

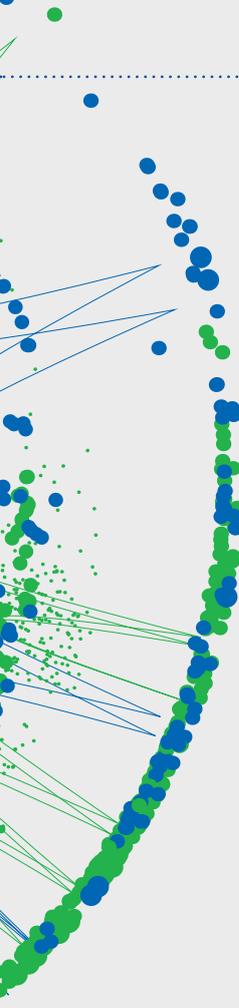
future **transport**
technology

NSW Future Mobility Prospectus



Ministers' foreword





Our customers in the cities and communities that we serve are embracing emerging technologies in every facet of their lives, and in turn, their expectations for transport services are evolving.

At the same time we are seeing a significant level of advancement in mobility technologies, such as automated and electric vehicles and drones.

We are committed to bold, smart responses to these emerging technologies that are shaping the future of transport. We recognise the need to understand how these technologies can operate safely and then hand over the reins to industry so that innovation can thrive. These are the kind of partnerships we seek moving forward; where government works seamlessly with experts from industry, academia and startups.

The purpose of the NSW Future Mobility Prospectus is to provide a call to action to industry, startups and research partners to join us in shaping the technology-driven mobility revolution for our customers.

We have already achieved a lot through partnering with universities, global technology companies, startups, industry and local governments. Recent success stories include:

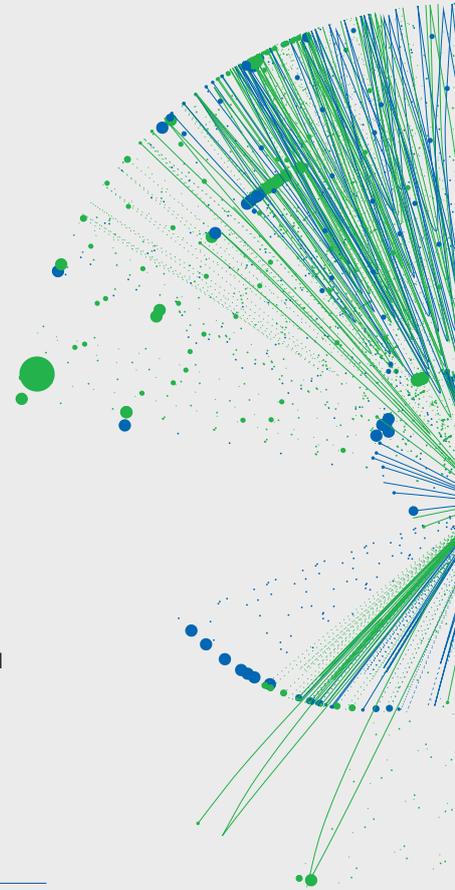
- **Delivering** three highly automated shuttle trials through Transport for NSW's Smart Innovation Centre.
- **Delivering** 13 On Demand public transport trials across Sydney as well as eight regional trials.
- **Servicing** over 2 billion API hits from consumer applications via the Open Data Hub.
- **Creating** a cutting-edge Transport Digital Accelerator at the Sydney Startup Hub.

NSW is in a great position to be the leading jurisdiction in Australia when it comes to transport technology. We are outshining many national economies in our region, rank highly in research and development investment and continue to attract strong venture capital.

We want to collaborate and partner with the brightest minds across the country and world to make NSW a global leader in world-class mobility across our cities and regions.

**The Hon.
Andrew Constance, MP**
NSW Minister for Transport
and Infrastructure

**The Hon.
Melinda Pavey, MP**
NSW Minister for Roads,
Maritime and Freight



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Secretary's message

Transport is a technology business



In 2016 over 600 of the brightest minds across technology and transport, including renowned thought-leaders Steve Wozniak and Chris Riddell, took part in the Future Transport Technology Summit.

This pioneering event challenged all in attendance to explore the boundless potential of technology and prioritise areas for transport innovation – whilst keeping the customer at the centre of everything we do.

And from this, a rapid, positive and game-changing transformation began.

We removed red tape and made our processes faster and more flexible, establishing new ways for external experts to share data, insights and innovative ideas.

We actively sought out and engaged with a growing, vibrant innovation ecosystem through challenges as well as the procurement of trials and proof-of-concepts.

Across the Transport Cluster, with Transport for NSW being the lead transport agency in the State of New South Wales (NSW), we have fostered collaborative and agile partnerships with industry to accelerate technology-driven transport solutions.

All this then led to the creation of the Future Transport Technology Roadmap and the launch of:

- **The Smart Innovation Centre** – a research and development (R&D) springboard for government, industry and the research sector to explore and trial emerging transport and road technology.

- **Transport Digital Accelerator** – to facilitate direct collaboration between the public and private sectors and to challenge and incubate a vibrant NSW startup ecosystem as well as industry for accelerated innovation.
- **Transport for NSW Research Hub** – to challenge the research, academic and data science community to develop insights and predictive models around future transport scenarios.
- **Open Data Hub and Developer Portal** – a pioneering platform that gives the public free and open access to over 3000 privacy-assured data sets and secure APIs. Used by local and international technology companies and startups from TripView to Google, it has enabled innovation across consumer applications, transport planning and research and development with more than 2.2 billion API hits since inception.

We welcome robust and diverse engagement with industry and community. Looking forward, we are committed to increasing the pace of technology-charged innovation to deliver exceptional mobility for our customers well into the future.

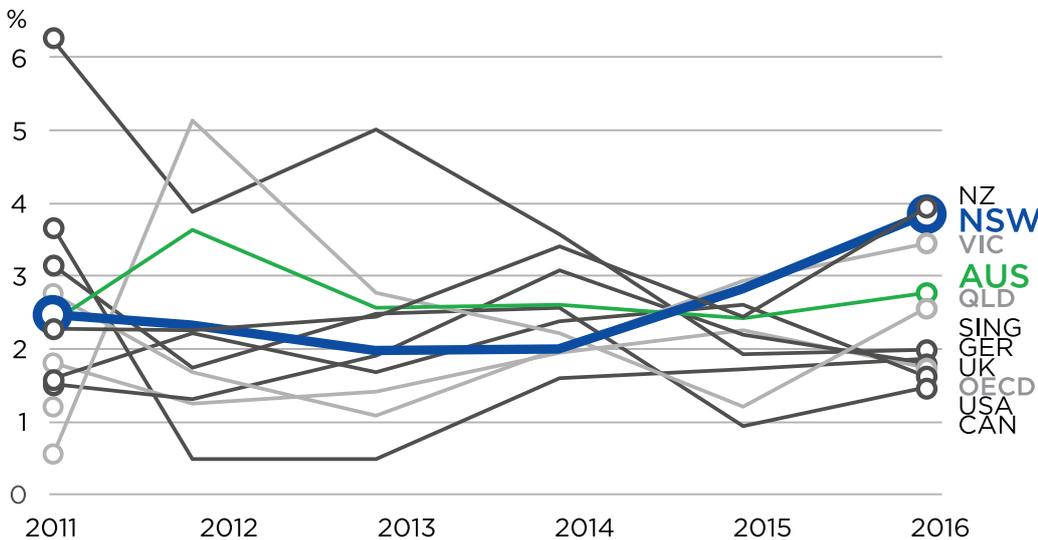
Rodd Staples

Secretary, Transport for NSW

A strong economy, a vibrant innovation ecosystem

When it comes to the economy, NSW means business.

Annual percentage of GDP growth



We're talking about a state that produced \$513 billion of Gross State Product in 2017 - leading the way in Australia and outshining entire nations such as Malaysia, Singapore and Hong Kong. Additionally, NSW ranks highly in R&D investment, and finds itself in good company amongst the likes of Germany, the USA and Singapore.

Due to this exceptional business environment and a booming Fintech community, Sydney was ranked #17 in the Startup Genome Global Ecosystem Report 2017, meaning leading entrepreneurs and investors have turned their attention to the harbour city in extraordinary numbers.

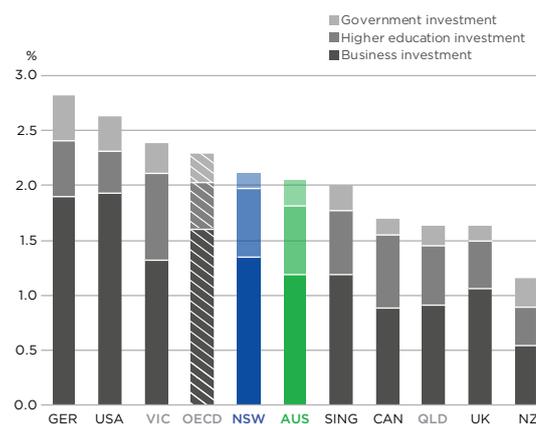
However, it's not just Fintech that keeps Sydney in the spotlight. Sydney is a global centre for startups, a growing focus for venture capital and the base for the Australian operations of heavyweights Google, Facebook, Twitter and Salesforce.

And in 2018, the Sydney Startup Hub - the largest hub of its kind in the southern hemisphere - was opened, housing over 2500 entrepreneurs and innovators from Microsoft, Stone & Chalk, The Studio, Fishburners, Tank Stream Labs, the Optus Innovation Hub and Transport for NSW's Transport Digital Accelerator, just to name a few.

Right now we are witnessing a period of unprecedented exploration and technological advancement in a number of industries and with transport being the third largest goods and services spend for Australian households, transport technology is the next cab off the rank.

With the combination of a strong economy, a vibrant innovation ecosystem and the Government actively encouraging new mobility technologies to be developed and trialled, NSW has created the ideal conditions where transport technology businesses can innovate with confidence and thrive.

Gross Investment in R&D as a percentage of GDP, 2013



*NSW Department of Industry. NSW Innovation and Productivity Council. NSW Innovation and Productivity Scorecard. August 2018

The vision for future mobility



At Transport for NSW, we are developing a world-class technology-enabled future mobility system across the state.

This system will be the foundation for sustainable and personalised transportation, as well as economic growth in NSW. Our vision of transport as a technology business represents never-before-seen opportunities for entrepreneurs, innovators and investors. This includes a long-term vision that's outlined in the Future Transport Technology Roadmap 2016.

With much already achieved since 2016, the vision will see five key strategies executed that will shape a cutting-edge customer-centric, and digitally-enabled transportation system in NSW.

These focus areas include:

- **Developing and connecting customers and services through real-time digital information**
- **Transforming mass transit networks**
- **Fostering, shared, demand-responsive services**
- **Pursuing national standards for roads, infrastructure, systems and regulatory frameworks**

Sitting in parallel with the Future Transport Technology Roadmap Future Transport 2056 is a 40 year strategy, supported by plans for regional NSW and for Greater Sydney. It is the first transport plan in Australia to harness technology to improve customer and network outcomes, and it starts with a long term vision for our communities. For the first time, we are aligning how we plan the future of the transport network with how we interact with the community and create places by working closely with industry, the **Greater Sydney Commission, Infrastructure NSW, the Department of Premier and Cabinet** and the **Department of Planning and Environment**.

