

SMART CITY SINNOVATION STRATEGY

A vibrant, sustainable and connected Parramatta

DRAFT FOR EXHIBITION - AUGUST 2023

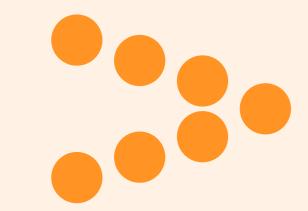


Draft for public exhibition

This Strategy has been developed in consideration and coordination with other Council Strategies and Plans, ensuring alignment of priorities, objectives and actions over the next 10 years to 2032.

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FIRST NATIONS ACKNOWLEDGMENT

We respectfully acknowledge the Traditional Owners and custodians of the land and waters of Parramatta, the Dharug peoples.

Nunanglanungdyu baramada gulbanga mawa naa Baramadagal dharug ngurrawa badura baramada dharug yura

Credit: City of Parramatto



The City of Parramatta Council recognises the Dharug people as Traditional Owners of the lands and waters that we call the City of Parramatta today.

For more than 60,000 years, Dharug people have provided stewardship of this Country, this land was never ceded.

First Nations peoples have long been a society of innovators, with many of their inventions used today despite significant technological change. The weirs and fish traps, stone tools, cultural burning, bush medicines and thermoplastic resins are just some of the things that are still used and influence the way we live in modern Australia.

As the longest surviving continuous culture, First Nations people have cared for and nurtured the lands of the Parramatta LGA and continue to do so today. Parramatta has always been an important meeting place for First Nations peoples, particularly the Parramatta River and the land around Parramatta Square, which has provided life and vitality since the beginning of time.

City of Parramatta recognises the significance of this area for all First Nations peoples as a site of early contact between the First Australians and colonists. Council acknowledges that Parramatta has a complex history, fraught with trauma but also stories of survival and resilience. First Nations peoples continue to play a vital role in the ecological, economic, social, and cultural life of Parramatta, while maintaining distinct cultures built on the principles of caring for Country, the primacy of family, and the dignity and governance of Elders.

Smart city technologies can play a role amplify the voices of First Nations people by preserving and documenting history, knowledge, and language, and supporting decision-making around environmental resilience. Innovation may include collaborating with Dharug people to preserve and share artefacts through augmented reality for the broader community to enjoy.

At the City of Parramatta Council, we imagine a future where the cultures, histories and rights of all First Nations peoples are understood, recognised, and respected by all Australians. The City of Parramatta is committed to making this future a reality.

Always Was, Always Will Be, Aboriginal Land.

LORD MAYOR MESSAGE

Message to be included after adoption



STRATEGY AT A GLANCE

OUR VISION

A vibrant, sustainable, and connected centre of innovation that fosters the exchange of ideas.

Our vision for Parramatta is a thriving hub where people connect, collaborate, and exchange ideas. Building on the long-term vision established in our Community Strategic Plan 2018-2038 (CSP) and through consultation with the community and stakeholders, the Smart City and Innovation Strategy outlines our plan to make this vision a reality.

OUR PRINCIPLES

The Strategy is founded on six principles. These principles guide the implementation of our actions:

- Community-first
- > Transparent
- Collaborative
- > Experimental
- Resourceful
- > Inclusive.

OUR PRIORITIES

The Smart City and Innovation Strategy priorities refer to key focus areas. They have been identified through extensive consultation with our community, businesses, industry, government agencies, universities and institutions based in Parramatta and thought leaders and experts in this sector.

These priorities will build on the strengths of our City, leverage ongoing growth and investment, set the direction for the future and guide decision-making to make Parramatta a great city to live, work, play, and visit.

To achieve our vision for Parramatta this Strategy establishes six priorities over the next 10 years:

- A data-led and innovative organisation
- Climate adaptation and circular economy
- An intelligent and connected transport system
- Transformative urban technology
- A thriving innovation ecosystem
- Creative community experiences.

OUR ACTION PLAN

To realise the aspirations outlined in this Strategy, we must actively build upon our City's smart and innovative capabilities. This will allow us to achieve our goals and respond quickly to opportunities as they emerge.

The action plan outlines detailed actions that Council will undertake over the next four years to help us reach the objectives within our priorities and position our City for continued success.

This action plan will be monitored annually and will be updated after four years to ensure continued progression of the Strategy's implementation.

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A vibrant, sustainable, and connected centre of innovation that fosters the exchange of ideas.





OVERVIEW

Parramatta has been on its smart city journey for more than a decade. Our Smart City Masterplan was released in 2015, making Parramatta the first NSW Council to formalise its commitment to becoming a smart city.

WHAT IS A SMART AND INNOVATIVE CITY?

A smart and innovative city uses data, technology, novel ideas, and collaboration to solve problems. The world is facing unprecedented challenges including climate change, population growth, and health outbreaks such as the COVID-19 pandemic. In our changing world, it is vital that our approach to planning and managing our City is efficient, effective and adaptable.

A smart city approach uses Innovative problem-solving and technology can improve decision-making, and community quality of life. It cultivates an experimental and collaborative mindset where people work together to solve problems. By breaking down silos and encouraging cross-sector partnerships, cities are better equipped to use technology to tackle people-centred challenges and seize emerging opportunities.

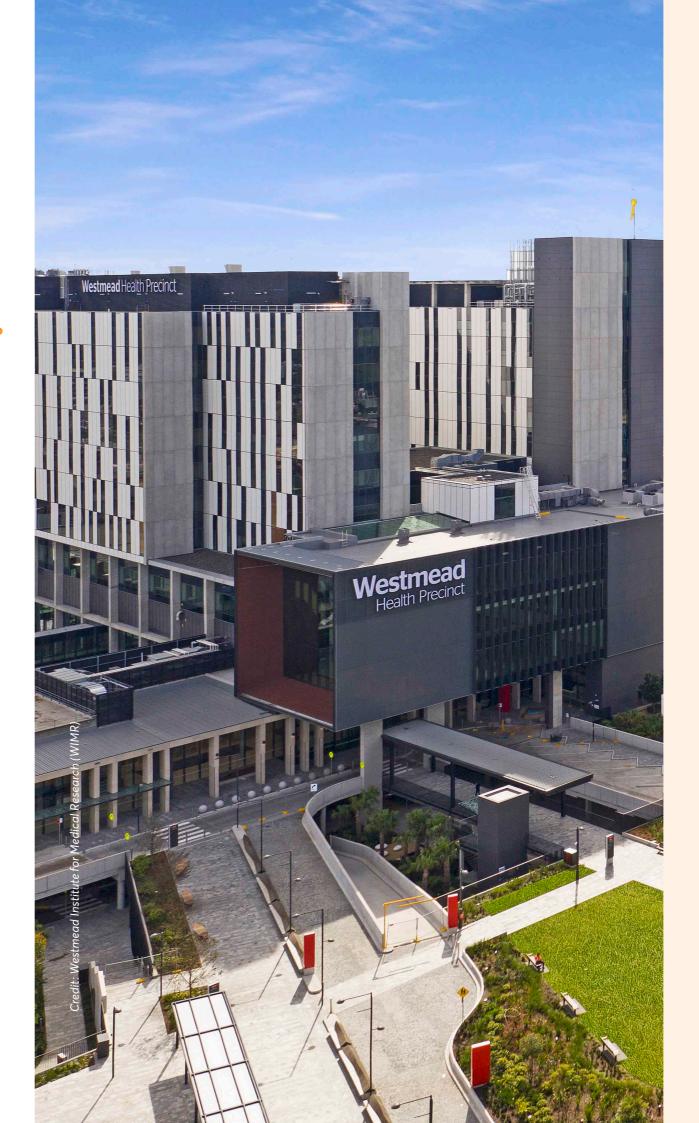
Smart cities harness the power of data to find efficiencies and make better decisions. This allows for more effective internal Council operations, and a better experience for community members engaging with Council services and experiencing our City.

WHY DOES PARRAMATTA NEED TO BE A SMART AND INNOVATIVE CITY?

As Sydney's Central City,
Parramatta faces significant
challenges such as limited
resources, increased density,
congestion, and environmental
risks including rising temperatures
and floods. To manage these
issues, we need innovative ideas
and solutions at a local level.

Cities that embrace smart and innovative solutions can see improved outcomes in areas such as sustainability, economic growth, and quality of life for residents, workers and visitors. For example, cities that use smart grid technology have shown reductions in energy consumption, and cities that implement smart public transportation systems have less congestion and better air quality.

Data collected across the local government area (LGA) can provide valuable insights into how our City functions, how our community moves around, and what we need to do to make Parramatta more vibrant, sustainable, and connected. This data helps Council staff, our community and our industry partners to make evidence-based decisions, and to implement new technology and processes. Smart cities use data to find solutions that are proactive, efficient, resourceful, and responsive to the community's needs.



BEST PRACTICE CITY PROFILE

The City of London launched the Smarter London Together project in 2018, with an aim to make London the smartest city in the world. Over the last five years the city has used a smart city approach to foster cross-sector collaboration and a budding entrepreneurial scene. This has been achieved, in part, through investment in new business, interconnected spaces and co-location of education and industry, as well as the extensive cultural offerings. London is home to many top-ranking universities and business schools. Four of the 18 universities in London are in the global top 50.

As a result of London's impressive educational opportunities, 59% of its residents hold a bachelor's degree or higher. London has a highly skilled workforce and is a city that supports new businesses to thrive. It has fostered an entrepreneurial culture and now houses more start-ups and programmers than almost anywhere else in the world. This is supported through government investment, including the Resilience Fund challenges and a Business Growth Programme. In 2021, technology companies in the city raised \$25.5 billion in VC funding, doubling the 2020 total.

