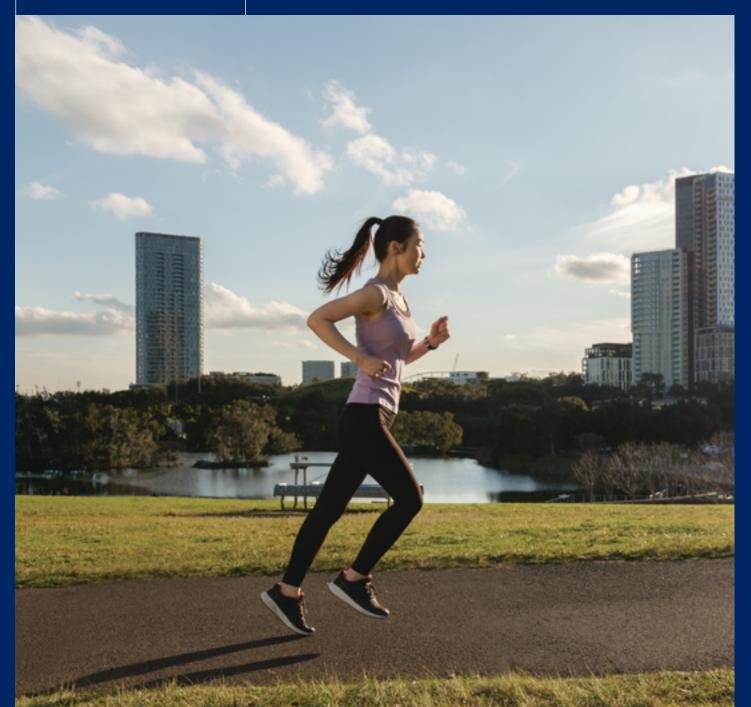
Cities and Active Transport

Smart Places Acceleration Program: In review February 2023



transport.nsw.gov.au/smartplaces



The NSW Government acknowledges that we work on Aboriginal land.

We acknowledge the Traditional Custodians of the land and we show our respect for Elders past, present and emerging.

In delivering SmartNSW, we will be thoughtful and collaborative, and show our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically and where their strong connections to country are celebrated and embraced.

Cover image: Runner in Bicenntennial Park, Sydney Olympic Park. Credit: NSW Government

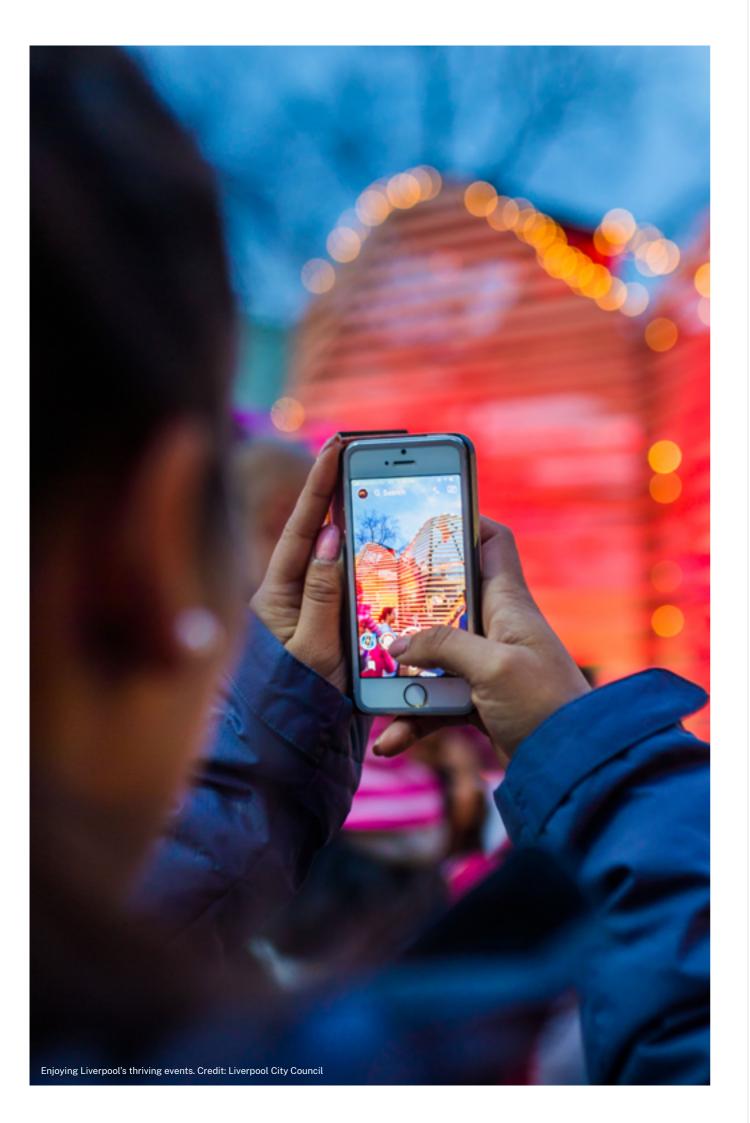
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Minister's message

Making smart *easy.*

Since 2019, NSW has been leading the country and region in delivering great places and improving government services for citizens using technology and data solutions.

We've been investing in partnerships and initiatives that are reshaping the smart cities movement and making it easier for government agencies, councils and place makers to innovate and invest in smart technologies.

And central to this change is the Smart Places Acceleration Program.

The Acceleration Program has been stimulating new ideas and funding data and technology solutions to address critical challenges for urban communities, like mobility, urban heat, water efficiency, air quality and inclusion and equity.

We are at a very important stage, where pilots funded by the program are starting to wrap up and we are evaluating each initiative and uncovering how we can make it easier for successful initiatives to be adopted far and wide. The State has an important role to play in sharing lessons, growing capability and ensuring the benefits of smart technology will be for people in every city and town. We want the councils and place makers just starting out on their smart places journey to be able to leapfrog the early, painful process of piloting solutions and leverage the success of others.

The Smart Places Acceleration Program is establishing a shared knowledge base of tried and tested approaches, and in the coming year will deliver standard methods and guidance so it is easy for others to invest.

The Acceleration Program is helping us quantify the benefits of technology and data solutions for the people of NSW, establishing a compelling case for further investment at scale.

All of this will help cement NSW as the Smart State – boosting our economy, productivity, and quality of living.



The Hon. Victor Dominello MP Minister for Customer Service and Digital Government

From the **Deputy Secretary**

In the Cities and Active Transport Division at Transport for NSW, we create great places.

We shape neighbourhoods across our cities and urban centres, ensuring they are connected, inclusive and inviting for us all to enjoy.

The past few years have highlighted the importance of innovating and finding new ways to address critical challenges related to urbanism.

Technology and data solutions are quickly taking shape as a new frontier in tackling urban heat. decarbonisation and waste.

They are helping us improve environmental quality, safety and liveability for our communities and generate insights to inform decisions about investments and policy interventions.

And the Smart Places team in Cities and Active Transport is leading the charge.

Through the Smart Places Acceleration Program, we have we have been sowing the seeds for faster and more effective adoption of smart technology across the state.

The Program is generating new partnerships between state government agencies, industry, the innovation sector, local councils and place makers.

Together we are solving problems for people and places using new technologies and data solutions.

Between 2020 and 2022, we allocated almost \$45 million to 28 initiatives that deliver safer roads and beaches, cleaner waterways, greener, cooler, more water efficient parks, and improved digital inclusion and equity.

Over 50 local government areas have participated in the program, and almost half of these are in our regions. We are working with small regional shires like Warren Shire Council, as well as in one of our largest, City of Canterbury-Bankstown.

The Program is helping us develop the skills and capabilities we need to create a smart State.

It is also helping us build a shared knowledge base of tried and tested approaches, with standard methodologies and guidance so it is easy for others to invest.



Kiersten Fishburn Deputy Secretary, Cities and Active Transport



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SmartNSW



In NSW, we have a bold ambition – to create great places and deliver outcomes for people using technology and data solutions.

At its heart, SmartNSW is about people. We are challenging ourselves and others to find new ways to improve services, our environment and drive productivity.

We want people to have access to the data and insights they need to make more informed decisions.

We are striving for a world where technologies help us create cities and towns that are not just connected, but sustainable, liveable and inclusive.

Our plans to deliver are detailed in the *SmartNSW Roadmap 2022-2027*.