As a Government, we have generated an unprecedented \$52.2 billion pipeline of road and transport infrastructure investment.

Already, over 700 projects have been identified, with 485 completed, 168 in progress and the remainder in the planning stages. Game-changing projects such as Australia's first fully automated metro trains on **Sydney Metro**, as well as **Sydney CBD and South-East Light Rail** and **WestConnex**, as well as the **Fixing Country Roads** and **Fixing Country Rail** programs will form the foundation of a world-leading future mobility system in NSW.

A journey of growth and opportunity



NSW is going to grow over the next few decades. Our state will be home to more than 12 million residents by 2056 and Sydney will become a global city similar in size to London or New York.

Regional NSW will also see a boom, growing by around 400,000 people by 2036 and then a further 300,000 by 2056.

With a technology driven vision for the future transport network, we have opened our doors to startups, entrepreneurs, innovators and investors to join us in building an exceptional mobility experience for customers. As a result, we'll see enormous economic opportunities for the next wave of transport technology pioneers.

The next cohort of transport technology businesses will transform the mobility ecosystem in a way that will fundamentally shape people's lives, and we want the people of NSW to be the first to take advantage of the latest innovations.

We invite you to join us on a much-anticipated journey of collaboration, growth and opportunity.

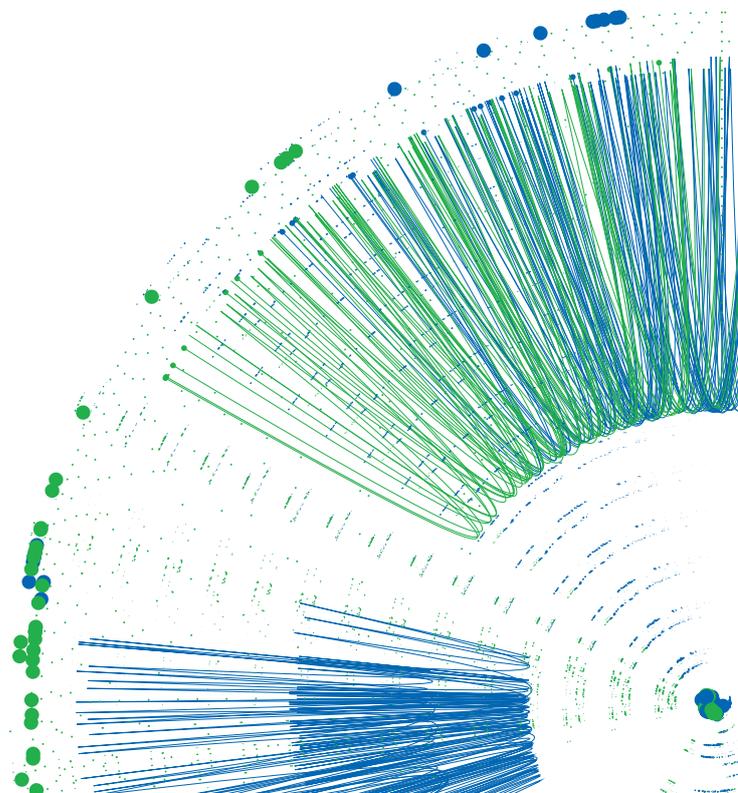


Focusing on changing the game

Embracing technology and innovation to truly take transport into the future is our goal. We want to be a global leader and connect people with places like never before.

To achieve this we are focusing on:

- **Digital engagement channels with our customers:** personalised, two-way interactions; flexible On Demand mobility options; and customer-centric information services for trip planning, wayfinding and things to do along the way.
- **Frictionless access and payments:** seamless mobility as a service for commuters as well as easy-to-access travel options for visitors to our cities and regional areas.
- **Connected and automated transport platforms:** accelerated adoption of connected and automated vehicles for new services, better congestion and incident management, safety and network performance.
- **On Demand public transport:** trialling On Demand services as a key element of the planning and development of the precincts of tomorrow.
- **Intelligent and adaptive transport networks:** more informed customers, transport planners, transport operators and the wider industry ecosystem; all connecting safely and securely in a dynamic, on demand transport marketplace.
- **Sustainable transport solutions that help build successful places:** safe, efficient and responsive freight and passenger transport as the essence of stronger communities and more desirable places across NSW, including electric vehicles and charging points; alternative fuels and network operating efficiencies; and improved mobility access, flexibility and sharing.



Our role as an enabler

We are inviting visionaries to partner with us on our journey to become a world leader in transport technology.

We have redefined our role when it comes to leading the delivery of the best outcomes for transport in NSW. There is now an increased focus on partnerships with industry, academia and startups – and we are engaging as early as we possibly can. By adopting this approach, we have witnessed significant improvement in the speed at which we can incubate an idea or problem, test and refine it and progress to a solution.

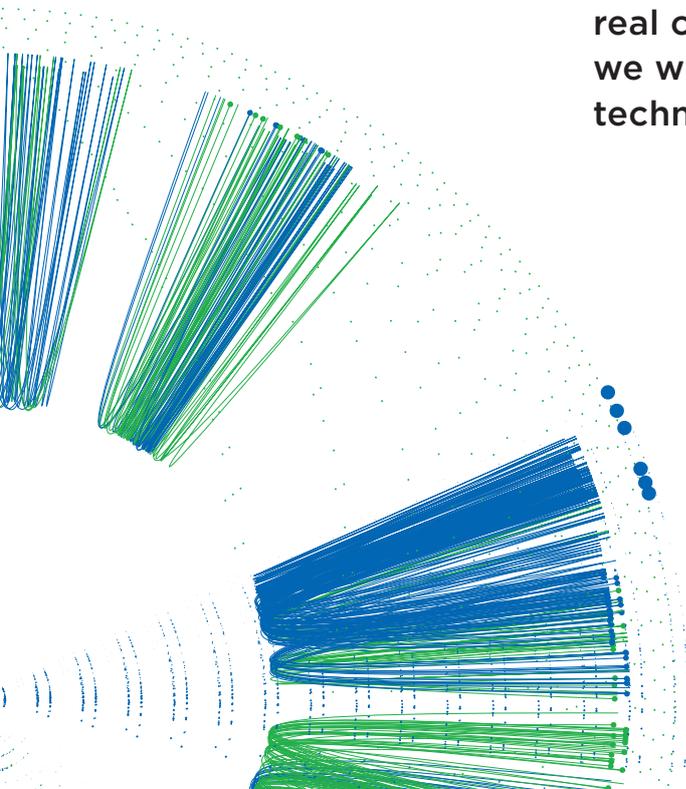
There are many mobility as a service options where government may facilitate and enable the solutions and delivery of services, but not be the provider. Our customers - the people of NSW and visitors - want seamless and personalised services that get them from A to B efficiently.

We are prepared to give new ideas a go. We recognise that diversity of thinking and expertise will challenge us to improve the way we do business.

To date, we have made significant progress in changing the way we operate to enable accelerated exploration, testing and delivery of transport services in the areas of:

-  **New service models**
-  **Policy and regulatory reform**
-  **Connected and automated vehicles**
-  **Procurement**
-  **Innovative technology platforms and customer interfaces**
-  **Real-time data as an enabler for dynamic and intelligent transport services**
-  **Partnering for innovation**

This is just the beginning. Partner with us to achieve real change and together we will lead transport technology into the future.

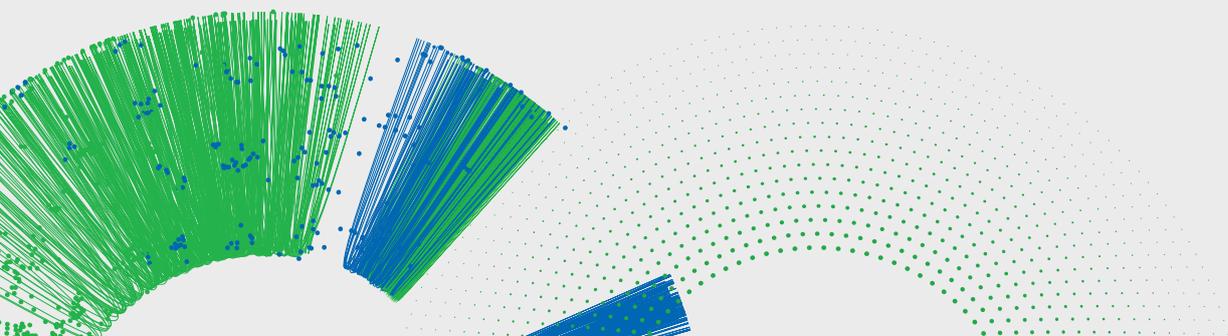


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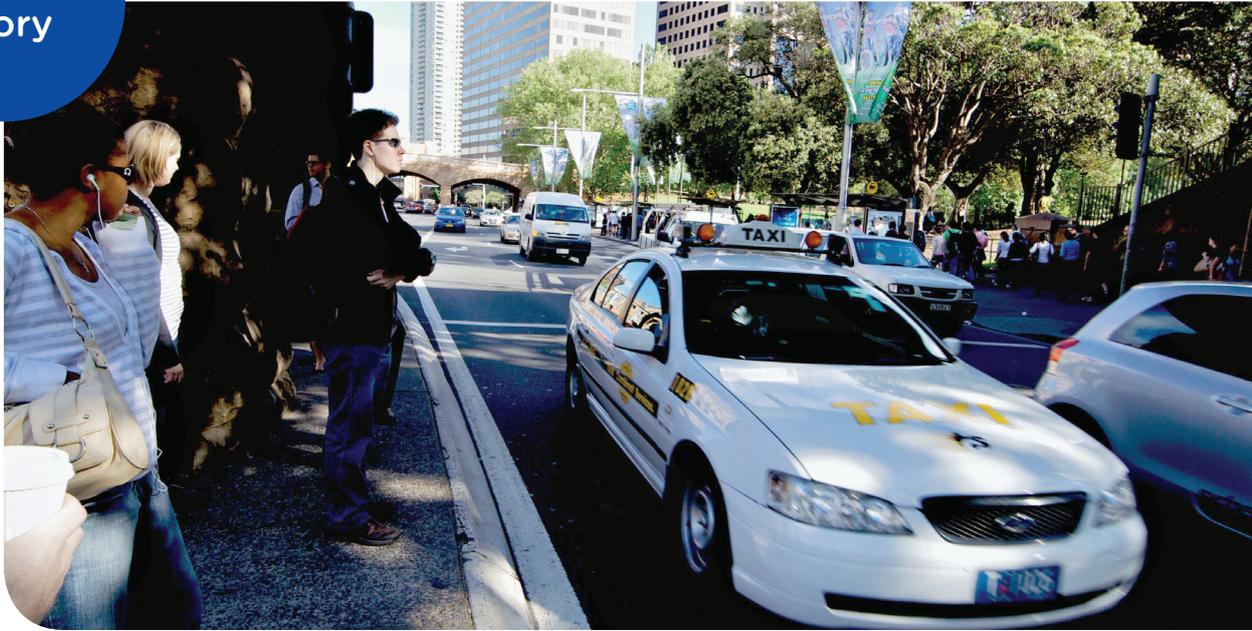
Policy and regulatory reform

Our aim is to be the enabler of big ideas. Ideas that will transform the NSW economy and enhance the amenity of industry and commuters, the liveability of communities and the experience of visitors.