To support the innovation ecosystem and retain talent, London boroughs invest in cultural infrastructure. The 33 boroughs that make up the City of London providing major funding to venues and activations. They also provide event programs and are strategic brokers for key partner networking. Every year, there are more than 22,000 music performances across London's 300+ venues and around 200 festivals. London is also home to over 192 museums with 11 national museums. The cultural infrastructure of London is supported by the London Culture Forum, a network of representatives from the 33 boroughs that meet to discuss local arts and cultural events, share practices, and identify opportunities for collaboration and advocacy.

OUR JOURNEY



OUR JOURNEY SO FAR

The City of Parramatta has been a leader in the smart city movement, and was the first local government in NSW to adopt a smart city plan. Council committed to implementing smart projects in 2009, before releasing its Smart City Masterplan in August 2015.

PROJECTS

Since 2015, the City has developed a range of smart initiatives, including:

Melrose Park - Climate Responsive
Neighbourhood: Pilot the use of smart
technology to capture, analyse and
visualise local environmental data in
real-time through a developer accessible
dashboard to measure compliance with
regulatory practices.

- Floodsmart Parramatta: A flood warning service for the Upper Parramatta River to help residents assess their risk when flooding occurs.
- CBD Parking Finder: An online platform showing the location, availability, and type of parking that is available across Parramatta's CBD.
- Benchmarking Urban Heat: A partnership with Western Sydney University to analyse heat patterns during heatwaves and the various cooling benefits of different tree species.
- Phillip Street Smart Street: A streetscape update which involved widening footpaths for outdoor dining, planting mature trees for shade and installing misters and other climate responsive technologies.

RECOGNITION

The City of Parramatta has been recognised for its smart city initiatives, receiving the following awards:

- Smart Cities Award 2020: Leadership City award
- NSW Excellence in the Environment Award 2022: Innovation in Planning, Policies and Decision-Making award
- NSW Excellence in the Environment Award 2022: Towards Net Zero Emissions award.

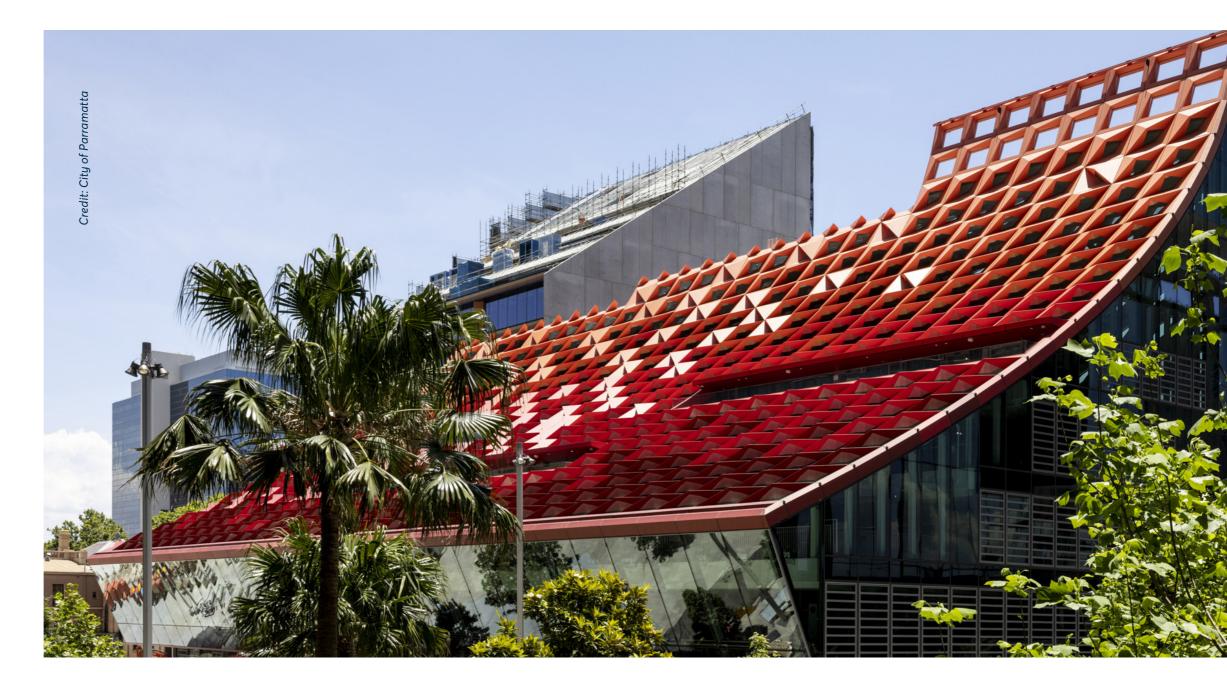
ONGOING WORK

Council has demonstrated its commitment to digital innovation through the recent development of the Parramatta Square precinct and PHIVE, a new community, cultural and civic hub.

In addition, the City has supported the development of the strategic vision of Westmead Health and Innovation District, including the North Parramatta Start-up Hub.

Parramatta is also one of the first Councils to sign the NSW Smart Places Customer Charter and has received support from the NSW Smart Places Acceleration Program to enhance air quality and the planning process.

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OUR JOURNEY AHEAD

FOR THE CITY

As the population grows over the coming decades, large-scale urban development projects will help us meet community needs. Key infrastructure projects include Sydney Metro West, the Powerhouse Museum, Civic Link, and the transformation of the Parramatta North heritage core.

In addition to developing new infrastructure, we will continue to bring Parramatta into the digital age. Technology is evolving at a rapid pace and changing the way we live, work and play. In future years, we might expect to be travelling to

work on a fully electrified public transport fleet or driving hydrogen powered cars. We may work in new industries like bioengineering, supported by quantum computers and robotic technologies. At home, a virtual assistant may help us manage our schedules, and on-the-go 6G connectivity could allow us to add an augmented reality layer to our experiences.

Over the next 10 years, we will see Parramatta embrace both physical and digital transformation to become a more vibrant, sustainable, and connected place.

FOR COUNCIL

As an organisation, the City of Parramatta will strive to lead innovation in the public sector by embracing emerging technologies and developing clear policy positions on how we will operate as a smart city.

The Council will continue to enhance our processes for collecting and using data. All Council staff will have access to quality, integrated, and analysed data that will support evidence-based decision-making and improve the lives of our community.

By harnessing the potential of data, technology, and innovative problem-solving we can uncover new ways to improve the quality of life in Parramatta. This means we can support the community to adapt to change and help us to overcome the complex challenges facing our cities such as urban heat, efficient resource management, rapid population growth, and pandemics.

These technologies and innovative ideas will help Council to support the community to adapt to changes and thrive into the future.

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□ PARRAMATTA : Introduction
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HOW WE DEVELOPED THIS STRATEGY

BEST PRACTICE RESEARCH

In preparing the Strategy, Council developed a research paper to examine the following areas:

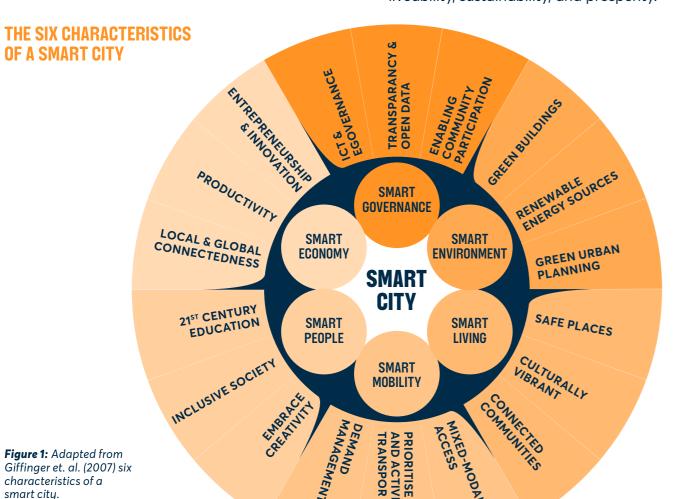
- **Best practice strategies in other cities:** A horizon scan of successful smart and innovative cities around the world to identify best practices. This involved reviewing case studies and analysing the implementation approaches of leading cities. Key lessons were applied to a Parramatta context.
- Parramatta's smart city journey so far: An assessment of Council's smart city journey, including a review of our successes and areas for improvement in relation to past projects.

characteristics of a smart city.

Change in our City: An analysis of key changes and investments in our City was conducted to determine where smart city and innovation approaches could most benefit our City in relation to growth, liveability, sustainability, and prosperity.

P∧RR∧M∧TT∧

Council's goals, needs and strategies: A strategic analysis of the wider needs of Council to determine how smart and innovative approaches can help to achieve the City's goals. Council's strategic plans and priorities were reviewed and areas where new approaches could provide the most value were identified.



COMMUNITY AND STAKEHOLDER ENGAGEMENT

Council conducted extensive engagement with the community and key stakeholders to identify how smart city and innovation international best practice could be applied in our unique city.

Though this process we engaged with over 450 community members and stakeholders. The insights gained from the consultation process ensured that the needs and priorities of our community are reflected in our Strategy.

We consulted with:

- → 40+ stakeholders such as state agencies, major employers, universities, private sector, technology experts and neighbouring local councils.
- 10+ smart city experts including Council's Smart City Advisory Committee, on technical issues.
- > 100+ internal staff and Councillors on their priority areas of work.
- > 100+ primary and high school students (via in-school workshops).
- 200+ community members including residents, businesses, workers, and visitors (via pop-ups kiosks, online and paper surveys, and online focus groups).