Delivering outcomes for people



Skills, jobs and development

Growing knowledge capital of people and businesses in NSW to ready us for a digital future.



Safety and security

Providing safer places for people and increasing our sense of security.



Environmental quality

Boosting sustainability outcomes by reducing our emissions, resource use and environmental impacts and protecting biodiversity.

The makings of a smart place

Smart places:

- **1** Embed sensors and communications technology in infrastructure and the natural environment
- 2 Use the sensors and technology solutions to capture, safely store and share government data
- Communicate information and insights using the data to drive decisions and generate better outcomes for people and place.

Organisations can use technology and data to meet the needs of people in a street or neighbourhood, a local government area, or a region – in either the city or the country. This is why we refer to smart *places*, rather than smart *cities*.



Health and wellbeing

Improving the quality of life and wellbeing of the people of NSW.



Equity, accessibility and inclusion

Improving physical and digital access for people to participate in social, economic and civic life.



Collaboration and connection

Bringing people, businesses and governments, their data and services together in a seamless way.

Smart Places Acceleration Program



A change maker for NSW

To achieve our ambitions for SmartNSW, we need to drive and catalyse change. The Smart Places Acceleration Program is helping us to do this.

The Program provides co-contributions for the NSW Government to partner with councils, property owners, and joint organisations; industry; and the innovation sector to solve problems and improve the quality of life for communities across regional and metropolitan NSW.

The Program was instigated in late 2020 and is:

- Supporting economic and community recovery as the COVID-19 pandemic continues
- Building partnerships between government, councils, the innovation sector and industry
- Supporting adoption of new approaches and growing talent with skills for the future
- Keeping NSW ahead of the game, as the #1 smart state

The Program funds initiatives that help State Government and local councils improve customer experience and service delivery. These initiatives are testing and validating smart solutions and the benefits they can deliver, so that we can share the lessons learned.

8

We invest in initiatives in four investment categories:

- 1. Data innovation and value creation
- 2. Capability development
- 3. Communication of insights
- 4. Smart technologies and infrastructure

Program governance

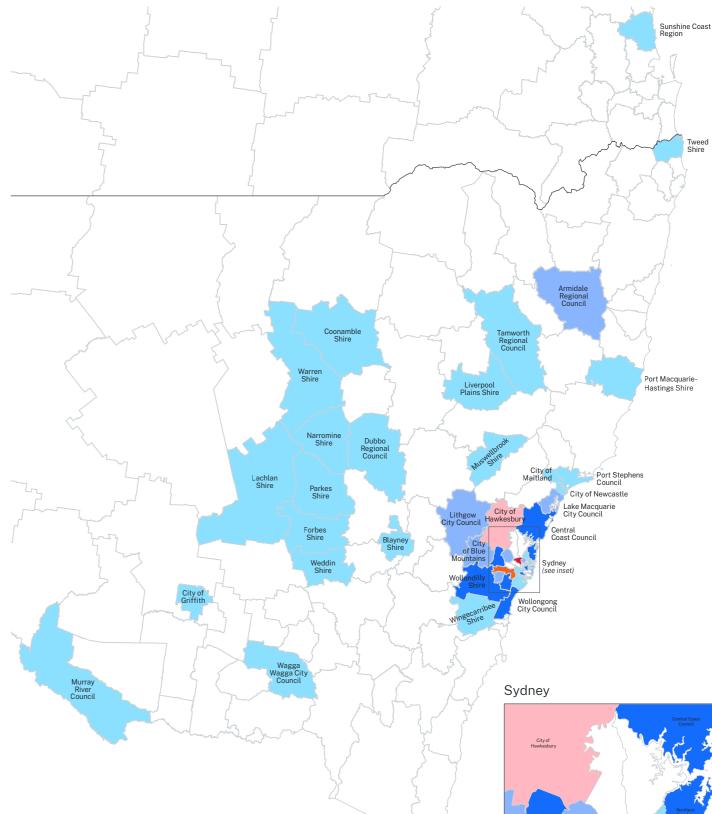
The NSW Smart Places team runs the program. Participants are supported through initiative submission, evaluation and refinement through to advocacy, support and connection during delivery. zensuring that we're realising benefits and learning critical lessons about data and technology as we go.

The Program is funded through the Digital Restart Fund and follows it's required governance processes. Further information on the Digital Restart Fund is available at <u>Digital.NSW.</u>

Any organisation can submit an Expression of Interest to participate in the Program, and the proposals are assessed using the Smart Places Acceleration Program Guidelines, which are published online. The Program in numbers



Initiatives shown by local government areas across the state

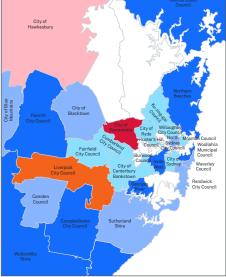


Number of SPAP-funded initiatives by local government areas



tta River, Parramatta. Credit: Dest

+ includes one interstate LGA (Sunshine Coast) * metropolitan LGAs within the designated Metropolis of 3 Cities, as described by the Greater Cities Commission (2018). A Independent program review undertaken June 2022 on initial 22 funded initiatives.



Initiative overview

Regional initiatives

Regional rail mobile coverage dataset Department of Customer Service *Mobile coverage data*

Smart Level Crossing Safety Technology Trial Transport for NSW *Road and rail safety*

Metropolitan initiatives

Creating Safer Crowded Places Department of Planning and Environment *Public safety*

Digital Trust in Places and Routines Department of Planning and Environment *Community engagement*

Smart Digital Kerbside Transport for NSW

Traffic management and asset optimisation

Smart Infrastructure Design Specifications Transport for NSW Design standards

Smart Planning Approvals Department of Planning and Environment *Planning and engagement*

Western Parkland City Digital Equity and Inclusion Insights Transport for NSW Digital disadvantage

Western Sydney Neighbourhood Health Hub NSW Health Data-driven health and wellbeing

Both Regional and Metropolitan initiatives

Asset Al® Transport for NSW Asset maintenance

OPENAIR Department of Planning and Environment *Air quality*

Smart Beaches Transport for NSW Beach safety

Statewide initiatives

Smart Places Capability Uplift Department of Customer Service *Skills and capability*

CarbonZero Accelerator NSW Treasury Decarbonisation



Smart and Cool Places

Department of Planning and Environment *Urban heat*

Smart Regional Spaces: Ready, Set, Go!

Department of Regional NSW Skills and capability

Data After Dark

Department of Enterprise, Investment and Trade 24-hour economy

Envisioning in 3D

Department of Customer Service *Planning and engagement*

Smarter, Cleaner Sydney Harbour

Department of Planning and Environment *Water quality*

Smart Irrigation Management for Parks and Cool Towns (SIMPaCT)

Department of Planning and Environment Urban heat and water efficiency

Smart Places Water Insights

Sydney Water Residential water efficiency

Western Sydney 5G Trial

Transport for NSW Mobile coverage

Flood and storm intelligence sensing

NSW State Emergency Service Emergency warning and response

Park'nPay

Department of Customer Service Traffic Congestion and emissions reduction

Smart City Innovation Challenges

Transport for NSW Innovation ecosystem

Smart Places Data as an Asset

Department of Customer Service Data Management

Creating great places

Generating a smart place is *about* more than the technology.

Smart places are liveable, prosperous and sustainable places. They use technology and data solutions to enhance the experience of the people who live in, work in and visit them.

The NSW Government is helping bring local communities, councils, innovators, industry and place makers together to design and deliver smart places at a regional scale.

In smart places, technology and data solutions are lavered: addressing local needs, supporting forecast growth and generating cities that use data insights to drive decision making.

The Smart Places Acceleration Program is delivering projects and initiatives in these places, setting them up with the digital knowledge and systems for future investment and instigating change.



Image 2: Artist impression of Parramatta Square Credit: NSW Government

Image 3: Artist impression of Sydney Olympic Park Metro. Credit: NSW Government



1.16m local government areas residents (2021)

809,000 ha

13 Smart Places Acceleration

Program initiatives

8

\$20.6m co-investment from Acceleration Program

By 2026, the first passengers will take flight from the Western Sydney International (Nancy Bird Walton) Airport and businesses and residents will be populating the new Western Parkland City Central Business District, Bradfield.