As we reform the regulatory framework that provides safe and efficient services for our customers, we are ensuring that the policies and laws we amend today won't hinder the best solutions of tomorrow.



Success Story



Point to point transport industry reform

Ridesharing services such as Uber, Taxify and Ola have transformed the transport landscape, not just here in NSW but all over the world.

In fact, iPart reported that 26% of NSW residents used at least one point to point transport service in 2015-2016, up 21% from the year before. Of those, 41% exclusively used taxis, 20% used ridesharing whilst 39% took advantage of both. Across Australia 37% of customers reported using a ridesharing service in 2017 – a service type that relies heavily on technology that has been embraced by customers.

The emergence of these services has changed the point to point transport market forever, and we needed to undertake reforms to ensure customers could benefit from these new services.



In 2015 we worked with transport providers to efficiently implement industry-wide reforms that went beyond merely legalising ridesharing services. We modernised regulation for point to point transport services - including hire cars, taxis and smaller buses - to enable a range of rideshare options for customers.

The regulatory framework in NSW is forward-thinking, giving industry greater autonomy to use new technologies and embrace point to point transport models in response to customer demand, while ensuring strict safety standards are met.

Success Story



Automated vehicle legislation

Connected and automated vehicles (CAVs) are an exciting and important part of our vision for the future of transport.

To begin the process of seeking out visionary partners and start testing, legislation reform was needed.

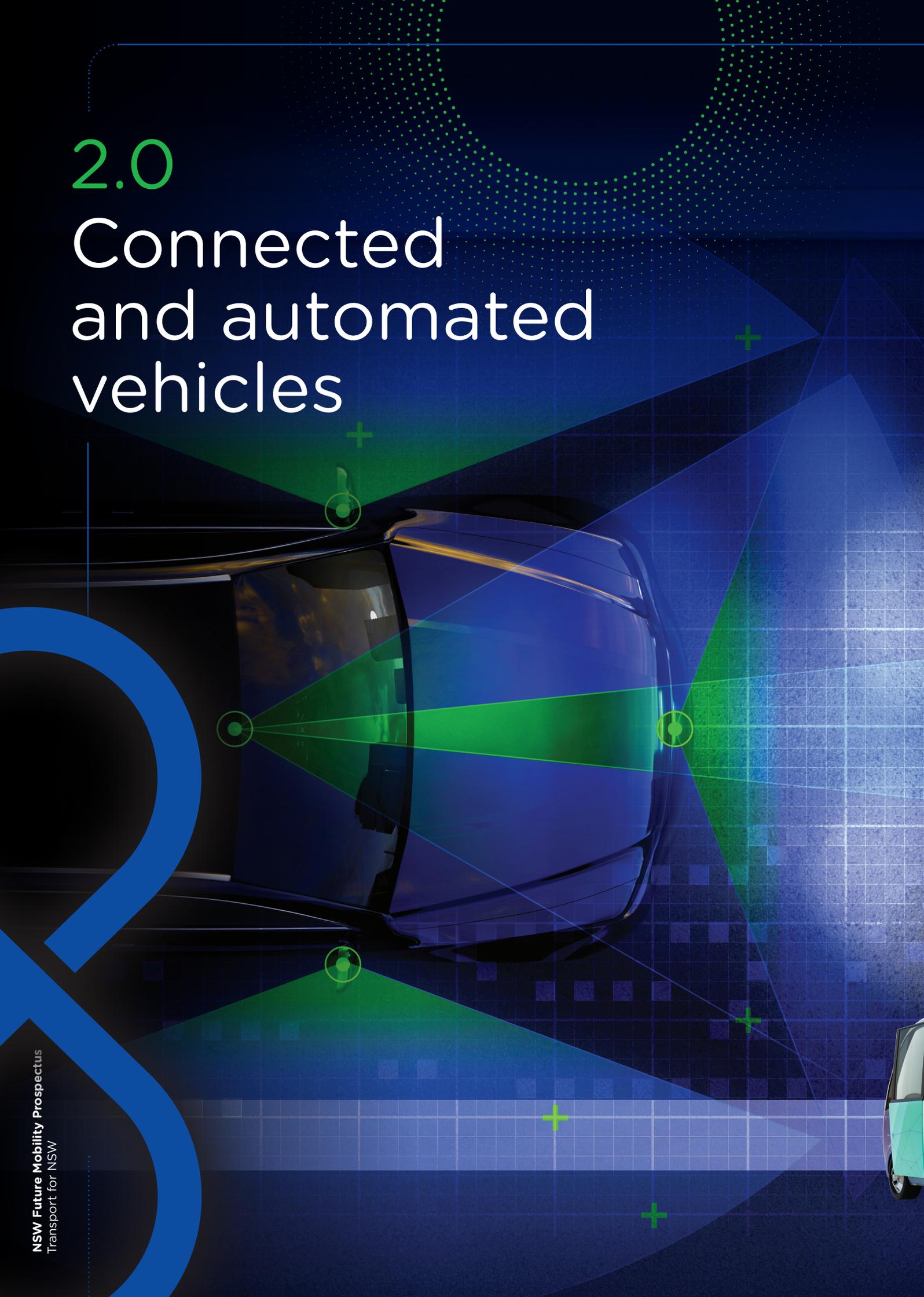
In 2017, we passed the NSW Transport Legislation Amendment (Automated Vehicle Trials and Innovation) Act 2017. This Act provides for the safe testing of highly automated vehicles (including fleets) in NSW and allows us to test how automated vehicles can support a safer, more

productive and sustainable future transport system. This legislation is a key enabler of a safer, less congested future for NSW.

Our goal is to have appropriate and nationally consistent regulations and policies in place in the next five years to support the safe and legal use of conditionally and highly automated vehicles (levels 3 and 4) by the general public.

2.0

Connected and automated vehicles



Connected and automated vehicles

When it comes to the future of transport, CAVs are a key global focus.

The technology driving these vehicles is progressing rapidly and, here in NSW, we not only want to be ready to harness the technology but develop our own pioneering ideas.

That's why we've established a \$10 million fund for additional trials over the next four years. The trials are being enabled through Transport for NSW's Smart Innovation Centre and will be underpinned by our CAV Plan, which will outline how we will support the adoption and safe use of CAVs in NSW.

We want to continue to work with global leaders in the area of CAV technologies, to adapt and apply global advancements and service models to NSW conditions to provide the best outcomes for our customers.

Why CAVs? Because the potential benefits are enormous including improved road safety with the reduction of human error and increased efficiency that are likely to result in significant public savings. The emergence of these new types of shared, flexible and on demand services will enable greater productivity for freight businesses, and have positive impacts on liveability, health and the environment.

We are also exploring the use of aerial drones. Using drones will afford us important benefits including live video of incidents that can provide real-time and accurate information to first responders, assist in congestion management and help maintain our roads and infrastructure.



Success Story



CAV trials

We have seen, that if well planned and managed, CAVs have the ability to support transport services, improve road safety, alleviate congestion, and improve productivity and liveability.

CAVs have already begun transforming mobility in cities like San Francisco, Boston, Singapore and Paris and in November 2018 NSW has three highly automated vehicle trials underway.

Transport for NSW is enabling collaborative trials and testing of CAVs to ensure the technology, our infrastructure and communities are ready.

Sydney Olympic Park

In May 2017, a trial of the state's first automated Smart Shuttle began at Sydney Olympic Park. The Navya shuttle can carry up to 12 passengers at a time, giving an enthusiastic and curious public the chance to experience the technology first-hand while simultaneously providing us with their valuable insights.

This trial is being delivered in collaborative partnership with HMI Technologies, NRMA, IAG, Telstra, Sydney Olympic Park Authority and UTS.

Armidale and Coffs Harbour

We have also partnered with industry, researchers, local councils and businesses on Australian-first regional trials in Armidale and Coffs Harbour. Local community involvement will ensure that the specific requirements, challenges including infrastructure readiness;

and local operator considerations are front and centre of each regional trial. Working together for successful place-making and social benefits is a key focus for exploring the introduction of CAVs to regional NSW.

The shuttles will operate in real world environments with increasing levels of complexity, use level four fully automated vehicles and carry up to 12 passengers per vehicle.

The Armidale trial is being conducted in collaboration with Armidale Regional Council, Easy Mile, the University of New England, Transdev, WSP, and Edwards Coaches. This trial focuses on improved transport experiences for students accessing the university campus, reducing reliance on private vehicle commutes within the CBD and showcase the New England Regional Arts Museum as a cultural destination.

In Coffs Harbour, our partners are Busways, Coffs Harbour City Council, Easy Mile, Via and Southern Cross University targeting improved recreational visits and tourism along the Northern Breakwall, connecting the Coffs Harbour International Marina and Muttonbird Island while also connecting the Marian Grove Retirement Village and other commuters with the CBD and transport links.

“The ultimate goal of the trial is to find the best way to harness the next generation of driverless technology and how to make it work for NSW whilst improving safety and reliability”

The Hon. Andrew Constance, MP. Minister for Transport and Infrastructure

“We’re on the cusp of optimising our road infrastructure with emerging technologies including driverless vehicles making our roads safer, more efficient and enhancing mobility for customers.”

The Hon. Melinda Pavey, MP. Minister for Roads, Maritime and Freight

“As private operators we find it really helps us engage, not only with Transport for NSW, but also other partners to bring the best outcome for customers.”

Kathy Lazanas, Director Corporate Affairs & Communications, Transdev

“We’re really excited to be working with the NSW Government to trial this first autonomous vehicle here in Sydney.”

Dean Zabrieszach, CEO, HMI Technologies Australia, 2017

“EasyMile is very passionate about deploying our vehicle in regional NSW. Coffs Harbour offers a unique ability to not only deploy in a regional area, but also to deploy our fleet management solution in an on-demand capacity.”

Simon Pearce, Head of EasyMile Asia-Pacific, 2018

“The way we travel is constantly evolving, not just in the big cities but in all towns and villages. This trial will explore the future of transport for rural and regional communities, while getting feedback from local users.”

Byron Rowe, Busways Group Managing Director



Success Story



CAV network readiness

Automated Vehicle Infrastructure Initiative

In March 2018, we set out to assess the compatibility of Sydney's motorway infrastructure with automated vehicle technology.

In a joint project between Transurban and eight vehicle manufacturers - including BMW, Tesla, Hyundai, Volvo, Mercedes-Benz, Audi, Range Rover and Lexus - Transport for NSW and Roads and Maritime Services have investigated the compatibility of lane markings, speed signs, variable message and other road conditions on the systems supporting automated driving.

This project was carried out on the Sydney Orbital Network including the Lane Cove Tunnel, the Hills M2 Motorway, Westlink M7, the M5, Eastern Distributor, and the Sydney Harbour Bridge and Harbour Tunnel. The plan is to extend the project to the broader state and regional highway networks over the next three years.