KEY AREAS TO ADDRESS

Emerging themes and areas to address:

SMART ECONOMY

- Improve the night-time economy and activations after dark
- > Foster a culture of entrepreneurship in Parramatta.

SMART PEOPLE

- Create new employment and learning opportunities, particularly in the arts and creative industries
- Highlight our First Nations and colonial heritage, as well as our multi-cultural community.

SMART GOVERNANCE

- Provide digital access to the community to improve participation, but don't leave anyone
- Improve data management and governance structures.

SMART MOBILITY

- Improving connectivity within the LGA and Greater Sydney by active, public, and private
- Move away from fossil-fuelled public and private transport.

SMART ENVIRONMENT

- ⇒ Better manage our resources to reduce our impact, with a focus on circularity
- Display leadership in creating greener, more sustainable places

SMART LIVING

- Creating more cultural opportunities, and safe and welcoming spaces
- Improve affordable housing offering across

Introduction

STRATEGIC CONTEXT

STRATEGIC ALIGNMENT

Two key drivers of smart city work in Parramatta are the Smart Central River City Blueprint and the SmartNSW Roadmap 2022-2027. These documents, prepared by Transport for NSW, set out the State Government's vision for the use of technology and data to improve places in NSW. The two key drivers of detailed below with a more extensive list in the table below. The following documents were reviewed and assessed as a part of the development of this Strategy:

Smart Central River City Blueprint 2022:

The Central River City is made up of six LGAs: Parramatta, Cumberland, Blacktown, Canterbury-Bankstown, The Hills and Georges River. The Blueprint envisages the Central River City as Sydney's true, connected, unifying centre. A place where technology and data are fully utilised to create a liveable and sustainable region with appropriate levels of housing and employment. The City of Parramatta works closely with other LGAs to achieve this vision.

SmartNSW Roadmap 2022-2027: The SmartNSW Roadmap provides guidance on the use of smart solutions to improve places and services for citizens and businesses across NSW. The Roadmap establishes 14 actions (across three streams: foundations, enablers and programs) for creating successful smart places.

OTHER POLICY AND FRAMEWORKS

INTERNATIONAL AND NATIONAL STANDARDS

In 2022, Standards Australia published a Data and Digital Standards Landscape document which identified eight areas of standards that cover the data and digital space: artificial intelligence, data management and interchange, information security, cybersecurity and privacy protection, internet of things, cloud computing and smart cities.

There are currently 268 standards published in these areas with only 28 adopted nationally in Australia. City of Parramatta Council will continue to be guided by the national standards to ensure our work is aligned with best practice.

STATE FRAMEWORKS AND LEGISLATION

- Privacy and Personal Information Protection Act 1998
- Smart Places Data Protection Policy
- Smart Infrastructure Policy
- Internet of Things (IoT) Policy
- Cyber Security Policy
- Infrastructure Data Management Framework
- Artificial Intelligence (AI) Assurance Framework and AI Ethics Policy.

ASSOCIATIONS

- Signatory of NSW Smart Places Customer Charter
- Member of Australian Smart Communities Association.



LOCAL

Parramatta LGA

- Sydney Olympic Park 2050
- Westmead 2036 Place Strategy
- Camellia- Rosehill Place Strategy.



REGIONAL

Dharug Nation (dotted)
Central River City (solid orange)

- Central City District Plan
- Smart Central River City Blueprint
- Greater Parramatta to Olympic Park Peninsula Place-based Infrastructure Compact.



STATE

- NSW Smart Places Strategy 2020 and Playbook
- The Six Cities Region Discussion Paper
- SmartNSW Roadmap 2022-2027
- NSW Future Transport Strategy 2056
- Connecting with Country Framework, NSW Government Architect
- NSW Public Spaces Charter and NSW Smart Public Spaces Guide
- Artificial Intelligence Strategy.



NATIONAL

- Australian Smart Cities Plan 2016
- Statement of Principles for Australian Innovation Precincts
- Closing the Gap Targets and Outcomes (Target 17: By 2026, Aboriginal and Torres Strait Islander people have equal levels of digital inclusion).



GLOBAL

- UN Declaration on the Rights of Indigenous Peoples
- UN Sustainable
 Development Goals (Goals
 9: industry innovation
 and infrastructure, and
 11: sustainable cities and
 communities).

Figure 2: Local to global policies and initiatives that influence, guide, and support this Strategy.

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HOW WE PLAN

INTEGRATED PLANNING AND REPORTING

All planning at Council is conducted within the Integrated Planning & Reporting (IP&R) framework - a mandatory framework for all NSW councils (Figure 3).

City of Parramatta's Community Strategic Plan 2018 - 2038 (CSP) is the leading plan in this framework. The CSP sets out the City's long-term goals and outlines our vision to become

"Sydney's Central City: sustainable, liveable and productive - inspired by communities".

The draft Smart City and Innovation Strategy has been developed in response to the CSP and addresses the challenges currently facing the community. It supports our CSP vision by establishing further priorities and action areas that foster a vibrant, sustainable, and connected Parramatta.

COUNCIL'S ROLE

Council plays a very broad role in delivering strategy across the City and our level of control over outcomes can vary. To provide clarity on our levels of responsibility, this Strategy uses a deliver, partner, advocate model.

> DELIVER

Council delivers a wide range of programs and services including waste collection, libraries, childcare, maintenance of local roads and public spaces, recreation facilities and programs, community care, special events and regulatory functions.

Example: We can directly contribute to creating a smart city through the provision of connected infrastructure, improved digital platforms, and research and policy development.

This can also be achieved through the delivery of new project work such as smart streets.

> PARTNER

Council builds strategic partnerships with federal and state government agencies, the private sector, community organisations, and a range of other stakeholders that will contribute to delivering the Strategy's objectives.

Example: We can partner with community, industry, universities, and other government organisations to deliver broader strategic objectives such as the development of a mature innovation ecosystem across western Sydney.

ADVOCATE

When we are not in a partnership or do not have direct control over an issue, Council gives voice to the needs and aspirations of the community through advocacy. We advocate for action or policy changes to government and industry to bring about the best outcomes for our community.

Example: We can advocate for planning and legislation changes at state or federal government levels that will support our smart city journey, such as Transport for NSW for improve transport connectivity.



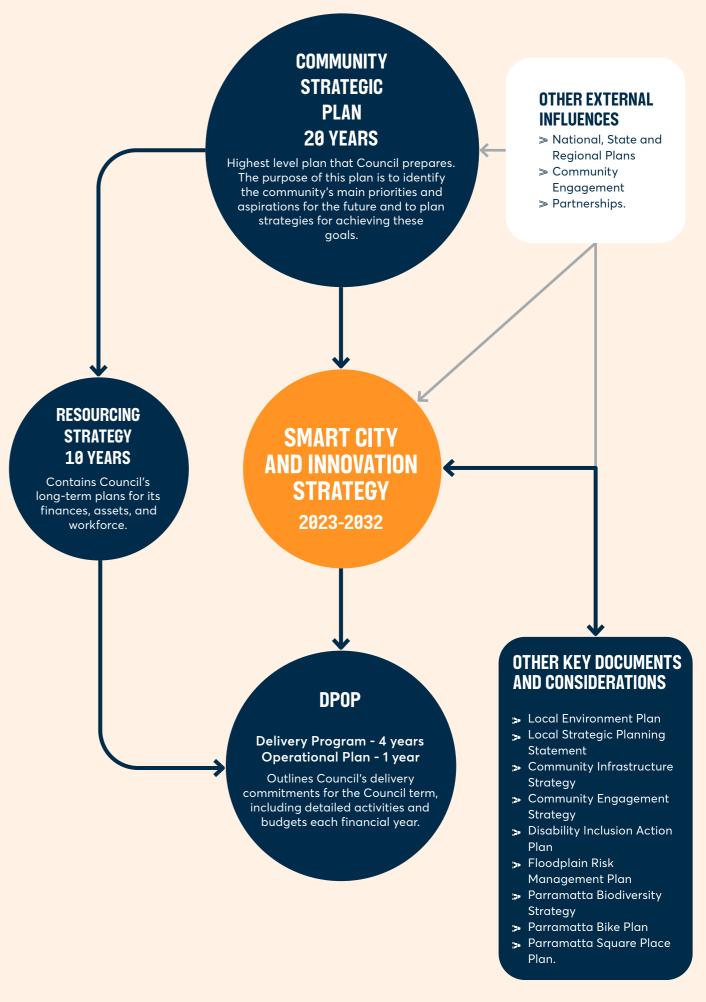


Figure 3: Council's Integrated Planning and Reporting framework





"Smart cities should respond to the demographics and population of the area, their needs and interests."

Business Western Sydney





\$1 billion is being invested into the redevelopment of Westmead Health and Innovation District, along with a \$53.8 million investment in Parramatta North to create the Western Sydney Start-up Hub, which opened in October 2022.

In 2020-2021, Parramatta was one of the top 10 LGAs for starting a new business in Australia. Parramatta had a 4.3% annual growth rate of new businesses, which outstripped the City of Sydney area, with a 2.9% increase.

Parramatta is one of the most highly educated communities in the country, with 44.4% percent of residents possessing a tertiary qualification compared to the NSW average, 27.8% and the national average, 26.3%.

Parramatta residents have double the rate of postgraduate qualifications compared to the NSW average. Westmead ranks fourth in Australia for women with postgraduate degrees.