To prepare for this future and provide a seamless digital experience across the existing communities of the Parkland City, the NSW Government is delivering the Smart Western City Program.

The Program will help deliver infrastructure, services and resources to ensure the Western Parkland City is a future-focused, digitally enabled city; a place that is resilient, sustainable, economically vibrant, connected and inclusive.

The Smart Places Acceleration Program has coinvested almost \$20.6 million, across 13 initiatives, aligned with the Smart Western City Program:

- Asset Al[®]
- Envisioning in 3D
- Flood and Storm Intelligence Sensing
- Park'n Pay (3 initiatives)
- Smart Digital Kerbside
- Smart Infrastructure Design Specifications
- Smart Places-Smart City Innovation Challenge-Challenge 1 (Circular Economy)
- Smart Places Water Insights
- OPENAIR
- Western Parkland City Digital Equity and Inclusion Insights Program
- Western Sydney 5G Trial

Case study: Central River Ci



6 local government areas 1.83m residents (2021)

131,000ha

10 **Smart Places Acceleration**

Program initiatives

\$14.7m co-investment from Acceleration Program

The Central River City is as dynamic as it is diverse and is home to one of Sydney's fastest-growing and strategically important economic corridors - running through Greater Parramatta and the Olympic Peninsula.

The Central River City is changing rapidly to accommodate more jobs and business opportunities, rebalancing Greater Sydney's population.

The NSW Government is partnering with local councils, place makers and communities to transform the Central River City into the region's true, connected, unifying centre, using technology and data to create a futurefocused, liveable and sustainable economic corridor, with access to jobs and housing.

The Smart Central River City Blueprint is guiding investment in infrastructure, services and resources. The Smart Places Acceleration Program is co-investing in initiatives in the Central River City, in line with the Blueprint, including:

- AssetAl[®]
- Creating Safer Crowded Places
- Digital Trust for Places and Routines
- Smarter, Cleaner Sydney Harbour
- Smart Infrastructure Design Specifications
- Smart Irrigation Management for Parks and Cool Towns (SIMPaCT)
- Smart Places Water Insights
- Smart Planning Approvals
- OPENAIR
- Western Sydney Neighbourhood Health Hub

14

Acceleration Progr Places Smart



25,000

regular visitors and residents

10m+ visitors annually

640ha

5 Smart Places Acceleration Program initiatives

\$6.8m

co-investment from Acceleration Program

Sydney Olympic Park is maturing into one of Sydney's most dynamic places to live, work and play and has a vision to be Sydney's beating green heart.

Over the next three decades, Sydney Olympic Park will deliver large-scale development to house a growing population, enhance green and blue corridors through the park and protect the local environment and significant wetlands, and support business investment and activity, including continuing as a major contributor to the visitor economy of NSW.

The arrival of the Sydney Metro West in 2030 will catalyse change, dramatically increasing accessibility to the neighbourhood and supporting the growth of jobs and the delivery of new homes.

Sydney Olympic Park Authority is taking a Country-first approach to preserve and celebrate Wangal culture and ensure the precinct is regenerative, sustainable and resilient. It is also investing in technology systems and infrastructure to provide real-time data insights, ensuring the park can learn and adapt to changing needs and deliver on ambitious social, cultural, environmental and economic performance markers.

Sydney Olympic Park is part of the Central River City, and these smart investments align with the Smart Central River City Blueprint.

The Smart Places Acceleration Program is assisting Sydney Olympic Park Authority to continue to grow its capability and introduce new technology and data solutions to achieve its goals. Projects funded include:

- CarbonZero Accelerator
- Creating Safer Crowded Places
 Smart Irrigation Management for
- Digital Trust for Places and Routines Parks and Cool Towns (SIMPaCT)
- Smarter, Cleaner Sydney Harbour



Maximising value

In 2023, the Smart Places Acceleration Program will contribute a further *\$2.5 million into new initiatives.*

We will target technology and data solutions to improve environmental quality; equity, accessibility and inclusion, health and wellbeing; and safety and security in our urban environments.

We will also maximise the \$47 million investment in the Program, by working with initiative sponsors and partners to:

- quantify impacts and benefits of projects through cost benefit analyses
- showcase the positive outcomes achieved and lessons learned

- build a shared evidence base for further investment in solutions by place managers, councils and the State Government
- identify any methods and materials developed in projects that should become standard practice and develop guidance to aid adoption
- develop and launch a SmartNSW digital case study resource, linking place makers with tried and tested solutions
- host learning sessions to build awareness of solutions and grow capability across NSW
- uncover barriers and sticking points to delivery and work to address these to support future projects.

These actions will help to build pathways for great solutions to scale by:

- de-risking investments
- growing the appetite for investment in technology and data solutions
- enabling efficient delivery, where lessons are shared to prevent repeated pilots of known technologies
- providing structures, methods and guidance to make it easy for place makers and councils to adopt solutions piloted through the program
- targeting challenges and barriers to innovation through continuous improvement in procurement, governance and partnership models.

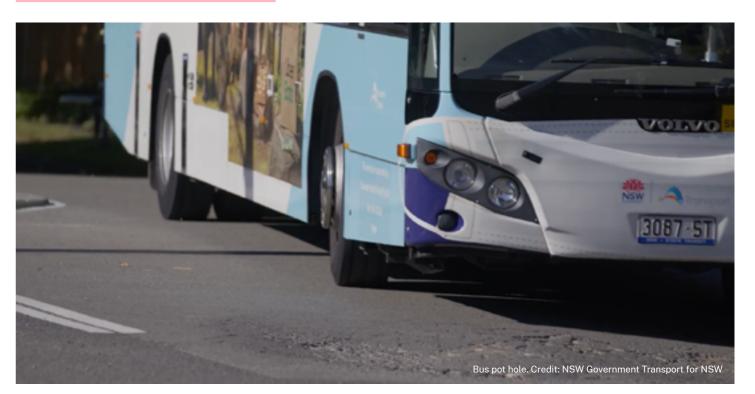
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AssetAl®

Delivering safer roads for our communities using artificial intelligence to revolutionise road maintenance and operations



AssetAl® is trialling new ways to gather and use real-time data on the condition of roads, to help councils and the NSW Government streamline the way they maintain these essential assets, making them safer for road users.

The initiative is using sensors and cameras affixed to public transport and council vehicles (like buses and garbage trucks) to generate data on roads incidentally. This data is then combined with other data inputs, like weather information, and analysed using artificial intelligence.

The insights generated will help us identify and track road defects earlier, so that these can be addressed faster.

Fast fact

Australian governments spent more than

\$8 billion

maintaining and renewing the road estate every year

Bureau of Infrastructure and Transport Research Economics 2022



orate
ncil
-

carbonZero Accelerator 😂 💬



Helping achieve net zero, with better data insights on emissions



Reducing carbon emissions is a critical component in our response to climate change. Doing so in an effective and meaningful way requires, as a starting point, a thorough understanding of the carbon footprint of place-based assets and activities throughout NSW.

This project will accelerate our path towards netzero carbon emissions by delivering an open-source, cloud-based, scalable platform enabling state and local government, businesses, communities and non-government organisations to create trackable and reportable pathways to reduce emission targets to zero.

This platform will be trialled with several state government agencies and local councils to establish a baseline carbon footprint of their existing placebased assets and activities, develop net-zero transition roadmaps, and transparently communicate place-based strategies and actions to stakeholders and interested parties.

Fast fact

If successful, this platform could help more than

220

NSW State agencies and local councils contribute to emissions reduction targets

Co-contribution	\$2.72m
Lead	NSW Treasury
Collaborators	Department of Education Department of Communities and Justice NSW Health Property NSW Department of Premier and Cabinet Sydney Olympic Park Authority
Councils involved	City of Parramatta
Start date	Q3 2022
Completion date	Q4 2023
Outcome areas	Environmental quality Collaboration and connection

Creating Safer Crowded Places

Improving public safety in crowded places with innovative, advanced data analytics

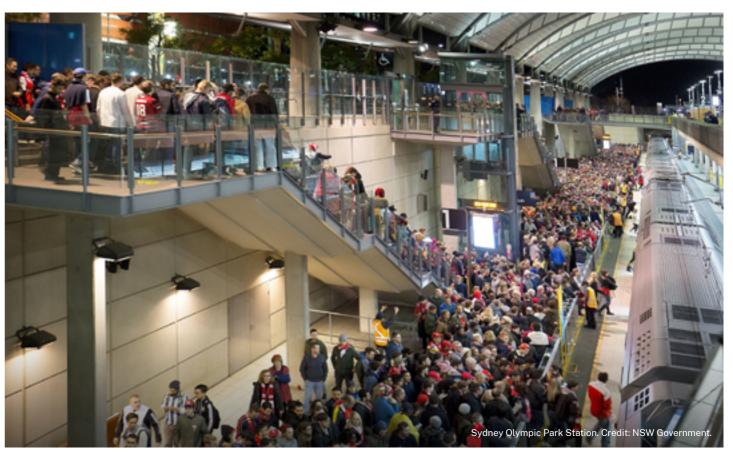
This initiative will trial advanced data analytics technology at Sydney Olympic Park to boost crowd safety during major events.