Data from the trial is being logged and analysed for planning the safe introduction of automated vehicles and sets the platform for future road audits by Transport for NSW's Centre for Road Safety.

Cooperative Intelligent Transport Initiative

This initiative was established in 2013 to test the capability of in-vehicle devices to communicate with road infrastructure such as traffic lights through the Sydney Coordinated Adaptive Traffic System (SCATS®) as well as connected vehicles.

The ultimate goal of the Cooperative Intelligent Transport Initiative (CITI) testbed is to establish the benefits and risks associated with connected vehicles. The project includes a wide range of vehicles including up to 60 trucks, 11 buses, 49 light vehicles and motorcycles.

Phase 1 of testing established 22,000 kilometres of test-ready road, from the Northern Beaches of Sydney to Kiama on the south coast of NSW and is planned to expand into the Sydney Metropolitan area. These tests have provided an understanding around the accuracy of satellite positioning data and the use of radio frequency technology to "see" past line of site obstructions such as buildings.

The CITI project has also been generating interest worldwide, having been showcased in the United States, United Arab Emirates, Qatar and Singapore. This has helped to establish NSW as a world leader in the research of Cooperative Intelligent Transport Systems (C-ITS) technologies, especially in their application to the freight sector.



Drones

Around the world, drone technology is delivering faster, safer and more efficient outcomes in many areas including emergency services, public safety and security, asset management and research.

In NSW, innovations such as Surf Life Saving drones, shark watch drones as well as farming and land management use cases are realising significant benefits. When it comes to transport, we understand that drones have a big part to play in future mobility.

We are working at understanding safe, effective use of drone technologies in urban and regional areas by using them in our own operations and continuing to look for partnerships with industry and the research and development community.

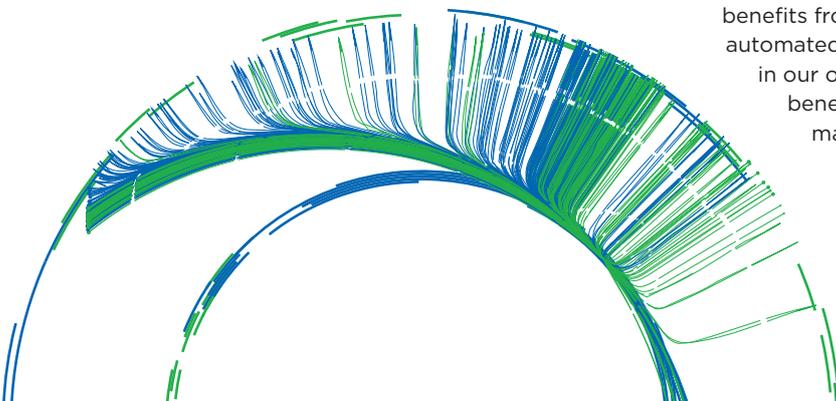
Transport for NSW's Transport Management Centre (TMC) is currently investigating the deployment of drones to improve incident management, providing faster, more complete information in planning and responding safely and effectively to incidents across our network.

The Cargo Movement Coordination Centre (CMCC) is trialling drones to manage congestion, incidents, asset and equipment, as well as provide better situational awareness, around port sand connecting rail, roads and container storage sites.

Sydney Trains are using drones to safely check overhead wires and inspect tracks quickly. This means fewer disruptions to train services, as inspection crews often need to isolate power and services for the safety of crews and customers. Roads and Maritime Services have also improved road and infrastructure maintenance operations through the operation of drones.

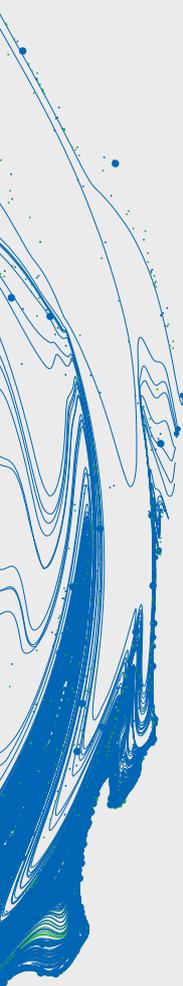
Development of the Sydney Science Park - a 280 hectare, fully integrated community that aims to create more than 12,000 knowledge based jobs, cater to over 10,000 students and be home to over 10,000 residents may be a perfect urban test bed for drone technology, all while interacting with members of a community.

We are exploring how to achieve even greater benefits from drones technology through automated and beyond line-of-sight flights in our own operations because we see benefits in areas as diverse as network maintenance and incident response.



3.0

Procurement as an enabler of innovation



Overly prescriptive procurement models can stifle innovation by limiting the flexibility and creativity of private sector partners. That's why Transport for NSW used a more outcome-focused approach to trial On Demand public transport services and new technology such as alternatively-fuelled vehicles.

We are joining up services to provide better end-to-end customer experiences and reinventing our approach to contracting services, so they are more flexible and can better respond to customer demands.

Collaborative planning and design is a cornerstone for exploring new service models. This means engaging with industry early, sounding out markets to bring in new ideas and sorting out legacy issues with bold new approaches to procurement and contracting.

The On Demand Public Transport Pilot Program was launched in November 2016 to identify and pilot creative new ways for people to reach their destinations quickly, safely, easily, efficiently, and most importantly, at a time that suits them.

“We have On Demand movies, On Demand food, and finally – NSW will have On Demand transport.”

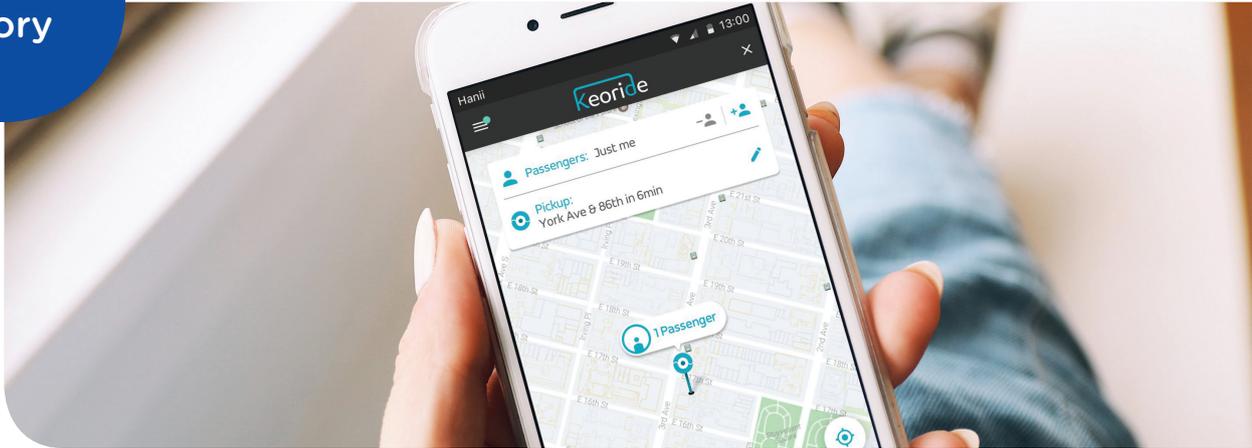
The Hon. Andrew Constance, MP, Minister for Transport and Infrastructure

The roll-out of On Demand services began in late 2017, in locations, such as Eastern Suburbs, Manly, Northern Beaches, Woy Woy and the Illawarra. Over 150,000 customer trips have been undertaken up to the end of September 2018.

On Demand public transport services will also be tested in Rural and Regional NSW, with an additional seven trials planned.

On Demand public transport is recognised as a key element of the planning and development of the precincts of tomorrow. For example, Randwick Council and Nous Technology have both received Smart Cities and Suburbs Program funding for precinct initiatives and enabling apps that align transport options more closely with precinct residents and visitors' needs.

Success Story



Keoride

On Demand

Keoride delivers On Demand transport services for people on the Northern Beaches of Sydney and across the Macquarie Park Innovation Precinct.

Customers can book a vehicle that will pick them up from their home, a designated pickup point, or nearest bus stop and take them directly to a transport hub.

“The Keoride partnership is a great example of using global technology solutions to help us rethink public transport. We’re always looking for innovative transport solutions like these to help relieve congestion and provide more choice to commuters.”

The Hon. Andrew Constance, MP, Minister for Transport and Infrastructure

The service is supplemented by intuitive technology. Trips can be booked through the Keoride App, via a web-based booking platform or by contacting Keoride by phone.

Keoride is operated by Keolis Downer, and together with AECOM, Via, GoGet, Data61 and Transport for NSW, have formed an enviable partnership. This partnership was awarded the Overall Smart City Project award at the 2018 Smart City Awards for its unrivalled ability to provide a faster and more personalised travel experience for the local community.

“We designed the service with people in mind, and to also provide a great service and good value for money for our client TfNSW”

*Sue Wiblin,
Manager New Motilities, Keolis Downer.*

“I use this service at least 6 times a week, the drivers are fantastic. I couldn’t live without it now.”

Sharon, On Demand Commuter

Since the trial began, 55,602 trips have been delivered across both Keoride services and customer feedback has been extremely positive. 96% of customers estimate that On Demand is a better option than their personal car, while 98% feel that it’s both safe and convenient.

“When I travel across the globe, I tell people that they need to look to Sydney. Transport for NSW and the State Government are leading the way when it comes to working with industry and the results are tangible in the rollout of on-demand trials across the State.”

David Adelman, Global Head of Partnerships, Via



Success Story



CoastConnect

On Demand

CoastConnect is an On Demand Public Transport Commuter service for residents of the Woy Woy Peninsula.

Launched in May 2018, the aim of this trial service is to provide more personalised commuting options, encouraging commuters to leave their cars at home while making public transport hubs more accessible.

The service connects commuters with train services at the Woy Woy Station during the morning and afternoon peak times Monday through Friday. The vehicles used are wheelchair accessible and passenger numbers remain small to ensure a fast and reliable travel experience.

This pioneering trial is operated by Community Transport Central Coast Limited (CTCCL) in partnership with the NSW Government. The partnership has not only overseen the transport service itself, but has developed the CoastConnect app, the back-end of which can work out how many passengers can be transported reliably and calculates the pickup locations to optimise capacity and travel times.

The first 3 months of the trial saw over 1,658 passengers use the service.

As at 31 October, 2,263 customer trips have been delivered for Coast Connect since May 2018.

“The aim of this new public transport service is to get you to and from Woy Woy rail station with ample time to make it to Sydney or your chosen destination, and it will be there to pick you up from the station on your return.”

The Hon. Scot MacDonald, MLC. Parliamentary Secretary for the Central Coast and the Hunter

Booking On Demand

Transportnsw.info features On Demand as an important choice for customers when planning their commute or trip. Here customers can explore and find out how to book services provided by our On Demand partners in their region:

- **Central Coast**
- **Illawarra**
- **Lake Macquarie**
- **Macquarie Park**
- **Northern Beaches**
- **Newcastle eBikes**
- **Sutherland Shire**
- **Edmondson Park**
- **Carlingford North Rocks**
- **Eastern Suburbs**
- **Manly**



Success Story



Image © 2018 Newcastle Live

BYKKO

Electric Bike Sharing

On Demand transport is all about first and last mile choices that suit customers.