Participate Parramatta, Council's online engagement platform, has been accessed by over 196,000 unique visitors and viewed more than 380,000 times since launching in 2020.

Council's digital channels are being used more frequently since COVID-19, with 56% of businesses surveyed in 2021 using the Council website for gueries, compared to just 19% of who visited an inperson service centre.

Smart Economy



Smart Economy





HIGHLY **EDUCATED**

Smart People

Smart People





COMMUNITY **PARTICIPATION**

Smart Governance





PARRAMATTA'S

Smart Environment QUALITY OPEN SPACE

Parramatta outperforms City of Sydney in terms of provision of people per hectare of public open space by nearly double. 91% of residents surveyed in 2019 live within a 5-minute walk of a park or playground.



Smart Environment

GREEN STAR BUILDINGS

Council has led the way building PHIVE, a 21st-century smart building. Its cuttingedge design targeting a 6-Star Green Star Design rating from the Green Building Council of Australia.



Smart Mobility

PUBLIC TRANSPORT ACCESS

Approximately 390,000 **Greater Sydney residents** can access employment in the Parramatta CBD within 30 minutes by public transport. The Metro West and Parramatta Light Rail development will increase this further.

PERFORMANCE





The Parramatta Valley cycleway is an example of an innovative, new shared walking and cycling path providing opportunities for active transport or leisure. Usage of the path has almost tripled since it was upgraded in 2015.



The Riverside Theatres welcomes more than 180,000 patrons through its doors annually and its redevelopment will increase capacity by 245%.

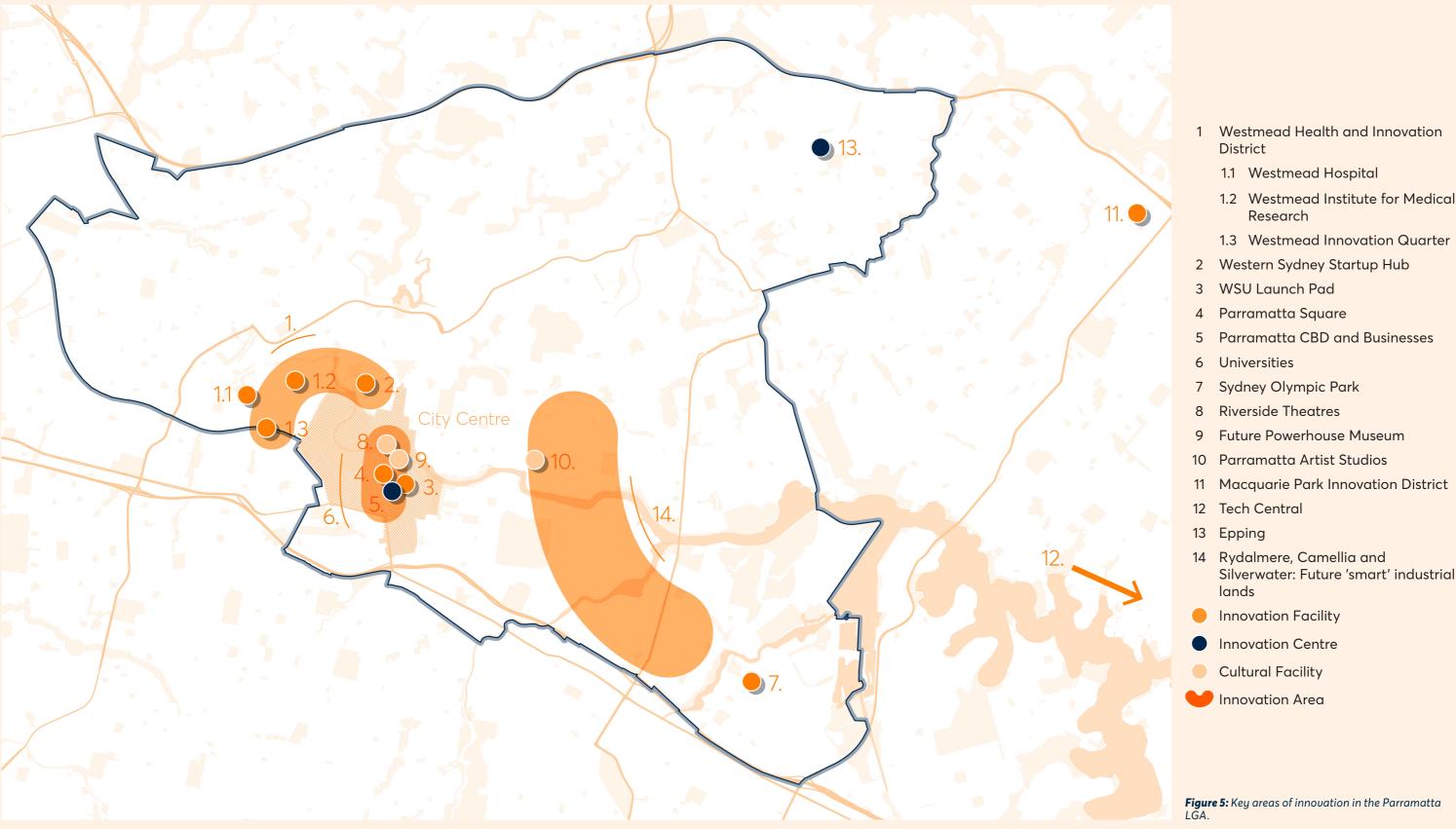


Powerhouse Parramatta will solidify Parramatta's Cultural Precinct, estimated to bring 1 million visitors a year, growing the economy by up to \$422 million dollars.

Figure 4: The maturity of a smart city can be defined by the performance across six characteristics: economy, people, governance, mobility, environment and living, adapted from Giffinger et. al. (2007)



ECOSYSTEM MAP













OUR VISION & PRINCIPLES

OUR VISION

A vibrant, sustainable, and connected centre of innovation that fosters the exchange of ideas.

We believe the young, diverse, and educated population of our area forms the foundation of Parramatta's innovative potential. Our residents create an environment that embraces lifelong learning and enables connections amongst community.

Located at Sydney's geographic centre, Parramatta bridges the Western Parkland City and Eastern Harbour City. Sustainable transport options ensure efficient and enjoyable movement, while our commitment to environmental stewardship is central to our identity.

Parramatta's flourishing economy is built on collaboration between enterprise, research institutions and residents, promoting a culture of innovation and driving economic competitiveness.

We are dedicated to improving quality of life in our City. We leverage data, technology, and innovative approaches to solve the problems faced by residents in Parramatta and improve personal safety and wellbeing.

Over the next 10 years, we will prioritise the following areas for our City:

- A data-led and innovation organisation
- Climate adaptation and circular economy
- An intelligent and connected transport system
- Transformative urban technology
- A thriving innovation ecosystem
- Creative community experiences.

OUR IMPLEMENTATION PRINCIPLES

The Smart City and Innovation Strategy is founded on six core principles. Each principle serves as a value-based guide applied to all smart city and innovation projects in our City.

The principles were selected in response to feedback provided by community members, industry and experts. They reflect our community's expectations about the way we will work to implement the Strategy. These principles have increased importance in an age where technology continues to advance and change the work that we do.

COMMUNITY FIRST

We put the needs and interests of our community first, learning from First Nations' wisdom, and using technology only where it makes a meaningful difference to our environment or to the lives of our community.

TRANSPARENT

We build trust with our community by making information accessible, only collecting the minimum viable data, and never sharing or purchasing identifiable information.

RESOURCEFUL

We will use technology to make the most of what we have, maximising efficiency and minimising waste.

COLLABORATIVE

We work collaboratively with stakeholders to create a culture that supports experimentation and creative thinking to develop solutions.

INCLUSIVE

We aim to leverage technology to break down barriers and to support equitable access to opportunities and services for everyone in our community.

EXPERIMENTAL

We trial and test new ideas, using learnings from our projects to ensure our decisions are evidence-based and supported by data.



OUR PRIORITIES

STRATEGIC DRIVERS

The Strategy responds to the big issues, challenges, and opportunities to support Parramatta to become a centre of innovation and a place that fosters the exchange of ideas. Our work is supported by the following global drivers and enablers:

HUMANISING SMART CITIES

The benefits to our communities, elevating diversity and creating equity, should be at the heart of everything we do in the smart city space.

GREEN AND ADAPTABLE

Striving towards a more sustainable and circular city that is adaptable to climate changes now and into the future.

EMBRACING DIGITAL

Leaning into the global shift towards digital experiences, future-proofed public domain, autonomous systems and data-led economies to improve productivity and create efficiencies.

ENABLERS

- Technological infrastructure
- Data policies and standards
- Resourcing and capability building of staff within Council and externally
- Governance frameworks
- Funding and financing of projects
- Partnerships and collaboration.

PRIORITIES

Our priorities provide long-term directions and a framework for guiding Council to support our community, businesses, and City to achieve our vision. Our six priorities are:

- ⇒ A data-led and innovative organisation: We are committed to building a culture of innovation within Council where data is utilised to make evidence-based decisions.
- Climate adaptation and circular economy: We implement smart and sustainable technologies to prepare our community and environment for the impacts of climate
- Transformative urban technology: We integrate smart technology into our precincts and infrastructure projects to ensure efficient use of resources, to improve community experience, and to create a city that thrives in the digital age.