The trial combines de-identified footage from existing closed-circuit cameras, data from environmental sensors, social media and other sources to provide near real-time insights to the precinct events team, flagging any safety or security threat, helping improve the experience of people attending big events hosted in the precinct.

This pilot ensures personally identifiable information is protected by design and default. The project team is using privacy-enhancing safeguards and technical and operational controls to reliably ensure that individuals are never identifiable.

The NSW Government has thoroughly reviewed this pilot from an ethical and privacy standpoint, and we are confident the technologies are appropriate and will deliver great outcomes for visitors to Sydney Olympic Park.

The project will be delivered concurrently with the Digital Trust in Places and Routines pilot.





Fast fact	
Helping keep	
10 mil	lion+
visitors to Sydne	y Olympic Park safe annually
Co-contribution	\$1.056m
Lead	Sydney Olympic Park Authority
Collaborators	Department of Communities and Justice: NSW Police DCM
Councils involved	City of Parramatta
Start date	Q4 2022
Completion date	Q3 2023
Outcome areas	Safety and security Collaboration and connection

Data after Dark



Lighting up Greater Sydney's nightlife with insights on the 24-hour economy



Data after Dark will support a vibrant, safe and diverse nightlife that enhances the state's standing as a global destination by providing a comprehensive, consistent and shared understanding of the performance of Greater Sydney's 24-hour economy for local and state government.

Data after Dark will build upon existing work at the local level to provide combined and comparable insights across Greater Sydney's 24-hour economy. Helping place makers improve and assess economic performance of night-time areas and supporting collaboration and knowledge sharing.

Data after Dark will make the 24-hour economy more resilient and measurable.

We want our urban economies to thrive, night and day.

To support this ambition, we need to know how our night-time areas are performing over time and how they compare to each other.

Data after Dark will develop a standard model to assess economic performance across Greater Sydney, supporting decision making on interventions to improve economic activity and enabling a Greater Sydney wide view of activity and performance.

It will develop agreed metrics to measure the health of the night-time economy, drawing on and aggregating economic data to measure these agreed indicators.

The insights generated will help place makers to assess the impact of policy interventions and investments.

The model will be scalable, replicable and interoperable with other services across NSW

Fast fact

Pre-COVID, Sydney's night time economy was valued at

\$27.2 billion

with potential for additional economic uplift of

\$16 billion

Co-contribution	\$1m
Lead	Investment NSW and the 24-Hour Economy Commissioner
Collaborators	To be confirmed
Councils involved	City of Canterbury-Bankstown City of Parramatta City of Sydney Liverpool City Council Penrith City Council Randwick Council More to be confirmed
Start date	Q1 2022
Completion date	Q2 2023
Outcome areas	Skills, jobs and development Safety and security Collaboration and connection

Digital Trust for Places and Routines

Helping people engage with technology and data solutions in smart places

Digital technology is all around us, but often invisible. To help people engage with new smart technologies in Sydney Olympic Park, a trial of the Digital Trust for Places and Routines (DTPR) communication standard is underway.

DTPR includes a visual system of signs and icons posted around technologies in public spaces, such as traffic sensors or air quality sensors. The signs let people know what data the technology is collecting, who's collecting it, and what the data is being used for.

Signs have been installed in the parks around the Olympic Park Station and sporting facilities, and in the business and residential parts of the precinct. They include QR codes for people to seek more information and provide feedback.

The trial is the first use of the DTPR standard in the Southern Hemisphere. DTPR is a featured initiative of the World Economic Forum's Future of the Connected World Global Action Plan and stewarded by the organisation Helpful Places.





Fast fact

1st trial

of Digital Trust in Places and Routines in the Southern Hemsiphere

Co-contribution	\$100k
Lead	Sydney Olympic Park Authority
Collaborators	Helpful Places
Councils involved	City of Parramatta
Start date	Q4 2022
Completion date	Q3 2023
Outcome areas	Safety and security Collaboration and connection

Envisioning in 3D

Reshaping planning decisions using digital twin innovation



Envisioning in 3D has delivered a high-quality modelling software platform, to help Camden Council make more informed decisions when assessing development applications and planning proposals.

By visualising how a place looks digitally, and how a proposed development will fit within the local environment, the 3D model also has the potential to help communities better engage with planning decisions.

Co-contribution	\$483k
Lead	Department of Customer Service
Collaborators	Department of Customer Service Customer Planning Portal/Community Engagement Department of Planning and Environment: Planning and Assessment
Councils involved	Camden Council
Start date	Q2 2021
Completion date	Q4 2022
Outcome areas	Skills, jobs and development Equity, accessibility and inclusion Collaboration and connection

Flood and Storm Intelligence Sensing

Improving our response to floods and storms to better protect people and properties

Storms and floods impact services and cause damage to property and infrastructure like roads. They also affect the health and wellbeing of NSW communities by causing emotional distress, injury and loss of life.

This pilot will help NSW State Emergency Service (SES) better protect people and places from the impacts of storms by providing new sources of data and information using wide area sensing and monitoring platform.

The project will deliver an energy efficient, secure and reliable flood and storm sensing Internet of Things solution; a resilient 24/7 wide area flood and storm sensing and monitoring system using low-cost radars and 5G infrastructure; and a community digital twin to fuse all static and real-time data to predict risks to critical infrastructure.

If the pilot is successful, the SES plans to deploy the solution statewide





Fast fact

Reducing the impact of flood events on our communities, costing our economy about

\$250 million

each year

AdaptNSW 2022

Co-contribution	\$4.936m
Lead	NSW State Emergency Service
Collaborators	University of Technology, Sydney
Councils involved	Hawkesbury City Council Wagga Wagga City Council
Start date	Q2 2023
Completion date	Q2 2024
Outcome areas	Safety and security Environmental quality

OPENAIR

Improving air quality outcomes across NSW



OPENAIR will arm local governments with the latest know-how in the use of low-cost air quality sensors. For the first time in Australia, it will establish a bestpractice methodology for all aspects of council-led air quality monitoring. This will result in creating healthier communities throughout NSW.

The availability of low-cost environmental sensors now makes it feasible to collect local air quality data in town centres, busy road intersections and other areas affected by local air pollution. Insights generated from the new data will help identify changes that can be made to improve air quality.

The network of sensors will also provide localised air quality information to the community.

Fast fact

Improving air quality for | In 2020, there were

860,000 asthmatics in NSW¹ 155 deaths related to asthma

in NSW²

¹ Asthma Australia 2018; ABS 2022b ² National Asthma Council Australia 2021

Co-contribution	\$1.78m
Lead	Department of Planning and Environment
Collaborators	NSW Smart Sensing Network University of Technology, Sydney, University of Sydney, Western Sydney University, University of NSW, Australian National University
Councils involved	City of Newcastle City of Parramatta Hawkesbury City Council (observer) Lake Macquarie Council Muswellbrook Shire Council Northern Beaches Council Orange City Council Sunshine Coast Sutherland Shire Council Tweed Shire Council Wollondilly Shire Council Wollongong City Council
Start date	Q4 2021
Completion date	Q2 2023
Outcome areas	Environmental quality Health and wellbeing



Delivering a seamless parking experience for motorists, reducing congestion and emissions

Park'nPay is a seamless smart parking system linking customers with live parking information at the touch of a button and helping people pay for parking on their phone.

The system also collects anonymous parking data to help governments meet the future needs of communities.

Increased uptake of the Park'nPay system and app will help us reduce traffic congestion and related emissions, make communities safer after dark, and increase parking compliance.

