?

Visit: transport.nsw.gov.au/data-and-research/future-mobility/future-mobility-testing-and-research-centre

Contact: future.mobility@transport.nsw.gov.au

Research Hub

Want to know more about how we develop research projects with universities, the wider research sector, industry and government agencies to develop new insights and solutions?

Visit: transport.nsw.gov.au/data-and-research/research-hub

Contact: research@transport.nsw.gov.au

Digital Engineering

Are you keen to explore Transport's use of smart technologies in infrastructure, digital twin and technology-enabled project delivery and management throughout an asset's lifecycle?

Visit: transport.nsw.gov.au/digital-engineering

Contact: digital.engineering@transport.nsw.gov.au

Road Safety Technology

Want to learn about trials and studies into road safety technologies, or submit an idea for how technologies may help improve road safety?

Visit: transport.nsw.gov.au/roadsafety/what-we-do/road-safety-technology

Contact: roadsafetytechnology@transport.nsw.gov.au

Transport Infrastructure Industry Portal

Want to find out about infrastructure projects coming to market and never miss an industry engagement event?

Visit: industry.transport.nsw.gov.au

Contact: ied@transport.nsw.gov.au

Open Data Hub

Want to explore Transport's open data sets for development of apps and other customer solutions, or join an Open Data Forum?

Visit: opendata.transport.nsw.gov.au/general-information

Transport technology careers

Want interesting, challenging and purposeful work, in a respectful environment centred on career progression, development and flexibility?

Visit: jobs.transport.nsw.gov.au

Above:
Pacific Highway portion of Woolgoolga to Ballina upgrade project