- An intelligent and connected transport system: We prioritise innovative projects that improve the accessibility and efficiency of our transport system.
- **➢ A thriving innovation ecosystem:** We work with our partners to develop a collaborative ecosystem renowned for producing and commercialising innovative ideas.
- **Creative community experiences:** We will create opportunities for our community to express themselves creatively and engage with digital tools, leaving no one behind.

Each priority delivers city, community and organisational smart city and innovative solutions relevant to Parramatta as a place, best practice evidence, and aspirations which have been identified by our community.

BY 2032 WE WILL TRANSITION INTO...

01 A DATA-LED AND INNOVATIVE ORGANISATION

From a Council that collects data

... to a Council that uses and shares high quality data for evidence-based decision-

From a city that reacts to climate threats



... to a city that is proactive and prepared for climate-related risks.

From a city that requires car travel



... to a city with an accessible and efficient public and active transport system.

TRANSFORMATIVE URBAN TECHNOLOGY

From ad hoc smart city projects in the public domain



to dynamic public places that are digitally connected.

From innovation happening in silos

... to a well-connected innovation network for knowledge sharing across our area and beyond.

CREATIVE COMMUNITY EXPERIENCES

From creative activations offered in our community spaces and public domain

... to digital experiences that enhance the physical world, creating unlimited possibilities.

PARRAMATTA

A DATA-LED AND INNOVATIVE ORGANISATION

We are committed to building a culture of innovation within Council where data is utilised to make evidence-based decisions.

WHY IS IT IMPORTANT?

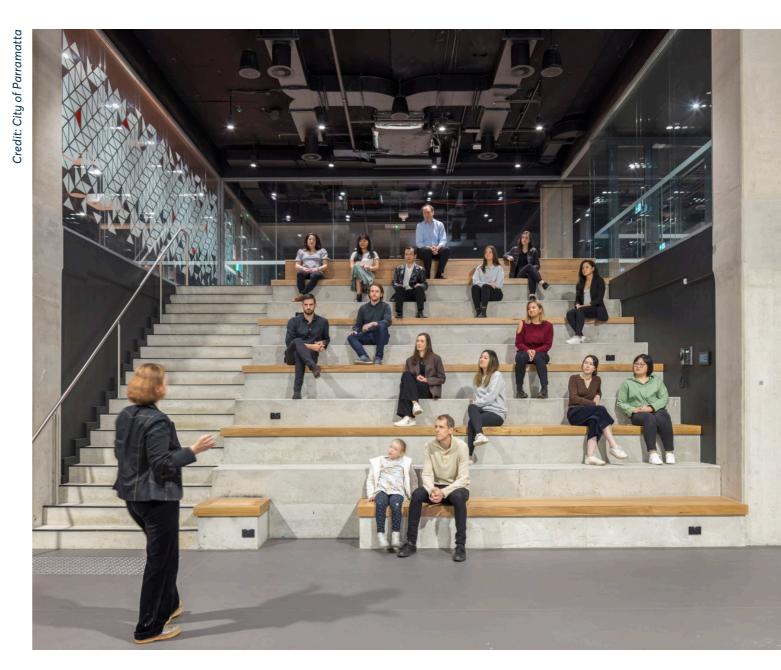
Quality data and innovative digital tools are an important component of an informed, evidence-based decision-making process. Better decisions mean smarter spending and better outcomes for the City of Parramatta.

Data is the foundation of most smart and innovative initiatives. Reliable quality data can be harnessed to inform a range of different decision including allocating resources, prioritising projects, writing policy, building business cases, and evaluating our own performance.

Quality data allows Council to be more decisive and to resolve issues faster. Data can also enhance the efficiency of processes by making Council more agile, and ready to capitalise on opportunities, such as grant funding and pilot programs.

Council must prioritise the governance and management of data, including access to data tools to support a culture of evidence-based decision-making.

Enhancing the existing approach to data management will unlock new opportunities to use our existing data. Over the next 10 years, new digital tools will be introduced across Council to process, analyse and understand our data. The consistent and appropriate use of these tools is



supported by the application of data standards. Our data management approach is guided by these standards, and additional policies and practices wil need to be implemented to ensure compliance at all levels of Council.

Developing a culture of innovation means providing our staff with access to quality data and tools, as well as opportunities to improve digital literacy skills. Staff are supported to find solutions by imagining how things could be done differently including applying approaches from different fields, such as systems or design thinking. Programs and initiatives to support and celebrate novel ideas, experimentation and innovation are will be central to our success.

Data leadership supports all other priorities outlined in this Strategy, contributing to more

efficient service delivery, and enabling Council to monitor and adapt to its environment proactively.

WHAT COUNCIL IS ALREADY DOING

Council collects significant amount of data across the organisation, from information about waste to road conditions, to community perceptions and attendance at events. The data which we collect provides us with information that we can use to deliver projects more successfully in the future. As the volume of data that Council collects increases, it is important that we invest in an integration platform that allows us to overlay multiple datasets to see the impact of different variables.



WHAT WE HEARD

You told us that considering data is often at the core of smart and innovative city concepts, it will be vital to ensuring all its systems are streamlined and set up for success. You want:

- : Clear communication about what data is being collected by Council and how it will
- Adoption of national standards for data collection.
- Stronger data privacy and cyber security protections.
- : Improved capabilities in relation to the way Council collects, analyses, uses and maintains data.
- Improved data access so that the community can obtain data in an easy and intuitive way.

BENEFITS OF DATA-LED DECISIONS







Valuable Continual Insights Growth

Efficiency & Prodctivity







Prediction of Transparencu **Future Trends**

Improved **Outcomes**

"We want Parramatta to be a city that is 'live', meaning collecting metrics and measurement to enable us to experiment to enhance the lived experience of the city."

Community member

WHAT WE WILL DO

These are Council's Objectives and expected outcomes relating to A Data-led and Innovative Organistion. Further detail can be found in the action table at Section 04.

OBJECTIVES	OUTPUTS		
1.1 Adopt data standards and governance	Organise, govern, and manage data		
framework	Improve access to quality data across Council		
1.2 Embed innovation in Council's culture	Support decision-making across Council using digital tools		
	Build Council's innovation capacity/mindset		

OBJECTIVES	INDICATORS	TARGETS
1.1	Staff perception of how data Is used across the organisation	Baseline TBC
1.2	Number of Council projects that incorporate innovative digital tools	Baseline TBC

A GLIMPSE INTO THE FUTURE

Derek is a newly hired staff member working at City of Parramatta Council's Rydalmere Operations Centre. As part of his onboarding, he is required to complete a comprehensive data and privacy training program.

The program covers Council's data policies and data management best practices, as well as training on the handling and destruction of sensitive information, cyber security, and data breaches. The program also includes training on how to interpret and understand data that is collected by Council which will support Derek to make evidence-based decisions.

Throughout the training, Derek is given real-world scenarios and examples to better understand the importance of data and how it can support to his work within the Council. He is also provided with resources and tools to help him upskill in the use and management of data.

Later, Derek is running a survey with community members about upcoming upgrades to the City's parks. As Derick as received suitable training, he knows to only collect minimum viable data from his survey participants. He does not collect the names of participants. He only asks for their age, gender and postcode for the purpose of demographic analysis. After collecting the data, Derek ensures that it is stored securely to protect it from potential cyber security breaches.

CASE STUDY

BOSTON

The 'Data-Driven Boston' program is a city-wide initiative implemented by the City of Boston in partnership with Boston University, to increase the use of data and analytics in decisionmaking.

A key component of the program is the creation of a centralised data platform, the Boston Analytics Platform, which provides a single point of access to over 500 datasets from city agencies.

This allows city staff and residents to easily access and analyse data on topics such as crime, transportation, and housing.

The platform also includes a variety of visualisation tools to help users make sense of the data and identify patterns and trends.

Additionally, the program provides data training and resources to city employees, as well as provide funding and support for data-related projects proposed by city staff and community organisations.

A Data-led And Innovative Organisation

CLIMATE ADAPTATION AND CIRCULAR ECONOMY

We implement smart and sustainable technologies to prepare our community and environment for the impacts of climate change.

WHY IS IT IMPORTANT?

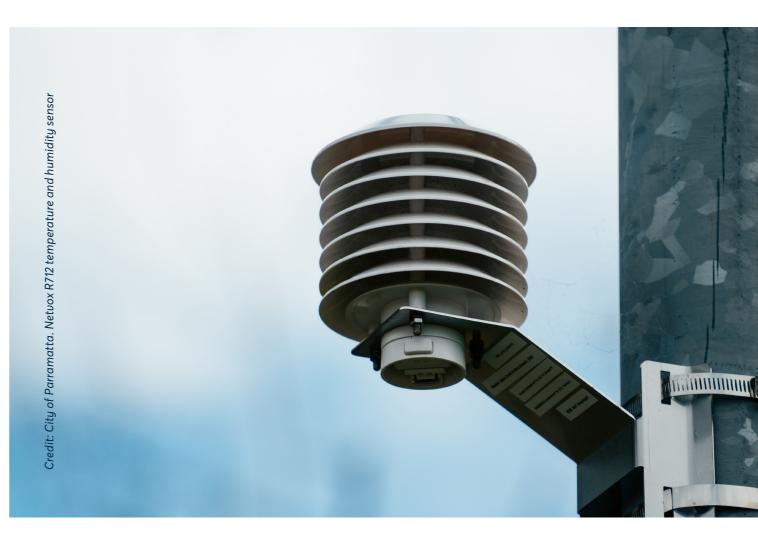
Council must monitor and protect
Parramatta's river, waterways,
parklands, and other natural features.
We are also responsible for leading
conversations, generating new ideas,
and finding solutions. From reducing
carbon emissions to building a culture of
resilience, Council are thought-leaders in
the areas of climate, environment
and innovation.