Park'nPay has been supported by the Smart Places Acceleration Program for three initiatives:

- phone app development, so customers can find a parking spot and pay for it
- platform expansion to support more metropolitan councils to participate in the program
- the rollout of sensors to 250 accessible parking spots across four local councils, so people with mobility parking permits can find a spot and know if it is available.

Fast fact

An international study found intelligent transport systems, including smart parking, would save each driver annually, an average of

77.2 hours and reduce CO2 emissions by almost

45,000 tonnes

Institute of Electrical and Electronics Engineers 2017



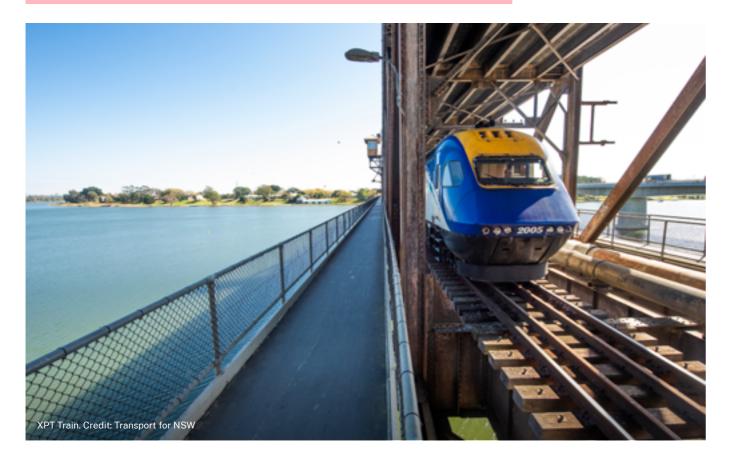


Co-contribution	1-Pilot \$1.8m 2-Platform expansion \$1.9m 3-Mobility and accessibility \$1.8m
Lead	Digital NSW
Councils involved	Armidale Regional Council Burwood Council Central Coast Council City of Randwick City of Ryde City of Sydney City of Sydney City of Waverley Georges River Council Hunter's Hill Council Hunter's Hill Council Inner West Council Ku-ring-gai Council Ku-ring-gai Council Liverpool City Council Mosman Council North Sydney Council Northern Beaches Council City of Parramatta Port Stephens Council Willoughby Council Woollahra Municipal Council
Start date	Q2 2021
Completion date	Q1 2023
Outcome areas	Equity, accessibility and inclusion Collaboration and connection

Regional rail mobile coverage dataset



Better insights on customer connectivity across our rail network



The project generated a state-owned data set, showing mobile coverage for customers inside train carriages along the NSW train network, so Transport for NSW can better understand the customer experience.

The project captured 3G and 4G radio frequency performance data from each of the mobile operators across the regional rail network.

The data will help the NSW Government make evidence-based investments to improve the connectivity experience of rail travellers. It will also reduce duplication of mobile coverage data costs for government agencies.

This dataset has been made available on the NSW Spatial Digital Twin to support NSW Government agencies with strategic planning.

Fast fact

The mobile coverage dataset for this project covers more than

4200 km

of regional rail network in NSW

Co-contribution	\$800k
Lead	Department of Customer Service – NSW Telco Authority
Collaborators	Transport for NSW RANlytics
Councils involved	Statewide
Start date	Q3 2020
Completion date	Q1 2021
Outcome areas	Safety and security Equity, accessibility and inclusion Collaboration and connection

Smart and Cool Places in NSW

Saving lives by creating cooler cities and towns in NSW



Our towns and cities are sweltering during summer and identifying and managing the impacts of urban overheating is an urgent task.

In Western Sydney, the gauge is already reaching 48.9°C and average temperatures are continuing to rise because of climate change.

Heatwaves kill more Australians than any other natural hazard (Adapt NSW 2022b), and particularly impact vulnerable people in our communities. Extreme heat also increases hospital admissions, emergency department presentations and ambulance call outs, placing strain on our health system (Climate Change Research Centre 2014). The need to cool our buildings causes surges in electricity demand, impacting out our carbon footprint and prolonged intense heat can put our infrastructure and other services under strain.

Heatwave effects are often worse in cities, because hard surfaces such as bitumen can retain heat and drive-up temperatures (known as the 'heat island effect') and in NSW, close to 90 per cent of the populations live in towns or cities.

This project is a NSW-specific pilot, to tackle urban heat by establishing an online National Heat Vulnerability Observatory (NaHVO).

The NaHVO will set standard ways to report on and measure overheating locally and identify opportunities to cool down Australia's cities, making quality heat data at a local level more accessible.

28



NSW is leading the charge with a pilot to develop and test the portal, which will be able to be used Australia-wide.

Fast fact

Modelling estimates heat will cause an extra

13 deaths

per year between 2020-2039

Without action. this will reach an extra

46 deaths

per year by 2060-2079

Climate Change Research Centre 2014

Co-contribution	\$480k
Lead	Department of Planning and Environment
Collaborators	University of NSW
Councils involved	Dubbo Regional Council Maitland City Council
Start date	Q1 2023
Completion date	Q4 2023
Outcome areas	Environmental quality Health and wellbeing

Smart Beaches

Saving lives with better data on beach conditions

New technology is keeping beachgoers safer in NSW with the Smart Beaches project providing real-time data to almost 50 beaches in NSW, helping our lifeguards more accurately predict beach conditions and allocate resources.

Data is collected using wave detection buoys, artificial intelligence cameras and surf rescue boards fitted with GPS technology and is combined with other data sets using advanced data analytics and machine learning.

These technologies are providing real-time readings on tide conditions and wave patterns, as well as helping predict how many people will visit the beach, how long they will stay and the most popular times for a swim.

The data insights help councils make better decisions about when and where to roster lifeguards, and help lifeguards understand the local conditions, ultimately saving lives.

The Smart Places Acceleration Program is helping expand the Smart Beaches initiative to new local government areas, building upon the achievements of the award winning 2019-20 pilot project (funded with a contribution from the Commonwealth Smart Cities and Suburbs Program).

Fast fact

25 people

drowned at NSW beaches in 2021-22. This pilot could be expanded statewide, across 180 patrolled beaches

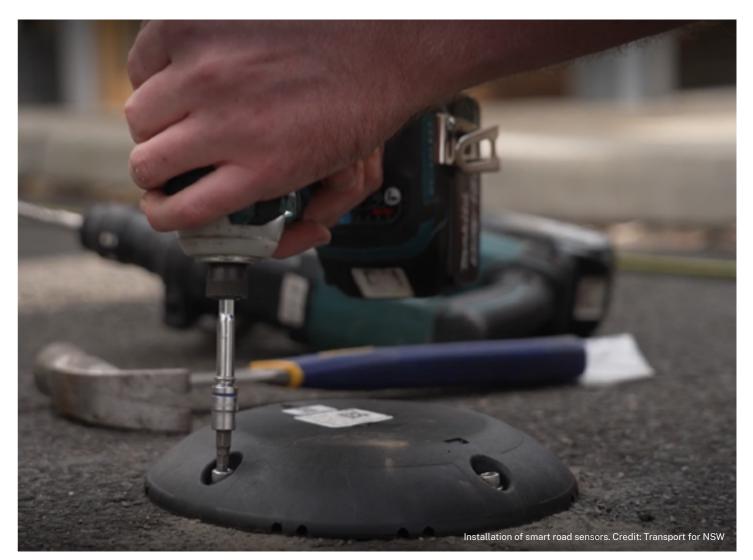
Royal Life Saving Australia 2022

Co-contribution	\$1.606m
Lead	Office of Local Government
Collaborators	Manly Hydraulics Lab University of NSW Beach Safety Research Group Coastal Safety Group
Councils involved	Lake Macquarie City Council Central Coast Council Northern Beaches Council Randwick Council Wollongong City Council
Start date	Q3 2022
Completion date	Q2 2023
Outcome areas	Safety and security Collaboration and connection



Smart Digital Kerbside

Managing our kerbsides flexibly, improving safety for pedestrians and cyclists



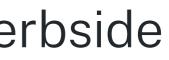
Whether kerbside lanes in our metropolitan centres should be a clearway, a loading zone, a bike lane or time-limited parking is hotly contested.