BYKKO electric bike sharing is a great example of personal mobility to get people to and from public transport. BYKKO is an Australian enterprise specialising in research, development and implementation of intelligent bike sharing and personal mobility.

Customers use an app to register, book (or subscribe) and access a pedal assisted bike with a rechargeable electric motor allowing bike and rider to work together to travel at speeds of up to 25km/h. The electric assistance can be adjusted to suit the rider and discontinues when they stop pedalling or use the brakes.

In early 2018 BYKKO, an Australian company, was awarded a contract for the delivery of electric bikes to selected areas in Newcastle. Customers can collect and return electric bikes from 19 docking stations across the city.

“We hope the trial’s success will spark the interest of corporates and property developers that consider themselves early adopters of innovative transport alternatives with real benefits for health and wellbeing.”

Monica Zarafu, Founder and CEO of BYKKO

“Simply a brilliant trial that needs the assistance of local council to expand across the city.”

eBike Rider

Our experience tells us that customers love having mobility options including ones that allow them to be more active and this has been no exception. A survey of people who work or live near the Newcastle West area showed that 87% of the respondents found eBikes to be extremely easy to use, with the majority of respondents using the eBikes at least once a week.



Success Story



Transit Systems West

Electric Buses

Electric vehicles are transforming the global market for household, public transport and freight vehicles.

They are also a critical platform for connected and automated vehicle technologies.

We recognise the need to support the transition to electric and hybrid technologies by encouraging industry trials. Leading with forward-thinking technology tenders helps stimulate the market for both supply and take up of cleaner, quieter and more energy efficient vehicles.

We have partnered with Transit Systems for a two-year trial of electric buses on their existing routes in Sydney's inner west. The trial will commence on 1 July 2019 and Transit Systems West is sourcing vehicles that meet our safety and reliability requirements. They are also upgrading certain depots with charging technologies.

Through this partnership we are leveraging the knowledge and experience of an organisation with impressive operational experience, not only in providing public transport services, but also with zero emission bus technologies in various jurisdictions around the world.

Importantly, the learnings will be shared with industry recognising that industry is also looking to electric vehicle transport technologies for lower operating costs and greater customer satisfaction thanks to:

- **Reduced noise levels in communities**
- **Reduced emissions intensity**
- **Improved air quality**
- **Better health and wellbeing**

“Working with Transport to implement electric buses in Sydney's Inner West has been a well organised process. The Transport team is professional and the environment truly collaborative.”

Greg Balkin, Transition Director, Transit

Enabling a trial like this within a privately operated service is one of our strategies to a sustainable mobility future, supporting an industry-led response to the development and take-up of electric vehicles.

4.0

Innovative technology platforms



We are investing in core technology platforms that provide the foundation for industry to innovate, enhance customer experience, and drive operational efficiencies and network optimisation.

Some of the key enabling technology platforms we have invested in are:

- **The OpalPay payment system** – an innovative transport payment system that is currently being expanded across modes and operators and integrated with other payment methods of customer choice.
- **Sydney Coordinated Adaptive Traffic System (SCATS)** – a world-first technology initiative when conceived back in the 1970s. Developed in NSW by Roads and Maritime Services (RMS) and is used globally. Its central objective is to improve the road network by maximising efficiency and reducing congestion. Our CAV trials will look at integration opportunities with the SCATS platform.
- **Intelligent Congestion Management Program (ICMP)** – a leading, adaptive intelligent transport system connecting over 4,000 traffic lights, 1,200 cameras will operate over 600 kilometres of fibre optic networks across NSW to our Transport Management Centre.
- **Public Transport Information and Priority System (PTIPS)** – an innovative system used to track, predict and prioritise public transport and emergency vehicle traffic by collecting and analysing on-board data, talking to the SCATS to prioritise late-running vehicles, and providing real-time data to customers via travel apps.
- **Real-time Public Information Display (PIDs)** – an automated system used to display public transport information to customers and provide them with real-time information.
- **Open Data Hub and Developer Portal** – unlocks the value of our GPS and transponder enabled real-time data and other expansive data resources which can be used to improve digital services for customers, transport planning, as well as gain rich insights for research and business operations.
- **Contactless Transport Payments (CTP)** – Instead of using an Opal card customers can pay for a trip by tapping on and off at the Opal card reader using a contactless enabled debit card, credit card or mobile device including providers such as Amex, MasterCard and Visa. Creating significant benefits for both international and interstate customers along with businesses that provide contactless payments technology to consumers. Currently available on ferries, lights rail and trains with buses come in 2019.
- **Transportnsw.info** – is a trusted customer channel for transport information, services and transactions.

As a leader in understanding of changing movement patterns of people, particularly in rural and regional areas, Transport for NSW and RMS are perfect partners for companies such as telecommunications, financial service and internet service providers to explore how and why people travel and utilise transport services.

Success Story



OpalPay

OpalPay is ensuring the need to buy individual trip tickets is a thing of the past, making seamless and convenient mobility as a service an increasing reality.

And now, OpalPay is being expanded to allow customers to use their Opal card on a wide range of transport services.

“With the introduction of OpalPay, customers will no longer have to fumble around for change — you can just tap your Opal card, giving customers greater flexibility with more public transport options.”

The Hon. Andrew Constance, MP, Minister for Transport and Infrastructure



The key benefit of OpalPay is that it provides third-party transport operators a scalable, low-cost solution that interfaces their point-of-sale systems and fare structures with the Transport for NSW Opal ticketing system. With a flexible technical and business framework, it enables operators to adapt the system to meet their requirements within short time frames.

OpalPay has proven to be the perfect fit for all kinds of operators and has successfully rolled-out to the following operators:

- **My Fast Ferry** – private ferry services.
- **Sealink/Captain Cook Cruises** – private ferry services.
- **Transit Systems/BRIDJ** – On Demand public transport services

“This cutting edge technology will result in less queues and an improved customer experience.”

Richard Ford, CEO of My Fast Ferry


 Success Story

Contactless Transport Payments

Contactless payments now allow customers to conveniently tap on and tap off on trains, ferries and light rail using a credit or debit card, or linked device.

In July 2017, the Contactless Transport Payments (CTP) trial was launched with Mastercard on the Manly to Circular Quay ferry services, signalling another innovative and collaborative approach to removing barriers to public transport use.

Following the highly successful launch with Mastercard, American Express and Visa joined the trial in March 2018, coinciding with the inclusion of all Sydney Ferries and L1 Dulwich Hill light rail services. The pilot has now been extended on trains and has included some Opal fare features in order to make it more appealing to regular public transport users. The plan is to then introduce CTP on all buses in 2019.

CTP offers numerous benefits to customers across the state. It provides a convenient backup or alternative for anyone who does not have, has lost, or hasn't topped-up their Opal card. It also reduces ticket machine queues, makes the public transport system more accessible to tourists and infrequent public transport users, and virtually eliminates excuses for 'accidental fare evasion' among adult passengers at locations where there are no ticket machines.

The partnership Transport for NSW has formed with Mastercard, American Express and Visa is a successful one. We have worked together to create a secure and reliable technical interface with the existing Opal infrastructure providing the people of NSW with a better return on the Opal platform investment, as well as the flexibility of using their everyday payment cards.



Success Story



Intelligent Congestion Management Program

The Intelligent Congestion Management Program (ICMP) is improving the capabilities of Transport for NSW's Transport Management Centre (TMC) to take the lead and to partner in delivering solutions that reduce the impacts of congestion on communities, business, customer experience and safety.

The ICMP will deliver the monitoring, notification and data science elements required for a single view of the road network. It will have the capacity to predict flows 30 minutes into the future and take action within 5 minutes.

The system will be in place by 2020 and will include auto generated congestion alerts that identify unusual conditions on the road network allowing for more immediate detection analysis and response to incidents such as accidents.

The key objectives of this initiative are:

- **Visibility and improved situational awareness across all modes of transport to support decision making**
- **Improved incident response and clearance times**
- **Proactive management and where possible prevention of congestion**
- **Improved customer journey times, reliability and satisfaction**

We have partnered with Cubic Transportation Systems (CTS), who is a leader in this space, to enable the development and delivery of the ICMP by bringing in their technology and expertise as well as a culture of innovation.

With CTS we will collaboratively build an advanced multi-modal transport platform to replace the current traffic management system, built for the Sydney Olympics in 2000.

CTS's solution is an integrated platform which will use:

- **WSP** for management of major events and network operations planning
- **Mentz** for publication of information to the public
- **Microsoft** for their Power Business Intelligence
- **PTV** for offline and real-time predictive modelling

"This landmark project will position Sydney as a global leader in multimodal transport management operations."

Matt Cole, President of Cubic Transportation Systems



Success Story

Public Transport Information and Priority System

Our transport customers are increasingly using apps like TripView and TripGo to stay in-the-know when it comes to their transport options.

The Public Transport Information and Priority System (PTIPS) is where all that information comes from. The PTIPS is a real-time data platform that feeds all the transport apps, providing customers with bus, train, light rail and ferry locations.

To offer an optimal service, we are working with the TMC (Transport Management Centre) to ensure the PTIPS is able to communicate to the public last-minute changes to services or “Emergency” events via mobile devices. And, in an Australian first, our real-time public transport updates and service alerts will be published on Google Maps.

There are also a number of other exciting initiatives underway.

The B-Line Program is using PTIPS to provide more reliable journeys between Mona Vale and the Sydney CBD. This line is the first one in Sydney to be equipped with a real-time system where passengers are informed via Public Information Displays (PIDs) onboard the buses as well as at the stop points.

We are also using PTIPS and SCATS to develop a High Priority Request system to allow buses to move along transit ways using a green wave-like approach to traffic lights. Using the pre-existing PTIPS self-learning and predictive algorithms we can predict the exact moment a bus is set to arrive at an intersection and communicate this via SCATS to the traffic lights, turning them green before the bus arrives. This will almost double the average bus speed through some of the intersections along the transit way.

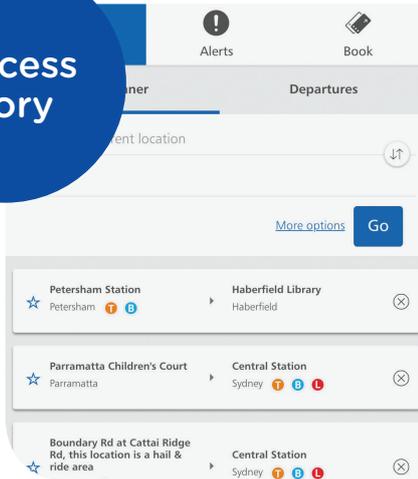
Both these new initiatives allow operators to make changes to the services in real-time and communicate directly with the customers on any digital channel. As a result there has been an increase in customer satisfaction and patronage on services.

In 2017 PTIPS won the **Best NSW Government Initiative** and **Overall Best Smart City Project** at the Smart City Awards.

“It’s thrilling and exciting to have been trusted for this project. The customers’ response has been both professional and positive, so we are really looking forward to further business opportunities in Australia”

Thomas Ottosson, CEO of Consat Telematics

Success Story



NSW regions

Transport toolkit

Transportsw.info

In order to promote simplicity and efficiency across the business we have consolidated 32 customer facing websites into two main portals - transport.nsw.gov.au as our corporate site and transportsw.info for our customers.