It is essential that we harness the power of technology to prepare the City and the community for the impacts of climate change. Rising temperatures, increased flooding, and severe storms have made climate-related risk evident to our community.

Data and technology can help create climateresponsive urban systems, buildings and public spaces. Climate-responsive design can lessen some of the impacts of climate change. For example:

- Flexible structures can be installed in public spaces that can be adjusted to suit weather conditions, like extreme heat or rain events, to ensure the spaces remain comfortable.
- Industry can use data to make decisions about construction scheduling and minimising impacts in public spaces.
- Event producers at Council can minimise disruption from weather events by using data to select the best location and time of year to host events and activations.

Council can provide our residents with access to environmental data. This empowers residents to make informed decisions on how to use and protect the City's highly valued blue and green spaces. For example, this data can help residents find a cool place nearby to go on a hot day, or help them decide whether it is safe to swim in the Parramatta River. Access to environmental data also spur 'citizen science' projects such as community reporting on issues such as water quality or pollution. These efforts help Council and community to better understand the environment around us.



Resource management is an important part of the conversation in a growing city like Parramatta. Council aims to adopt a circular and regenerative approach to our resources. In collaboration with our local industry and residents, we will move away from the traditional linear model of 'take-make-waste' and instead find ways to recapture and reuse waste products.

Innovative manufacturing techniques and digital technology play an important role in the transition to circular resource use. For example, Council begun its circular economy journey by using recycled materials as road base in the Granville Smart Street Project. By leveraging advances in technology, we can reduce our resource consumption, improve waste management, and create new products and services from waste.

Developments such as the Camellia-Rosehill Precinct and Sydney Olympic Park provide an important opportunity to trial and embed regenerative resource management practices into our work. Adopting these practices helps ensure our City is a self-sustaining place and will continue to thrive and grow in a sustainable way.

WHAT COUNCIL IS ALREADY DOING

The City's commitment to environmental monitoring and the use of data to guide decision-making is a step in the right direction. Projects like the Phillip Street - Smart Street use technology to respond to the environmental conditions, while Council's FloodSmart service that provides critical information to communities to help them understand and prepare for flood risks in their area. The Melrose Park Climate Responsive Neighbourhood project piloted real-time information to residents about noise and air quality to help them understand the impact of construction activity near their home.



WHAT WE HEARD

You told us Parramatta has the potential to be a world-class exemplar for environmental sustainability. You want:

- Technology that teaches you about the environment and helps to foster a connection with nature.
- A city that takes action in relation to rising temperatures and flooding using advancements in data and technology.
- More environmental data to help inform city planning and decisionmaking.
- Improved access to environmental data for residents to guide everyday lifestyle choices.
- More efficient use of existing resources.
- More local opportunities in the circular economy sector.

"Environmental challenges like urban heat and flooding along the river is a major issue, smart thinking should help mitigate them and support our communities to be better prepared for them."

NSW Health staff member

"Micro factories that focus on connecting local supply chains to create a circular economy and climate resilience will be our future. For example, building quality street furniture that uses recycled materials, can be adjusted and is circular in nature."

University of Sydney academic staff member

WHAT WE WILL DO

These are Council's Objectives and expected outcomes relating to Climate Adaptation and Circular Economy. Further detail can be found in the action table at Section 04.

OBJECTIVES	OUTPUTS		
2.1 Protect our community from climate change using innovative solutions	Implement public domain solutions to combat urban heat		
	Improve water quality monitoring capability		
	Prepare the community for the impacts of climate change		
2.2 Facilitate a circular economy within the LGA	Facilitate community and industry connections to create circularity		
	Advocate for Parramatta as a testbed for circular precincts		

OBJECTIVES	INDICATORS	TARGETS
2.1	Community satisfaction with climate adaptation solutions	Baseline TBC
2.2	Community waste diverted from landfill	85% diversion rate for community waste by 2038

A GLIMPSE INTO THE FUTURE

Riya is a small business owner whose main goal is to run a profitable and sustainable business that provides jobs and supports the local economy. She faces many challenges in her business, including a limited budget, competition from larger companies, and a lack of access to information about available materials. It requires time and effort for her to find and purchase the right materials.

Council's new digital resource platform has revolutionised the way she procures materials

and has helped address her resourcing challenges. She now uses a data portal to search for and purchase second-hand materials for her business.

She finds the portal to be a valuable tool because it allows her to easily access information about the availability of materials, to compare prices, and to connect with suppliers. The portal provides a simple and cost-effective way for Riya and other business owners to adopt sustainable business practices.

CASE STUDY

SINGAPORE

The City of Singapore has implemented a smart water management system to ensure the quality of its water supply. The system uses a network of sensors and real-time monitoring to detect and alert operators to potential issues such as leaks, spills, and changes in water quality.

It also uses advanced analytics to optimise treatment processes, improve the overall efficiency of the water treatment system, and reduce energy consumption.

The system also uses smart water meters to monitor water usage in individual households and buildings, which helps to detect and prevent water wastage.

It also uses weather forecasting and water demand forecasting to optimise the production of water and ensure a steady supply to meet the needs of the population.

AN INTELLIGENT AND CONNECTED TRANSPORT SYSTEM

We prioritise innovative projects that improve the accessibility and efficiency of our transport system.

WHY IS IT IMPORTANT?

A well-connected and easy-to-navigate transport system is the foundation of a liveable city. The goal of this priority is to improve the transport network experience for residents and visitors, and to identify additional and complementary transportation services.

As Parramatta's population continues to grow, we need a greater variety of transport options so that work, home and leisure activities can be accessed with ease. Increased transportation mean residents have more sustainable travel options. This may help to enhance liveability, ease congestion, and simplify navigation for our residents and visitors.

Parramatta is the geographic centre of the metropolitan Sydney transport network. As a major transport interchange, there is significant opportunity for Parramatta to continue to grow and expand into innovative modes of transport like micro-mobility and rideshare options. Projects like Parramatta Light Rail and Sydney Metro West will improve connections and expand travel choices within our area and to other parts of Greater Sydney. To maximise the benefits of these major infrastructure projects, technology can be used to enhance the customer experience. For example, intelligent transport systems can improve traffic flow and route planning, reducing congestion and travel times. Mobility as a service (MaaS) platforms can provide a seamless and personalised experience.

As urban density increases in our area, alternative solutions such as micro-mobility options and first and last-mile links will become vital. This will require Council to reconsider the use of space and maximising the public benefit of this resource, particularly our parking assets and kerbside lanes.

management (TDM) strategies to optimise the use of existing infrastructure. TDM involves using policies and programs to influence travel behaviour to spread demand across the transport network. This may include promoting carpooling, implementing congestion pricing, or encouraging shifts in travel times. Embracing the 15-minute city model can also contribute to creating a more efficient and

In addition to new services and modes of

transport, Council can use transport demand

sustainable transport network. By ensuring that residents can access essential services and amenities within a short walk or bike ride from their homes, the need for private vehicle trips and time spent in traffic can be reduced. Data collection on people and vehicle movement provides important information for planning and allows Council to progress towards becoming a 15-minute city.

Using technology and innovative practices can be combined to reduce the impact of vehicles on the City centre and improve the customer experience of the transport network. By collecting data about people movement and being open to scaling successful transport innovations such at TDM, Council can work with partners like Transport for NSW to improve movement in our area.



Council is committed to being a test-bed for innovations in the transport space. Council has a proven track record for support of public and active transport by prioritising the movement of people in the City centre and heavily investing in cycle networks.



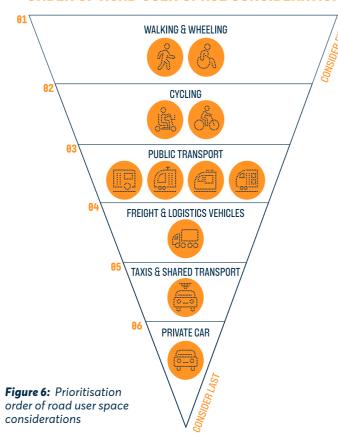


WHAT WE HEARD

You told us that public transport and mobility is the top priority for future smart city initiatives. You want:

- Innovation in the design and operation of the City so that residents do not require a car to get around and to ensure that the growing population does not result in additional congestion.
- Prioritisation of, and improved investment in, last mile connectivity and micro-mobility choices.
- Transport planning to be informed by data on traffic flows.
- : Creativity and innovation in how we reallocate existing road space so that all modes of transportation can coexist.
- Increased partnerships between government and private sector to implement smart and innovative mobility solutions.

ORDER OF ROAD USER SPACE CONSIDERATIONS



"The real question is how do we remove the need for private vehicles? We have to trial these emerging mobility technologies and see what works and then scale them here in Parramatta.

Transport for NSW staff member

A GLIMPSE INTO THE FUTURE

Rory is a recent graduate who lives in a new development in Epping.

He used to drive to Parramatta CBD for work, but his commute has changed dramatically in recent years. He now takes advantage of a fully integrated transport system, which allows him to access a variety of transportation options easily.

He walks to a nearby bike station, borrows a bike with a transport card, rides to work and returns it, saving money while reducing his

carbon footprint. He also used car-sharing service for errands or trips outside the City.

He plans, books, and pays for his trips on an integrated platform, providing him with more flexibility and reducing the need for a personal vehicle.

WHAT WE WILL DO

These are Council's Objectives and expected outcomes relating to An Intelligent and Connected Transport System. Further detail can be found in the action table at Section 04.