To help councils and Transport for NSW make informed decisions about kerbspace allocation, they need better data. Smart Digital Kerbside is piloting a range of technologies to capture real-time kerb use data, creating a digital inventory of how and when kerbsides are used in Campbelltown, Penrith and Liverpool city councils.

This will help councils and Transport for NSW allocate space flexibly, with spaces available to different users at different times, depending on the needs of the community. The trial will make streets safer for pedestrians, cyclists and transport and freight businesses; and make the road network more efficient.

The first trial includes technologies like surface-mount sensors, digital parking signs, vehicle and pedestrian analytics and monitoring dashboards.

30





Co-contribution	\$1m
Lead	Transport for NSW
Collaborators	Sage Automation
Councils involved	Campbelltown City Council Liverpool City Council Penrith City Council
Start date	Q2 2021
Completion date	Q4 2022
Outcome areas	Equity, accessibility and inclusion Collaboration and connection



Developing best practice design specifications for smart infrastructure

This Smart Infrastructure Design Specifications will help government agencies and councils harness smart technologies and connected infrastructure consistently, efficiently and seamlessly.

This will help us generate new, real-time data on our assets, so we can reduce costs, improve safety and environmental performance, understand when and how the assets are used, and provide better services and experiences for our customers.

The Western Sydney Planning Partnership, supporting its councils, will develop best practice design specifications for smart infrastructure, covering physical sensors, connectivity, data and intelligence, hosting and applications, and security. The specifications will be delivered as a digital resource for adoption statewide.

Fast fact

Helping deliver on recommendations

38 and 41 of the State Infrastructure Strategy 2022-24

ABS 2022

Blacktown City Council Camden Council Campbelltown City Council Fairfield City Council Hawkesbury City Council Liverpool City Council Penrith City Council Wollondilly Shire Council Start date Q3 2022 Completion date Q4 2023 Outcome areas Skills, jobs and development Equity, accessibility and inclusion		
CollaboratorsWestern Sydney Planning PartnershipCouncils involvedBlue Mountains City Council Blacktown City Council Camden Council Campbelltown City Council Fairfield City Council Hawkesbury City Council Liverpool City Council Penrith City Council Wollondilly Shire CouncilStart dateQ3 2022Completion dateQ4 2023Outcome areasSkills, jobs and development Equity, accessibility and inclusion	Lead	•
Blacktown City Council Camden Council Campbelltown City Council Fairfield City Council Hawkesbury City Council Liverpool City Council Penrith City Council Wollondilly Shire CouncilStart dateQ3 2022Completion dateQ4 2023Outcome areasSkills, jobs and development Equity, accessibility and inclusion	Collaborators	Western Sydney Planning
Completion dateQ4 2023Outcome areasSkills, jobs and developmentEquity, accessibility and inclusion	Councils involved	Camden Council Campbelltown City Council Fairfield City Council Hawkesbury City Council Liverpool City Council Penrith City Council
Outcome areas Skills, jobs and development Equity, accessibility and inclusion	Start date	Q3 2022
Equity, accessibility and inclusion	Completion date	Q4 2023
	Outcome areas	

\$1.055m

Co-contribution

Smart Irrigation Management for Parks and Cool Towns (SIMPaCT)

Creating cooler parks and gardens for our communities to enjoy

Green infrastructure plays a critical role in cooling our cities and urban centres and this is becoming increasingly important as climate change results in more extreme heat conditions than ever before.

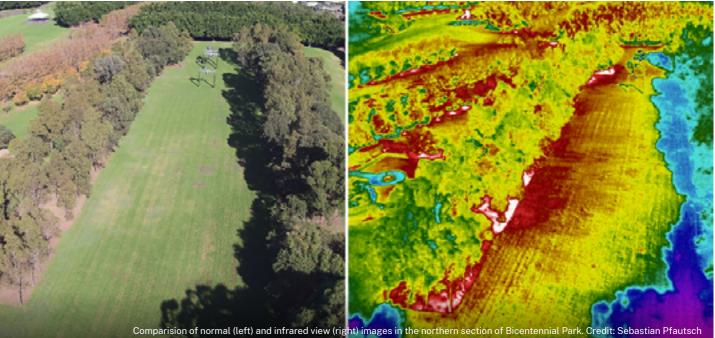
However, our trees, gardens and parklands are at risk from increasing frequency and severity of drought and heat.

SIMPaCT is developing and testing a digital platform to improve irrigation of Bicentennial Park in Sydney Olympic Park, making it a cooler, greener place for residents and visitors to enjoy. The pilot is maximising the 'cool park island effect'.

A network of 50 low-cost smart temperature and humidity sensing devices, 13 weather stations and over 200 smart soil moisture sensing devices have been installed in locations across the park. The data is analysed using advanced machine learning to fine-tune irrigation at the Park.

Real-time data on conditions in the park is being shared online so that park users can easily discover the coolest and shadiest places in the park for picnics, play and exercise.





32



Co-contribution	\$2.47m
Lead	Sydney Olympic Park Authority
Collaborators	Sydney Water Western Sydney University University of Technology Monash University
Councils involved	City of Parramatta
Start date	Q3 2021
Completion date	Q3 2023
Outcome areas	Environmental quality Health and wellbeing Collaboration and connection

Fast fact

61,000+ hectares*

of public green space across the state could benefit from smart irrigation systems

*Calculated from NSW land zoned as RE1 Public Recreation land zoning (includes both State Government and Non-State Government land)

Smart Level Crossing Safety Technology Trial



Smart Places — Capability Uplift

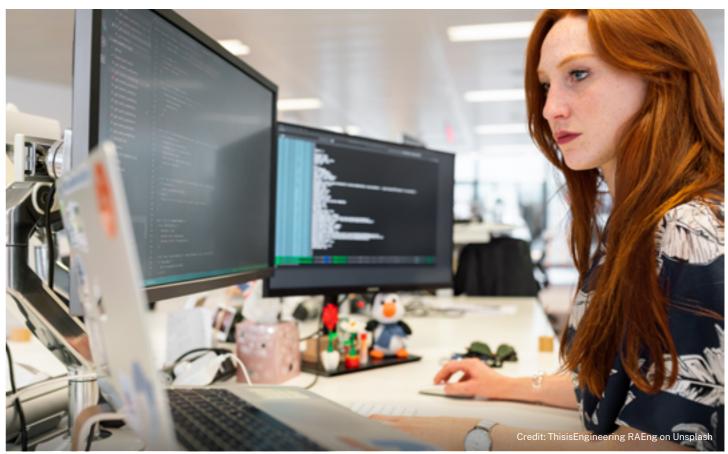
Delivering a digitally skilled workforce

Forbes Magazine predicts the top two most in demand skills for the next 10 years will be digital literacy and data literacy (Forbes 2022). In line with this trend, the public sector workforce will require new capabilities to deliver the government's ambitious SmartNSW agenda.

Department of Customer Service is leading a threestaged project to identify the capabilities we need and lay the foundations for our people to secure skills of the future.

This includes skills in data analysis and reporting, spatial and cadastre, IT, cybersecurity and the ethical use of Artificial Intelligence. Commissioning for outcomes, telecommunications and electrotechnology skills will also be critical, as will upskilling the State's infrastructure workforce in digital technologies for the built environment.

Providing staff with the right set of capabilities and attracting talent to the public service with the right set of experiences and capabilities is crucial so the Government can plan, design, build and operate connected communities.



Saving lives at level crossings



Between 2001 to 2020, there were 154 crashes between trains and vehicles at level crossings in NSW, with 14 fatalities and 24 serious injuries. More than 30 per cent of these crashes occurred at locations where the speed limit was 100km/h or greater.

The Smart Level Crossing Safety Technology Trial aims to improve safety in regional locations, using smart technology and new LED flashing lights to alert drivers to the level crossing ahead.

Trials are being delivered at Narromine and Bribbaree.