With transportsw.info customers have convenient access to trusted and comprehensive information. The integration of all Sydney Trains, Sydney Buses, Sydney Ferry, Light Rail and NSW TrainLink service information, as well as Opal functionality, allows customers to discover, book and pay for a complete range of services.

Transportsw.info also includes a number of innovative features including:

- **Trip planner** for real-time data across all public transport modes that allows customers to monitor disruptions and plan their journey on the go
- **Transport stops** for the location of taxi stands
- **Travel alerts and track work landing page** for increased visibility on service disruptions such as track work or lift/escalator outages.
- **Departures** function for access to services requiring booking prior to departure such as NSW TrainLink, On Demand and other services.

Transportsw.info is a strong channel for the delivery of public and partner-provided information and services.

Transportsw.info so far

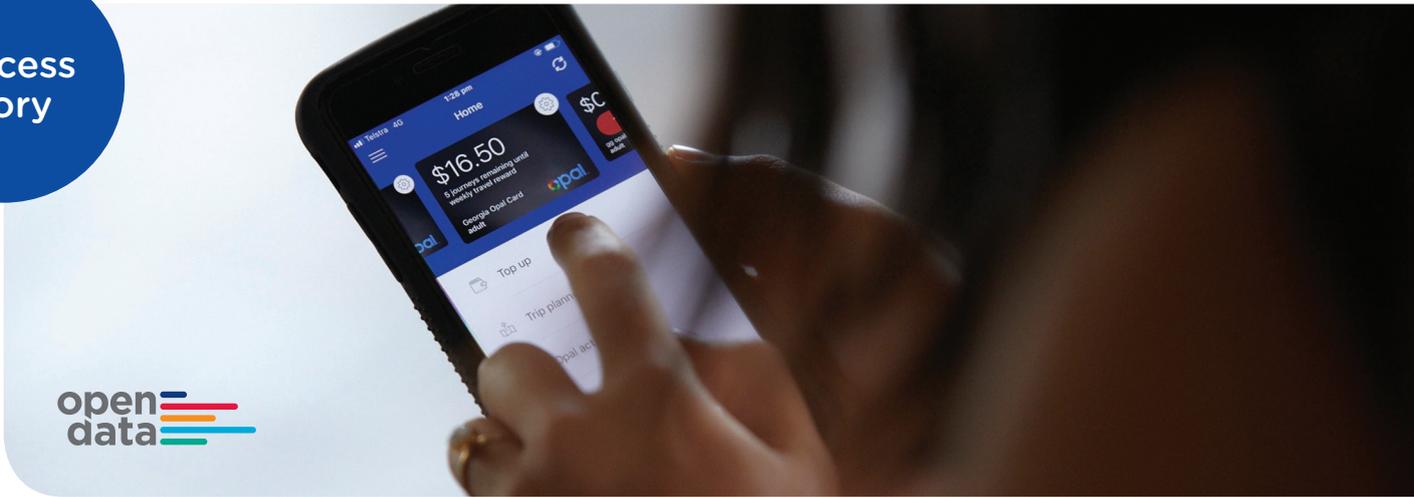
- 13M visitors
- 34M sessions
- 110m trips planned

Virtual Assistant 'Transport Bot'

Customers expect fast, reliable and seamless access to information that is relevant to them through websites, social media and messaging. Voice activated digital assistants are changing the way we interact with these channels. In response we have provided personalised public transport disruption alerts via our Twitter channel, Facebook Messenger, transport.info and the Opal Travel app and have enabled a virtual assistant Transport Bot to provide concierge and proactive personal services to customers. Transport Bot has been rolled out to a number of channels: Facebook (NSW Public Transport), Twitter (@TfNSWAlerts), Web (transportsw.info), Google Assistant and Amazon Alexa.

Customers are now able to receive personalised disruption notifications through their channel of choice and receive immediate responses to over 525 different questions. As a result, the Transport Bot has allowed us to reduce the cost to serve customers while improving convenience, with call deflections from the contact centre exceeding 30% and with a successful response rate greater than 90%.

Success Story



Open Data Innovation

In the age of artificial intelligence, automation and robotics, data is often touted as the new oil for mobility.

It is the critical resource sustaining the rapid pace of development in transport technology today and into the future. Recognising data as a key priority for future mobility, we launched the Transport Open Data Hub and Developer Portal in 2016, giving developers, technologists and data analytic centers access to invaluable Transport data through both static datasets and real-time APIs.

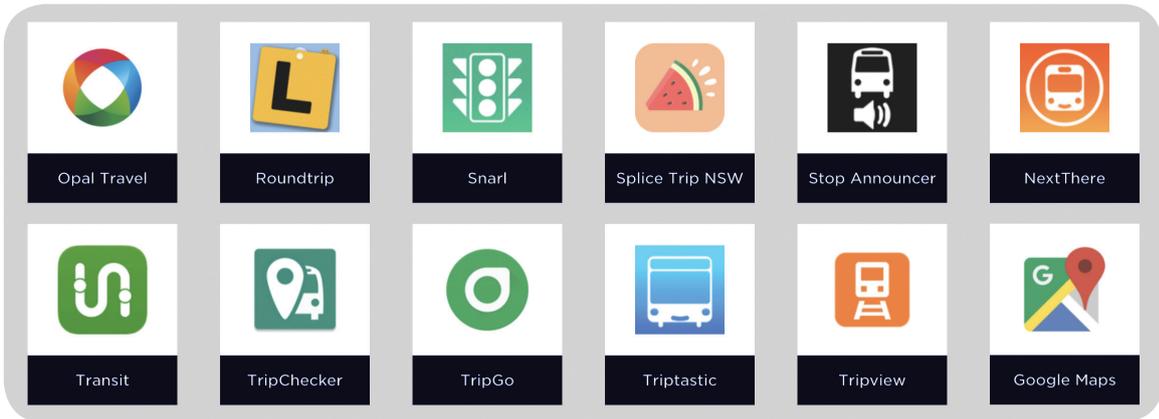
Using our data channels, developers are creating the next generation of real-time transport apps, as well as insights and information services for our customers.

Since its launch, over 2.2 billion API hits on our Open Data server have been tallied and apps using the portal have been downloaded over seven million times. This demonstrates a robust technical platform, strong relationships with the developer community and the true value generated for customers.

Today, over 2,500 developers form an active collaborative community on the Open Data Forum with Transport for NSW staff on hand to help.

Beyond simply providing data we actively engage with industry hosting developer Hackathons and Innovation Challenges through which we support entrepreneurs and innovators to explore and create solutions that add real customer value. Many of these innovators have gone on to create thriving businesses.

Some of the more pioneering use cases of Open Data have been the development of digital Learner Driver Log Books and real-time bus and train occupancy information that is now displayed by the likes of Google Maps, TripView and NextThere.



5.0 Innovation partnerships

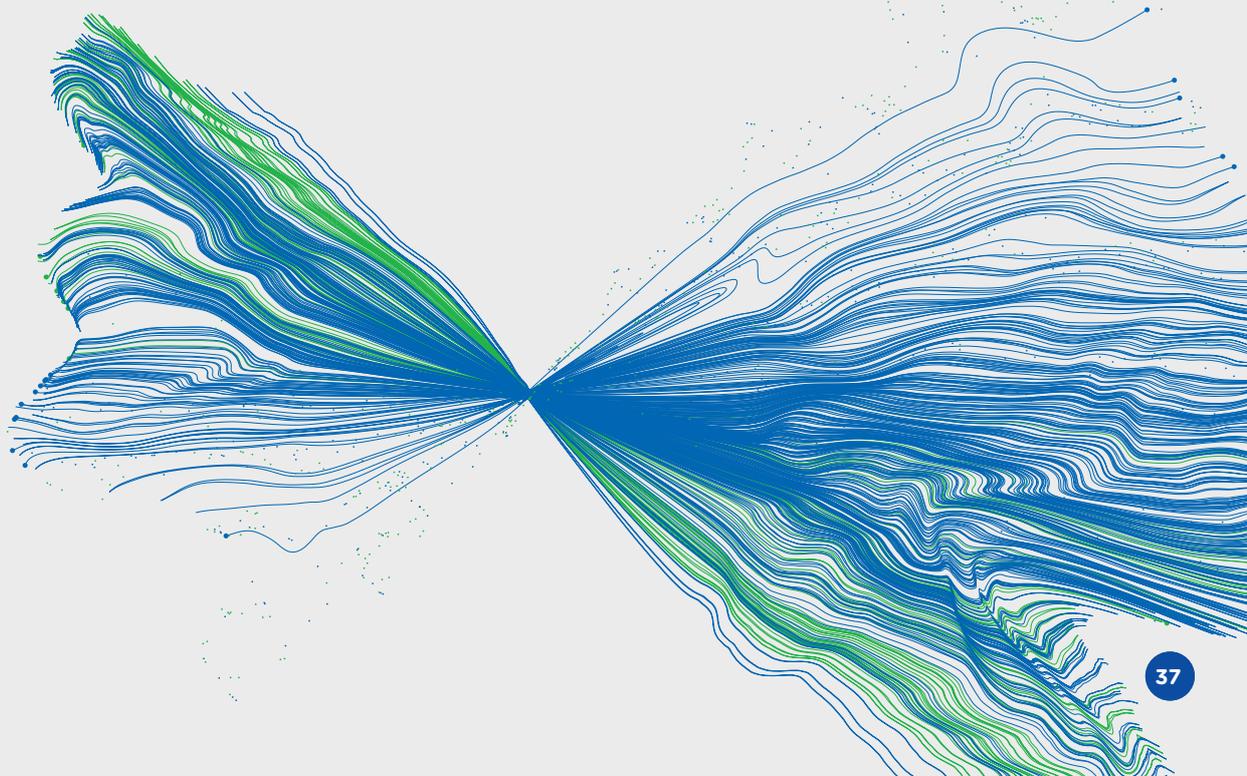
We believe in the power of partnerships, in forward-thinking collaborations that can help make NSW a global leader in transport.

We believe in the power of partnerships, in forward-thinking collaborations that can help make NSW a global leader in transport.

We engage with our customers, service providers and key stakeholders up front to help us understand where we can improve, find new perspectives on old problems, and discover what our diverse customer base want. We are dedicated to removing the roadblocks to seamless and personalised door-to-door transport services.

Armed with an understanding of these problems, and with useable data and insights upon which to co-design, prototype and test potential solutions, we challenge startup and established businesses to help us explore and deliver innovation. We do this by leveraging their expertise, adapting existing technology or adopting new technologies and accelerating delivery to customers through cooperative operating models.

We also engage externally through Industry Challenges, Hackathons and research problem statements to bring intelligent and original thinking to building value for transport customers, the transport industry and NSW communities.