OBJECTIVES

OUTPUTS

3.1 Data and technology improve the transport network

Improve the transport network using data and technology to deliver a better customer experience

Reduce the impact of vehicles on the City centre

OBJECTIVES

3.1

INDICATORS

TARGETS

Residents' perception of adequacy Baseline TBC of public and active transport



CASE STUDY

HELSINKI

The Helsinki region has extended an open invitation to companies, both Finnish and international, to participate in the development of a personal mobility-as-a-service (PMaaS) system. The goal is to allow users to access a variety of transportation options such as cars, buses, trains, and bikes through via a single platform. This will provide a convenient and efficient way for people to travel by allowing them to easily plan, book, and pay on one platform. different modes of transport using the same service.

Companies can participate in different ways, such as by offering technology solutions, transportation services, or consulting services.

For example, the Jätkäsaari Mobility Lab, set up on the streets of the Jätkäsaari- Ruoholanti district provides a real-world environment to test solutions in real traffic with real customers. The lab provides companies with access to infrastructure, data, and other resources that they need to test and develop new solutions. vehicle..

TRANSFORMATIVE URBAN TECHNOLOGY

We integrate smart technology into our precincts and infrastructure projects to ensure efficient use of resources, to improve community experience, and to create a city that thrives in the digital age.

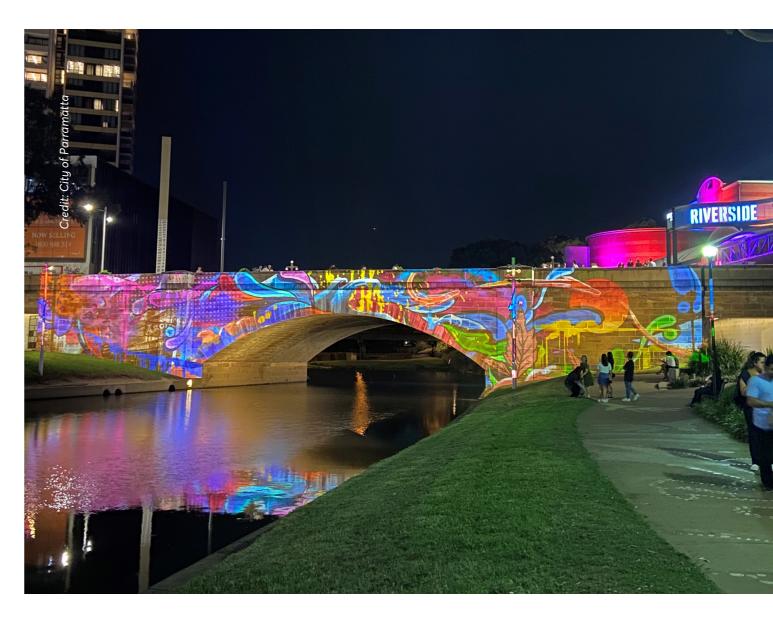
WHY IS IT IMPORTANT?

Well-equipped and thoughtfully designed public spaces help a city to thrive. By incorporating smart city concepts, leveraging data-driven insights, and fostering collaboration with key stakeholders, we can unlock the full potential of transformative urban technology.

Smart technology can also help to future-proof our City, ensuring precincts and assets can be upgraded easily.

The rapid advancement of smart and innovative technology has revolutionised the planning, design, and management of public spaces in cities across the world. Data can provide information and insights that help us to build public spaces that are welcoming, inclusive, and safe, while also maximising social, cultural, environmental, and economic benefits.

Smart city technologies can be utilised in public areas and open spaces that are owned by Council and other partners. Existing technologies, such as smart lighting and Internet of Things (IoT) sensing, will be increasingly leveraged to enhance safety in our City. We can use smart technology in new ways such as digital art and soundscapes, or a public safety app. These innovations may make our City more inviting for residents and visitors.



To create dynamic and responsive places that cater to the evolving needs of the community, we must consider smart city concepts when planning our precincts. For example, work and recreation is increasingly moving online. As such, as a smart city, it is crucial that internet infrastructure is considered in the planning or upgrading of any public space. Our public spaces should be equipped with the capabilities to support equitable participation in the internet.

Smart city technologies and improved data collection provide Council with capacity to proactively manage our assets and to make improvements in near real-time. Quality data will also allow Council to understand and interrogate existing issues with asset maintenance and inform Council about how to improve operations.

Furthering partnerships with stakeholders like government and industry partners will

allow Council to share data and insights and collaborate on the design and management of public spaces, which will lead to more effective and efficient use of resources and more positive outcomes for the community. The NSW Government has already invested in trialling innovations that enhance the safety of communities, with a particular focus on women, girls, and non-binary people. Council is committed to supporting both pilots and scaled interventions in our city.

WHAT COUNCIL IS ALREADY DOING

Future-proofed connectivity in upcoming infrastructure projects, like Civic Link, are a key Council investment to ensure we are prepared for the coming years. Council is also committed to working with the NSW Government to trial and test solutions that improve the safety of our community, particularly for women and girls.



WHAT WE HEARD

You recognise that technology can be leveraged to enhance people's place experiences. You want:

- Our City to be a safe place for everyone, at all times.
- Our public spaces to be accessible, both in terms of physical and digital access.
- Public spaces to be better activated to suit the needs of our community by using data and insights.
- Digital infrastructure to support Council staff to operate our assets more efficiently (internal stakeholder feedback).
- Innovative ideas and technology used to update our public spaces to suit the needs of the growing population.
- Council to try new things and test new technologies.

"We need to consider how we can improve safety with the use of information and smart devices to support our people, not just install CCTV and IoT devices, but also crowd source information. It will be great to have those capabilities."

University of Sydney academic

"Smart city[s] should make the place safer for women, so I can walk without fear at any time."

Community member

WHAT WE WILL DO

These are Council's Objectives and expected outcomes relating to Transformative Urban Technology. Further detail can be found in the action table at Section 04.

OBJECTIVES	OUTPUTS
4.1 Enhance places with smart city solutions	Implement innovative solutions to enhance city safety and activation
4.2 Include smart infrastructure in precinct planning	Support the roll-out of internet infrastructure based on connectivity needs
4.3 Proactively maintain our assets	Support innovative methods of asset assessment and maintenance
	Improve data available on Council assets

OBJECTIVES	INDICATORS	TARGETS
4.1	Community perception of safety in the LGA	Baseline TBC
4.2	% of public domain projects that include smart infrastructure	Baseline TBC
4.3	Number of projects that utilise data or technology for predictive maintenance	Baseline TBC

A GLIMPSE INTO THE FUTURE

Maria is a young nurse who works at Westmead Hospital. She prefers to walk to her apartment in North Parramatta through the scenic path in Parramatta Park because it is quick, and she knows it is safe and activated at night with recent smart infrastructure upgrades.

She knows the park has smart lighting that automatically adjusts to the ambient light levels - increasing at night when the park is less busy, providing extra visibility and security.

The park also has CCTV cameras that are connected to a central monitoring system that allows the authorities to quickly respond to any incidents.

The park also has a mobile app that allows visitors to report any incidents or issues, and request for assistance if needed. This makes Maria feel more secure as she knows that there's a way to reach out for help.

CASE STUDY

STATE OF NSW

Women and girls do not always feel completely safe and comfortable in public spaces, due to crime and harassment.

The NSW Government has sought innovative technology solutions to help make women and girls feel safer and more comfortable in public spaces.

Solutions could use technologies and data to help improve people's feelings of personal safety; make public spaces more accessible for women to improve activation; promote areas for women and girls to walk, play, relax, eat, and exercise at all times; and understand how women and girls use public spaces through better collection of disaggregated data.

Up to \$50,000 in funding was made available for each of the successful applicants to complete a feasibility study within two months. Further funding opportunities up to \$1,000,000 were available for the scaling of successful project proposals.

* From NSW Government Safer Public Spaces for Women and Girls Challenge Brief https://www.dpie.nsw.gov.au/__data/assets/pdf_file/0007/527515/Women-and-Girls-Safety-Challenge-Brief.pdf

52 ** Transformative Urban Technology 53

A THRIVING INNOVATION ECOSYSTEM

We work with our partners to develop a collaborative ecosystem renowned for producing and commercialising innovative ideas.

WHY IS IT IMPORTANT?

Creating a thriving innovation ecosystem is instrumental in positioning Parramatta as a hub of technological advancement and economic growth.

Innovation networks are created when different stakeholders such as government agencies, businesses, and the community collaborate to develop and implement new technologies and solutions to improve efficiency and liveability. Fostering innovation networks can attract knowledge-intensive jobs, create new employment opportunities, and promote growth.

To support a thriving innovation ecosystem, Council will prioritise actions including sharing data to seed opportunities and ideas, promoting the brand of the growing ecosystem, and investigating ways to create spaces and opportunities for people to connect. Parramatta has attracted many global institutions, Australian university and research organisations, and innovative start-ups. The City is also already home to many innovation anchors such as the Westmead Health and Innovation District (including the Western Sydney Start-up Hub), Sydney Olympic Park and several universities specialising in science and research.

By leveraging the partnerships between these key players and promoting collaboration, we can boost productivity and grow the entrepreneurial and start-up culture.

The future of work and the skills required in new and emerging industries will be determined by technological and digital innovations. By fostering innovation, we can continuously upskill the community and ensure employment pathways are future-focussed.