Fast fact

^{Up to} 1360

level crossings on public roads across NSW could benefit from the project

Co-contribution	\$1.5m
Lead	Transport for NSW
Collaborators	Not applicable
Councils involved	Narromine Shire Council
	Weddin Shire Council
Start date	Q4 2022
Completion date	2024
Outcome areas	Safety and security



Fast fact

The project will help build capability in NSW public sector employees, which make up

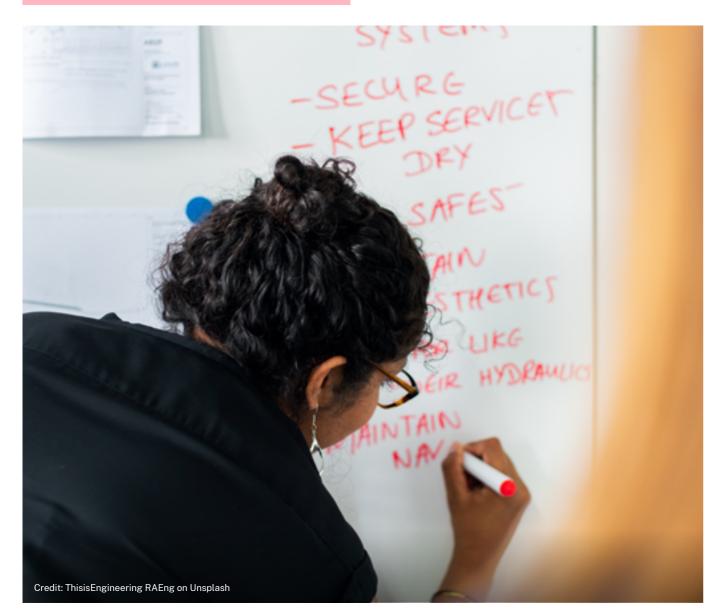
10.4%

of people employed in the state

Co-contribution	\$450k
Lead	Department of Customer Service
Collaborators	Public Service Commission Transport for NSW
Councils involved	Not applicable
Start date	Q1 2023
Completion date	Q3 2023
Outcome areas	Skills, jobs and development

Smart Places — Data as an Asset

Quantifying the value of smart places data



For governments to derive maximum value from the data generated by smart places, it must be managed

and maintained as an asset.

This project is delivering tools for government to better manage data live data generated in smart places, linking live data to the NSW Spatial Digital Twin (Live.NSW), and showcasing the value of the data in designing, implementing and maintaining smart places.

A benefits structure and value calculation tool are also being developed, acceptable to NSW Treasury, Data Analytics Centre and asset management teams across Federal, State and local governments. This will help accelerate investment in data generation, and ongoing maintenance.

Co-contribution	\$530k
Lead	Department of Customer Service
Collaborators	Fire and Rescue NSW Transport for NSW
Councils involved	Local councils to be confirmed
Start date	Q1 2023
Completion date	Q3 2023
Outcome areas	Skills, jobs and development Collaboration and connection



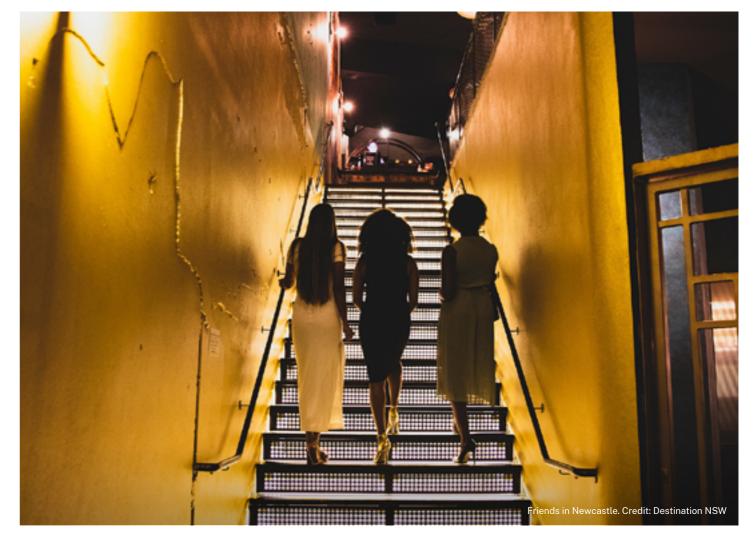
Finding leading-edge solutions to problems

With the rapid pace of technological change, Government needs to find new ways to procure and test leading edge solutions.

The Smart City Innovation Challenges are uncovering novel technology and data solutions to help solve problems facing State Government agencies and support the burgeoning start-up sector.

The Innovation Challenges are building new pathways for partnerships between the technology and innovation sector and the NSW Government, growing the number of innovative smart places products, services, and solutions in NSW and increasing the commercialisation of NSW Government-funded innovation for smart places.

For each challenge, a pool of up to \$1 million is up for grabs to develop a proof of concept over 12 months, with the potential for further scale-up of the solution if it is successful.



36

Co-contribution	\$5.46m
Lead	Transport for NSW: Cities and Active Transport
Collaborators	Challenge 1: Regional Growth NSW Development Corporation (Department of Regional NSW) Western Parkland City Authority Challenge 2: Place and Public Life, Cities and
	Active Transport
Councils involved	Not applicable
Start date	Q1 2022
Completion date	Q4 2022
Outcome areas	Skills, jobs and development Collaboration and connection

Smart Places — Water Insights

Conserving water use as a precious resource



Australia is the world's driest permanently inhabited continent, yet it supports many industries, cities and ecosystems that all depend on water (AdaptNSW 2022a).

We need to be water wise. To achieve this, we need to better understand how and where residential water is used so water conservation programs and initiatives can be targeted more precisely with improved engagement in customer water use behaviours.

This pilot used smart water meters to gather data in 250 households in Greater Sydney to generate insights to inform demand forecasts, evaluate water efficiency programs, and inform campaigns, educational initiatives.

Fast fact

During the 2021 financial year, households used about

0.54 million

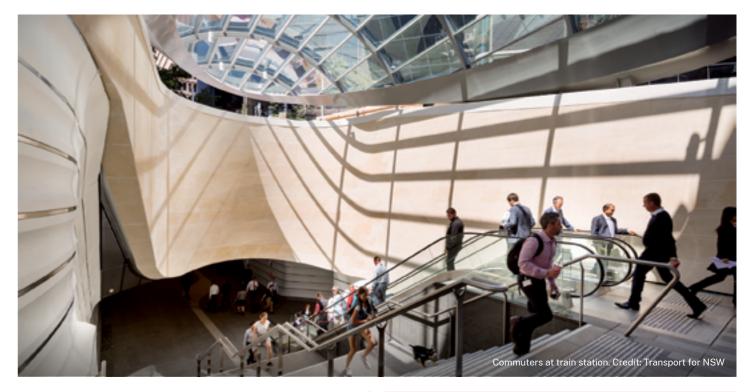
megalitres of water

ABS 2022c

Co-contribution	\$425k
Lead	Department of Planning and Environment
Collaborators	Sydney Water
Councils involved	Not applicable
Start date	Q1 2021
Completion date	Q4 2022
Outcome areas	Environmental quality Collaboration and connection

Smart Planning Approvals

Slashing assessment times for development applications (DAs)



This project is streamlining the DA assessment process, making assessment times faster and saving councils' and customers' time.

The pilot uses data captured by the State's e-Planning Spatial Viewer and e-Planning tools and artificial intelligence (AI) algorithms to quickly filter out noncompliant DAs, providing immediate feedback to those proponents.

This means council planning resources can be used on more complex proposals and decisions.

These functions are supporting the e-Planning platform moving from a lodgment portal to a comprehensive customer service tool.

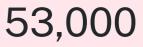
Co-contribution	\$1.99m
Lead	Department of Planning and Environment
Collaborators	Not applicable
Councils involved	City of Parramatta
	Georges River Council
Start date	Q1 2021
Completion date	Q2 2023
Outcome areas	Skills, jobs and development Collaboration and connection

38



Fast fact

In 2021-22, more than



development applications and almost

14,000

DA modifications were determined by local councils across the state

DPE 2022

Reducing the digital divide

This project supports regional NSW to be 'smartready', providing a suite of free digital resources so they can use technology and data solutions to improve outcomes for regional communities and town centres.