Success Story



Transport Digital Accelerator

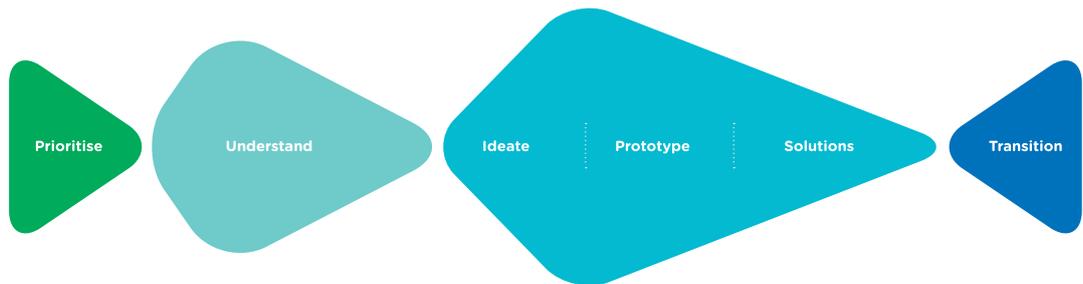
The Transport Digital Accelerator was launched in May 2018 at the Sydney Startup Hub. Its aim is to connect co-design teams from the NSW Transport cluster with industry, researchers, entrepreneurs and startups in the transport technology space.

Direct collaboration between the public and private sector has already been successful in accelerating innovative solutions for our customers.

The Accelerator Process

At the Transport Digital Accelerator we focus on inspiring our staff in new ways of working. Our Human Centred Design approach ensures that subject matter experts from across the business are brought together as dedicated co-design teams to truly understand the problems that are important to our customers and fast-track innovative ideas into tangible outcomes.

Innovation Challenges range from extending existing customer channels or operational systems, while others apply technology intelligently to disrupt long-established traditional transport systems such as timetabling and traffic modelling. Innovative ideas are piloted under 'test and learn' conditions and scaled up once they're shown to work effectively.





Mobility as a Service Innovation Challenge

Mobility as a Service (MaaS) is one of today’s most important global mobility trends; driven by customer demand and enabled through technology.

We are committed to creating a dynamic, growing MaaS marketplace with small and large players working together to give customers improved, personalised travel options alongside main transport routes. Ultimately players will compete and collaborate to best meet community and customer needs with compelling alternatives to car ownership.

As part of the challenge we are engaging in pilots with a diverse group of local and international startups as well as established global leaders in the MaaS space.

Watch this space, as we trial diverse and innovative MaaS solutions throughout 2019.

Challenge Statement

“How would you give customers optimal door-to-door mobility service options and seamless combinations for their situation, including the first and last mile?”



Boating Companion Innovation Challenge

With the help of the Transport Digital Accelerator, Roads and Maritime Services in collaboration with the Centre for Maritime Safety, identified a customer need for improved safety information for recreational boat users.

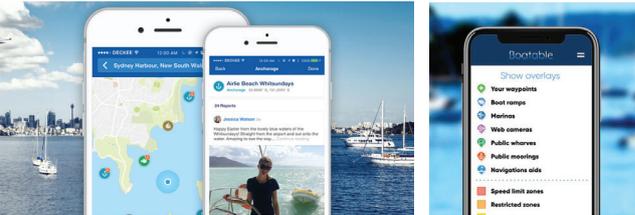
As a result, the Transport Open Data Team created a bespoke Maritime Alerts Reporting Platform (MARP) API and set a challenge to industry. Within five months of companies submitting their responses we provided seed funding and access to subject matter experts. As a result, two fantastic mobile apps were launched to the public at the Sydney International Boat Show in August 2018.

The Boatable and Deckee boating companion apps generated keen interest from the boating community with over 1,000 downloads during the first five days of the show.

More than 3,500 boating enthusiasts who have downloaded the apps are now safer on the water.

Challenge Statement

“Help recreational boat users make informed decisions for a safe journey.”



Success Story

Roads and Maritime's Innovation Network

Partnering for safety

Roads and Maritime Services (RMS) launched an innovation challenge in March 2018 with the aim of partnering with industry to innovate our 2018-2019 regional roads maintenance program.

The challenge was open to trial-ready innovations offering improvements in efficiency, safety and customer value in the regional road maintenance space.

The response from industry was significant and telling. We received over 80 submissions and a shortlisted top 10 was invited to pitch to a panel of industry experts, academics and RMS safety experts.

From this, five winners have been announced and will proceed to RMS-funded trials in 2018/2019.

The winners are:

- **Black Moth Vision Systems** will trial their 360° vision system for heavy machinery to record road defects and road maintenance issues
- **Lendlease** will trial their 'Push-In' technology to improve traffic signal reliability and safety
- **Concrete Pavement Recycling** a joint venture of NA Group and RPQ Group, will trial their concrete pavement fracturing technology
- **GHD** will trial an Australian-first in-vehicle pavement evaluation application
- **Fulton Hogan** will trial their Laser Texture Meter system that provides road profile measurements

Success Story

Mobileye

State Transit is currently trialling Mobileye on the B-Line bus fleet.

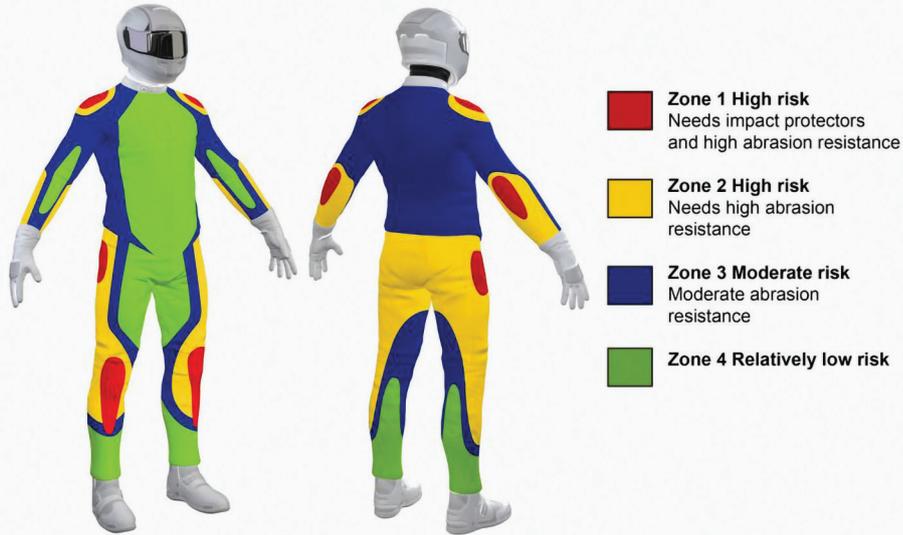
Mobileye is a forward facing collision avoidance technology system backed by tech giant Intel. The Mobileye system scans the road ahead and provides audible alerts to assist bus operators with incidents outside of their control helping to improve safety for road users including pedestrians and cyclists.

The device is retro-fitted to buses in the existing fleet and has the added benefit of improving the comfort of bus customers.

GPS data gathered by Mobileye may also help Transport and the NSW Government work with local councils to identify road improvements along major corridors.



Success Story



Motorcycle Clothing Assessment Program

Transport for NSW’s Centre for Road Safety (CRS), in partnership with a consortium of insurance regulators, government agencies, private organisations and motorcycle stakeholders, has launched a world-first star ratings system for motorcycle clothing.

Appropriately named, the Motorcycle Clothing Assessment Program (MotoCAP) will assist consumers in making more informed choices when purchasing motorcycle clothing.

CRS is leading this collaborative effort in improving awareness around the key role protective clothing plays in reducing significant road trauma for motorcyclists. And, with its partners, is developing the system and testing the relative protection and comfort on a range of motorcycle protective jackets, pants and gloves available in Australia and New Zealand.

“MotoCAP is the first of its kind, and aims to give the motorcycle community more information when making choices about the clothing they wear while riding.”

The Hon. Melinda Pavey, MP, Minister for Roads, Maritime and Freight

Key considerations are abrasion resistance and burst performance as well as comfort in terms of thermal properties and water resistance. It is anticipated that this awareness program and information service will increase the demand for safer motorcycle clothing and in turn improve the level of safety for the motorcycling community at large.

We are currently leading a working group to pilot a test phase of this 12 month program.



Success Story

Leveraging strategic partnerships

Partnering for accelerated innovation

Transport for NSW is reforming the way that we engage with industry and our new approach has resulted in a swift move to the forefront of transport innovation globally.

We are partnering with a diverse range of global businesses including Amazon Web Services, Austrade, Commonwealth Bank, City Innovate Foundation, Google, Mastercard and Optus.

And we're also working with the startup ecosystem to deliver new technology trials to create intelligent transport networks.

All our partnerships are truly collaborative and are committed to co-developing game changing solutions and building a better customer experience.

"As part of our innovation approach, we partner with a range of companies, clients, start-ups and government agencies from across Australia and the globe. Transport for NSW Digital Accelerator is an ideal vehicle to drive collaborative thinking and experimentation, and ultimately deliver new innovative solutions for customers."

Toby Norton Smith, General Manager Digital Growth, Commonwealth Bank of Australia

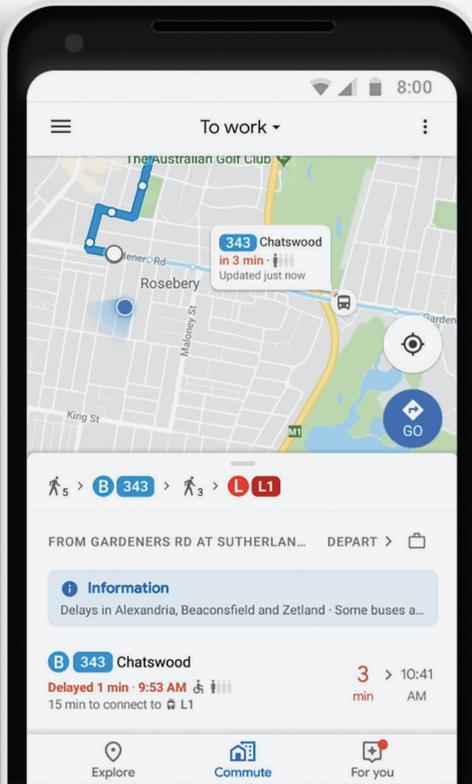
"For Mastercard, the concept of smart cities is not an end in itself, but a means towards improving the quality of life for all segments of society. Through our global standards, digital technologies, data insights and expertise, we will work with Transport for NSW to drive inclusive and sustainable urban growth."

Richard Wormald, Division President for Australasia, Mastercard

"Optus is excited to be an industry partner of the Transport for NSW Digital Accelerator. The Accelerator's purpose is to explore opportunities to collaborate and share insights to optimise commuter experience in NSW. This objective aligns strongly with Optus' mission of being a trusted digital leader for connected customer experiences. Transport for NSW is driving innovation within government, from the testing of emerging technologies to evidence-based decision making drawn from data analytics and insights. The Optus team is looking forward to working with Transport for NSW to bring the Future Transport Technology roadmap to life for NSW commuters."

John Paitaridis, Managing Director, Optus Business

Success Story



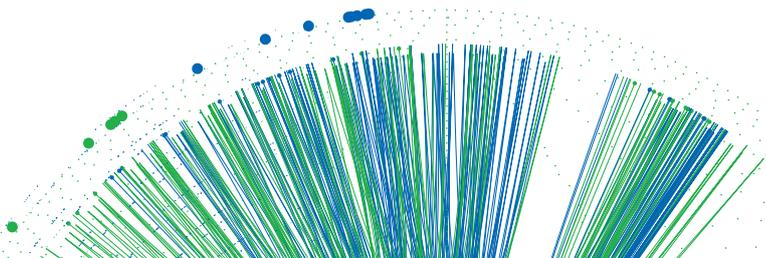
Google Maps

Partnering for accelerated innovation

Earlier this year, Google Maps launched new features to help customers take control of their daily commute – enabling them to plan ahead, prepare for inevitable disruptions, and when possible, avoid them all together.

Through Google Maps use of Transport for NSW’s Open Data, commuters can now access live transit information tailored to individual journeys in one tap. Across Sydney, transit riders are now able to see exactly where their bus is on Google Maps. Customers will know how far away their bus is, to make sure they don’t miss their ride.

Transport for NSW worked with Google to deliver a global first – a feature to show the occupancy of their next bus, so commuters know whether or not they will get a seat. This feature allows commuters to plan ahead and keep their commute stress-free. Our collaboration with Google makes commuting easier for our customers.



Success Story



Transport for NSW
Research Hub



Transport for NSW Research Hub

Partnering for research

Our objective has always been to tackle some of transport's biggest challenges so that we can deliver smarter, easier and safer transport for everyone. But we know we can't do it alone.

That's why in June 2018 we launched the Research Hub to a host of academic, government and industry partners. The Research Hub is all about taking a collaborative approach to research by engaging, innovating and sharing information with the tertiary sector, industry and other government agencies interested in transport-related research.

"The Hub should help avoid unnecessary duplication of research efforts and facilitate the coordination of research activities to drive a leading-edge approach to mobility"

Australian Rail Association

We have subsequently released 23 problem statements aligned with Transport's Strategic Research Directions for collaboration with academic researchers, attracting responses from universities and their industry partners. This release has already resulted in collaborative research projects with Sydney Trains and Sydney Metro. We are also working with over 100 subject matter experts across the cluster on additional problem statements to publish.

To date, we have collaborated with and had strong support from a range of academic, government and industry partners including CSIRO/Data 61, iMOVE Cooperative Research Centre, Australian Postgraduate Research (APR) Internships, and several universities including University of Sydney, Monash University, Swinburne University, Griffith University, Western Sydney University, University of Wollongong, Macquarie University, and University of Technology Sydney, just to name a few.



Transport for NSW
Research Hub

Success Story



Automation technology at Port Botany

Partnering for state infrastructure

The adoption of automation technology at Port Botany is one of the first and largest operations of its kind anywhere in Australia.

This initiative, undertaken by the Australian Centre for Field Robotics at the University of Sydney, and stevedore industry partners Patrick and Hutchinson Ports, is an example of industry-led innovation that is enhancing the efficiency of infrastructure in NSW.

Transport for NSW supports these initiatives and is contributing through:

- A technology program - a complement to the expansion of the port footprint, ship berthing capacity and the imminent duplication of the dedicated freight rail line.
- Reform of the operating model - consultation on regulation reform and operating standards has enabled industry to apply global innovations for operational efficiency, safety, reliability and more secure investment return.
- Allowing the automation of stevedoring operations - more efficient and faster loading and unloading shipping containers has been essential in managing increases in demand for export and import freight movement as well as future proofing the economic prosperity of NSW.

Transport for NSW has also established a dedicated department, the Cargo Movement Coordinating Centre (CMCC), and is investing approximately \$10 million to better integrate new capacity and demand with the road and train networks and operators in the interest of safety and efficiency.

One of the primary focus areas is applying technology to better optimise capacity and collaboration in the interest of congestion and safety in and around port districts. Technology features highly in this investment and we are working with:

- Sensor Dynamics for Truck and Container Tracking using licence plate recognition for vehicle identification and Data Robots for data analytics and predictive information to assist in further strategic decision making in truck marshalling and scheduling, routing and capacity planning.
- 4Tel to replace our Operational Performance Management System with a more robust system that will improve monitoring, data, reporting and user interface.

And now, through the Single Port Community System, we are looking for partners to explore Blockchain and middleware solutions to integrate multiple IT systems for the benefit for the entire port community.

How you can get involved

We want to partner with industry, harnessing talent and bright ideas - leveraging off each other to deliver the best possible outcomes. By doing this we are well placed to make NSW the leading jurisdiction when it comes to transport technology.

We want to do what we can to help up-and-comers, startups and new business owners be part of the transport evolution. Be frank and fearless! Tell us where you think we can improve, where you can help us innovate and where we can work together to provide better solutions for our customers.

NSW is open for business and in the transport technology space, we are committed to thrive. But this will only be possible by engaging with our customers and partnering with industry experts.

Here's a directory of some key initiatives:

The Smart Innovation Centre

Want to know more about our collaborative research and development projects and any expressions of interest we may run from time to time? Visit: transport.nsw.gov.au/projects/programs/smart-innovation-centre

Partnerships

Want to understand how we share expertise, resources and data in direct collaboration between the public and private sectors to develop new transport innovations for our customers across NSW?

Contact us at: FutureTransportTechnology@transport.nsw.gov.au

Transport for NSW Research Hub

Want to know more about how we collaborate and share information between Transport for NSW, the tertiary sector, industry and other government agencies for strategy and solutions to complex transport challenges? Visit:

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

Transport Digital Accelerator

Want to know how we connect and support teams from the NSW Transport cluster with industry, researchers, entrepreneurs and startups to fast track better customer experiences and new transport delivery systems?

Or, want to learn about how we work about our latest industry challenges? Visit:

future.transport.nsw.gov.au/technology/roadmap-in-delivery/digital-accelerator

Contact us at: digitalaccelerator@transport.nsw.gov.au

NSW Centre for Road Safety

Want to know more about how we engage with the community to help change unsafe behaviour on the roads including community grants for road safety projects specific to local areas?

Visit: roadsafety.transport.nsw.gov.au/aboutthecentre/communitygrants/index.html

Contact us at: roadsafety@transport.nsw.gov.au

Roads and Maritime Services Innovation Network

Want to know how to get involved in improving roads in regional and rural NSW.

Find out more at: rms.nsw.gov.au/business-industry/innovation-network-initiative.html

Contact us at: RMSIndustry@rms.nsw.gov.au

Jobs for NSW

Want to know about financial support to startup and emerging and fast-growth small to medium enterprises (SMEs) to scale and grow new jobs in NSW.

Find out more at: jobsforNSW.com.au/about-us

Open Data Program

Want to know how we make transport data available for the development of apps and other solutions that our customers value.

Learn more and register here: opendata.transport.nsw.gov.au

NSW future mobility ecosystem

These are some of the game-changers who are shaping the future of mobility in NSW.

NSW Government

Mobility as a Service, Vehicle Sharing

Autonomous Vehicles and Systems

On Demand

Electric Vehicles and Infrastructure

Logistics, Delivery and Distribution

Last Mile Delivery

Transport Digital Accelerator Partners

Operations Tech

Trip Planning

Venture Capital and Accelerators

Research and Education

Maps

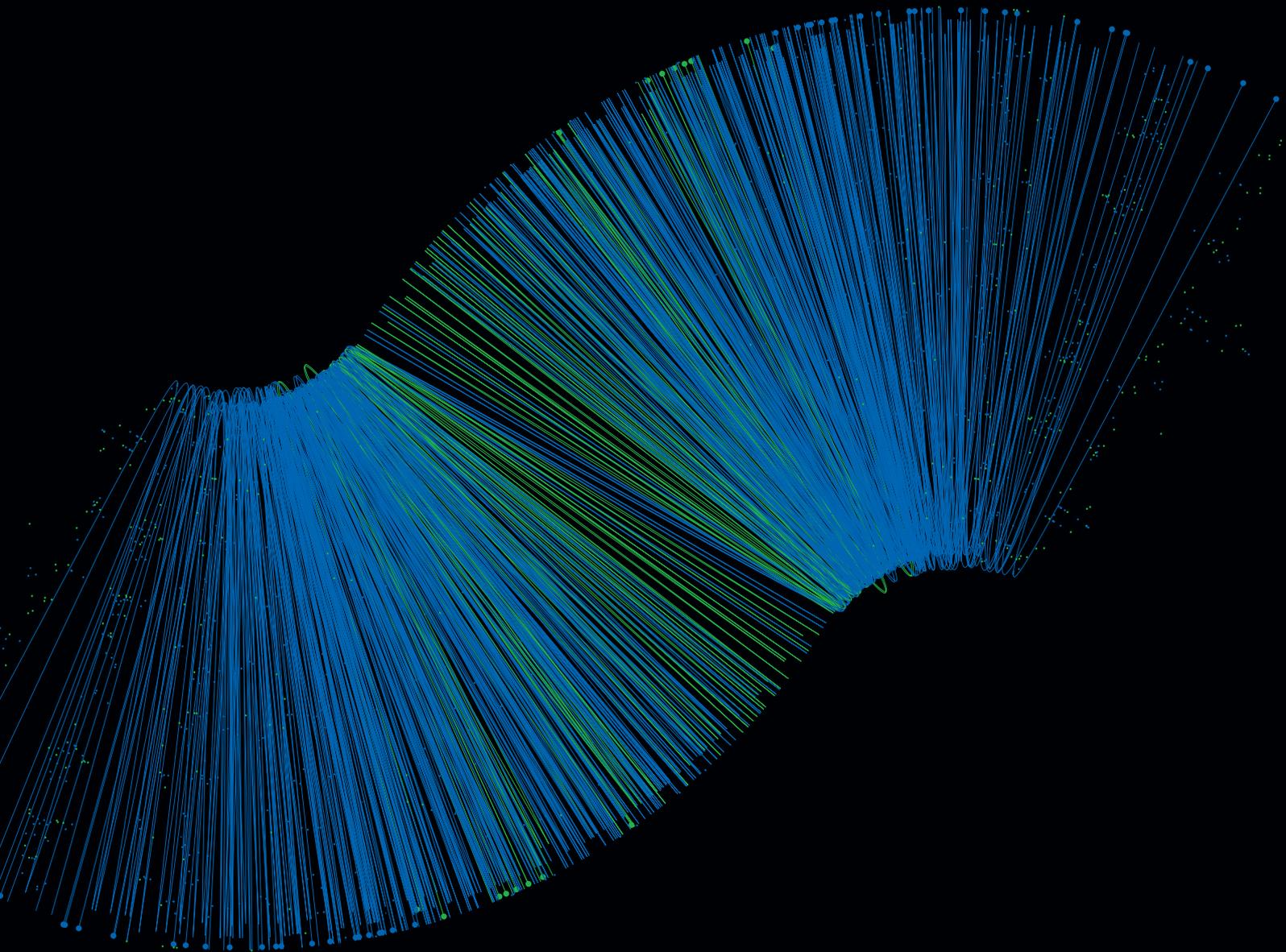
Coworking

NSW Government Programs

Major Projects

If you are involved in the mobility ecosystem, please contact us to be included and help us grow the map - email FutureTransport@transport.nsw.gov.au

future **transport** technology



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