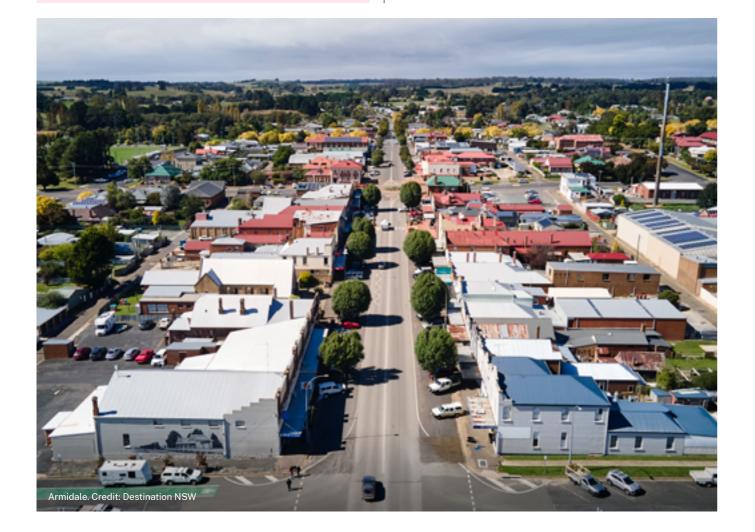
This project will deliver digital site diagnostics, smart place templates, digital modules and technical guides supporting increased digital literacy and capability uplift.

The tools and resources are being co-designed and tested in partnership with three NSW councils and will be available for use by all 91 regional councils in NSW.

Fast fact

91 regional councils across NSW will benefit from these resources

Co-contribution	\$1.341m
Lead	Department of Regional NSW
Collaborators	University of Sydney University of NSW
Councils involved	Armidale Regional Council Lithgow City Council Parkes Shire Counci
Start date	Q1 2022
Completion date	Q3 2023
Outcome areas	Skills, jobs and development Equity, accessibility and inclusion Collaboration and connection



Smarter, Cleaner Sydney Harbour

Tackling rubbish and improving the health of our waterways for everyone to enjoy

This project will manage the health of the waterways using cameras and sensors on waterways and stormwater assets and advanced data analytics.

Almost 80 sensors will be fitted to gross pollutant traps as part of the project, to alert councils and government authorities when they need emptying in real time. These traps play a critical role in catching litter like plastic bags, bottles and chip packets before they reach Sydney Harbour and our beaches. The alerts will help ensure they can be cleaned efficiently and won't overflow.

The project is also fitting video cameras to bridges along key waterways and using advanced analytics and artificial intelligence to detect litter in the water. The video software will be able to tell a chip packet from a soft drink bottle providing useful and accurate data to agencies looking after our waterways.

The insights generated will improve how the collected waste is disposed, inform community education programs and guide enforcement activities upstream. The pilot will help authorities proactively manage waterway health, making maintenance more efficient, timely and cost effective.

Co-contribution	\$545k
Lead	Department of Planning and Environment
Collaborators	Sydney Olympic Park Authority Sydney Coastal Council Group Inc Parramatta River Catchment Group CSIRO
Councils involved	City of Parramatta Inner West Council North Sydney Council Woollahra Municipal Council
Start date	Q4 2022
Completion date	Q1 2024
Outcome areas	Skills, jobs and development Health and wellbeing Environmental quality





Fast fact

3500m³

of litter is collected from Sydney Harbour every year. This is equal to about

44,000

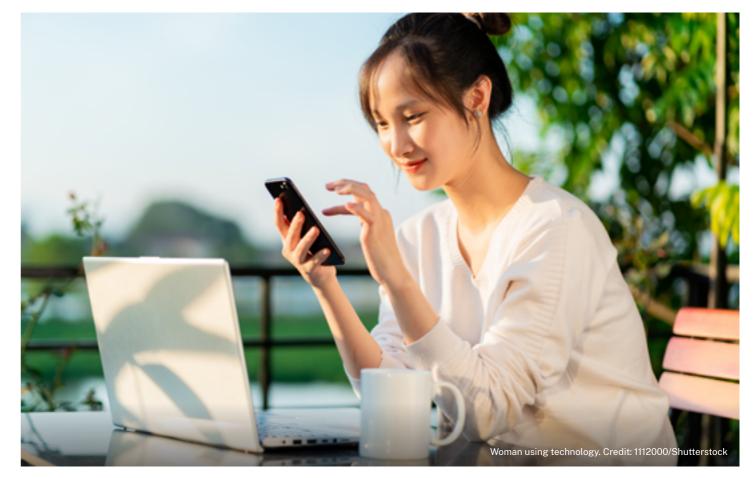
wheelie bins of waste



Western Parkland City Digital Equity and **Inclusion Insights Program**

Western Sydney 5G Trial

Streamlining the rollout of the 5G network in new communities across NSW



The Western Sydney 5G Trial, one of the four digital commitments in the Western Sydney City Deal, is finding new ways for mobile network operators to work with councils and developers to provide mobile coverage for new communities before residents move in.

Targeting growth areas in Western Sydney, the Trial is exploring ways to coordinate planning efforts better, so mobile network providers can provide connectivity infrastructure when development is underway with confidence, rather than waiting until the area is populated. This means mobile operators can avoid installing infrastructure later, which is costly and disruptive for communities.

This trial will look at new guidelines on how best to service citizens in new communities, ensuring equitable access to connectivity for all.

Helping people in Western Sydney engage with digital services and digital life

The COVID-19 pandemic highlighted some of the impacts of digital disadvantage and showed why everyone needs to be able to participate in the digital ecosystem. This is particularly important as businesses and Government shift to digital service delivery.

Every year the Australian Digital Inclusion Index (ADII) shows people in the rest of Sydney have better access to affordable internet than the communities in the Western Parkland City and better skills to use it.

Western Parkland City Digital Equity and Inclusion Insights Program will uncover the key reasons people can't participate digitally in Western Sydney and will provide better access programs and information to help address the digital divide.

Successful delivery of this Program will help the Western Parkland City to be a truly smart city and will create equitable opportunities for all members of the community.



Fast fact

Helping

1.16 million

residents across 809,000ha access and use the internet so they can get great jobs, participate in education, reach government services and connect socially and civically

Co-contribution	\$834k
Lead	Smart Places, Cities and Active Transport Division, Transport for NSW and Digital Equity and Inclusion Office, The Parks (Western Parkland Councils)
Collaborators	The Parks, Sydney's Parkland Councils Swinburne University's Centre for Social Impact ARC Centre of Excellence for Automated Decision-Making and Society
Councils involved	Blue Mountains City Council Camden Council Campbelltown City Council Fairfield City Council Hawkesbury City Council Liverpool City Council Penrith City Council Wollondilly Shire Council
Start date	Q1 2022
Completion date	Q4 2023
Outcome areas	Skills, jobs and development Equity, accessibility and inclusion





Co-contribution	\$620k
Lead	Transport for NSW – Cities and Active Transport
Collaborators	Mobile network operator, developers and local councils
Councils involved	Western Parkland City
Start date	Q2 2022
Completion date	Q4 2023
Outcome areas	Equity, Accessibility and Inclusion Collaboration and Connection

Western Sydney 🔗 🏵 🕅 Neighbourhood Health Hub

Personalising healthcare in Western Sydney



There are about 80,000 people in Western Sydney who are socio-economically disadvantaged and living with two or more chronic conditions. This represents 10 per cent of our population, but 60 per cent of all emergency department attendances and 25 per cent of all hospital admissions.

Mt Druitt Medical Practitioners Association and WentWest (Western Sydney Primary Health Network) are teaming up to deliver a new health service for the people of Western Sydney, Healthicare. The service will be based in the new Blacktown Exercise Sports and Technology hub, linking patients with opportunities for physical activity.

The Smart Places Acceleration Program is helping fund state-of-the-art technology, so services can be driven by data insights. GPs will be able to use machine learning to build secure, personalised digital health tools for patients, including a digital platform with exercise plans, nutritional guidance and selfmanagement tips for chronic health conditions.

The data analytics and technologies used will equip GPs to provide informed, coordinated care, and empower community members to live healthier, happier lives.

It is hoped the novel approaches being trialled at Healthicare and BEST will attract the next generation of health leaders and innovators to the region and change the ways technology and data solutions are used in preventative health care and the management of chronic conditions.

Healthicare will open in mid-2023 and will deliver patient-centred, digital-first, coordinated care to approximately 8,000 patients per year.

Fast fact

Reducing acute presentations by up to

30%

o	00.45
Co-contribution	\$2.45m
Lead	NSW Health
Collaborators	WentWest Mount Druitt Medical Practitioners Association (MDMPA) Sydney Children's Hospital
Councils involved	Blacktown City Council
Start date	Q3 2022
Completion date	Q2 2024
Outcome areas	Health and wellbeing Equity, accessibility and inclusion Collaboration and connection

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