Along with Council, the NSW Government and industry partners capture different types of valuable data across our area. Transparent data sharing builds trust and enables stakeholders to leverage valuable insights leading to more informed decision-making, fostering collaboration and a greater production of innovation solutions. The private sector, universities and community members can leverage the benefits of this data to create innovative solutions to existing and upcoming problems.

Improving connectivity in these areas will create an environment conducive to idea exchange and collaboration, while improved amenity and activation across the ecosystem will provide more opportunities for people to connect and collaborate. By fostering collaboration, promoting entrepreneurship, and leveraging publicly available data, we can drive innovation, create employment opportunities, and ensure that our workforce is equipped with the skills required for the future.

WHAT COUNCIL IS ALREADY DOING

Shared data is key to the collaboration of stakeholders in the ecosystem. Whilst open data is not yet available, Council shares any available data with partners such as the state government and industry. Additionally, Council is working closely with the NSW Government to develop the innovation ecosystem in Parramatta by bringing stakeholders together for regular meet-ups where coordinated planning can be conducted.



WHAT WE HEARD

You told us you believe Parramatta is already making significant strides towards becoming an innovation capital, and you want us to build on our strengths through:

- More collaboration to be encouraged and facilitated, so we can learn from each other and grow together.
- Clearly communicating the value proposition of situating businesses in Parramatta.
- Making grants and funds available to encourage entrepreneurship.
- Improved place-making and connections between innovation areas.



Figure 7: Innovation ecosystem actors (orange) and internal departments (navy)

"We have got two major universities, four large hospitals, plenty of space and really great planning to be able to develop some commercial office space, as well as potentially some manufacturing space as well. The last thing we want is to really contain and create some sort of segmented or bubbled areas. We really want to create a place where people are welcome everywhere."

Western Sydney Start-up Hub staff member

WHAT WE WILL DO

These are Council's Objectives and expected outcomes relating to A Thriving Innovation Ecosystem. Further detail can be found in the action table at Section 04.

OBJECTIVES	OUTPUTS		
5.1 Utilise data and digital tools to support collaboration, research and business	Share data with industry, researchers, and the community		
decision-making	Deliver programs to connect local innovators with data		
5.2 Support Parramatta's innovation ecosystem	Support the development of new innovation areas within the LGA		
	Investigate ways to uplift the innovation ecosystem		

OBJECTIVES	INDICATORS	TARGETS
5.1	Industries, researchers and community satisfaction with digital tools provided by Council	Baseline TBC
	Number of publicly available datasets	Baseline TBC
5.2	Number of new businesses in target industries	Baseline TBC

A GLIMPSE INTO THE FUTURE

Robotics start-up owner Rahul lives in North Parramatta. He works from home with high-speed Internet a few days a week but chooses to work from a co-working space in the Parramatta CBD so he can learn from and collaborate with other like-minded entrepreneurs. Through Parramatta's start-up network, Rahul learns about the City's annual Innovation Challenge. The Innovation Challenge this year is focused on improving the pedestrian movement around the Westmead Health and Innovation District. As Rahul is familiar with the area and the challenges of navigating between the hospital buildings,

research institutes and retails spaces, he chooses to enter. Rahul partners with one the local universities to develop a robot and AI software tool that scans the spaces and recommends improvements. Rahul uses insights published on the City's open data portal to feed existing information about people movement and usage of the Westmead area into the AI program. This makes the recommendations more appropriate for the people who use the space and wins Rahul the challenge. Rahul then works with Council to implement the technology and scale it to other locations in the LGA.

CASE STUDY

CITY OF LONDON

A group of organisations at the Queen Elizabeth Olympic Park in London have formed a new district called SHIFT, which serves as a living testbed for urban innovation and collaboration. The name SHIFT represents the collective effort needed for a thriving, fair, and resilient future of cities. SHIFT brings together organisations such as University College London, London College of Fashion, Loughborough University, Here East, Lendlease, Plexal, and the London Legacy Development

Corporation to tackle challenges facing cities and citizens. The district aims to address issues such as the climate emergency, urban health and wellbeing and the movement of people and goods in urban environments, It uses the park as a location to pilot initiatives like zero carbon micro-mobility trials and urban farming



CREATIVE COMMUNITY EXPERIENCES

We will create opportunities for our community to express themselves creatively and engage with digital tools, leaving no one behind.

WHY IS IT IMPORTANT?

New technologies can revolutionise the way we understand our cultural heritage and explore the diverse offerings of our City. Research has shown that the use of immersive and interactive technologies can increase cultural understanding and social cohesion.

Technologies present a wealth of opportunities for our City to improve the visitor economy, activate public spaces, and share stories that will help to strengthen our sense of place. Augmented reality applications are being used in global cities to enhance guided tours, allowing visitors to see and learn about historical landmarks and buildings in a more interactive and engaging way.

Cutting-edge technological advancement also offers unique opportunities to strengthen connections with Country and the First Nations community. First Nations knowledge can be utilised through the co-design of projects that allow for stories, historical and ongoing, to be shared with the broader community. Digital archives, virtual reality, and augmented reality in physical spaces can be used to create immersive experiences that allow people to learn about and engage with First Nations histories.

The City of Parramatta area has a young, diverse, and creative population who are interested in learning and discovery through digital tools. By providing the relevant platforms, we can create avenues for the community to harness technology to share stories, skills, and experiences with each other.



Digital literacy is an important consideration, to create equity in our City and ensure that everyone is able to be included. Residents of our City require digital literacy skills now and into the future, to access Council services, participate in decision-making and access creative experiences. Council must prioritise measures to improve digital skills and access for the whole community.

Our City is also home to renowned cultural infrastructure, from PHIVE in Parramatta Square to the new Powerhouse Museum and redeveloped Riverside Theatres, Parramatta Female Factory Heritage Precinct, and new arts facilities like the Parramatta Artist Studios and Gallery, which are owned and managed by Council and other government agencies. To ensure we fully realise the potential of these facilities, we must cater to the interests of the diverse age and cultural groups who

live, work, and visit our City. Data and digital platforms can be leveraged creative activations and experiences for diverse groups within the community.

WHAT COUNCIL IS ALREADY DOING

Council has been making significant efforts to activate spaces in and between buildings. This includes the Parramatta Lanes Festival, an annual event that transforms the City's laneways into vibrant spaces for art, music, and food. This event has been well-received by the community and attracts thousands of visitors each year. Additionally, Council is already providing our community with a range of digital literacy programs through our libraries and community hubs.

PARRAMATTA

WHAT WE HEARD

You told us you are proud of Parramatta's diverse cultures and want technology to celebrate our diversity through:

- Smart city thinking to champion and celebrate First Nations culture.
- Data and insights to better inform the cultural offering in our City.
- Using technology to preserve our heritage and tell stories of our past, present and imagine our future together.
- Innovative technology to offer an integrated cultural experience that draws more visitors to Parramatta.

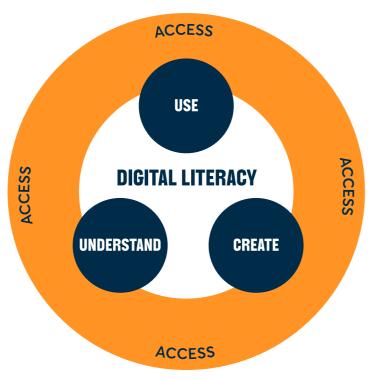


Figure 8: Components of digital literacy

"Technology can do good things or bad things, it is up to us to decide what we are going to use it for and who we are going to highlight. First Nations people have always been left behind in the smart city journey. We would like to see technology strengthen connections to our culture."

The Gaimaragal Group

WHAT WE WILL DO

These are Council's Objectives and expected outcomes relating to Creative Community Experiences. Further detail can be found in the action table at Section 04.

OUTPUTS	
Trial digital technologies to enhance the community's experience in the city	
Support First Nations storytelling through digital components	
Ensure consistent access to information across the Central River City	
Streamline Council's digital products	
Improve digital skills and access for the community	

OBJECTIVES	INDICATORS	TARGETS
6.1	Community satisfaction with digital experiences provided by Council	Baseline TBC
6.2	Community and visitor satisfaction with wayfinding in the LGA	Baseline TBC
6.3	Digital service usage	Baseline TBC
	Community satisfaction with digital services	Baseline TBC

A GLIMPSE INTO THE FUTURE

Abdul, a Lebanese national, has recently moved to Parramatta with his family. They are excited to explore the local area and learn about the First Nations community. To make the most of their time, they decide to use an interactive app to plan their trip.

Their first stop is Harris Park, where they follow a virtual Heritage trail that takes them on a journey through the history and culture of the local First Nations community. Next, they head to the CBD for a First Nations ArtWalk, where they use augmented reality to reimagine Parramatta Square and the river as traditional meeting places prior to development.

After the art walk, they stop at the Multicultural Kiosk in the CBD, where they use augmented reality to explore the history and culture of diverse cultural groups in the area, such as the Chinese, Indian, and Arabic communities.

Abdul is also able to switch the language to Arabic, which allows him to fully understand and engage with the information provided.

CASE STUDY

CITY OF SYDNEY

Wellama is a modern and innovative interpretation of the traditional Welcome to Country ceremony. Commissioned for the Cutaway entrance in Barangaroo Reserve, it is a 10-minute audio-visual work that celebrates the rituals, ceremonies, and stories that have been practiced on Country since time immemorial.

The name "Wellama" means 'to return', which symbolises the return of visitors to the land of the Gadigal people, the Traditional Custodians of the area. Using state-of-the-art technology, it takes visitors on a journey through the land, showcasing the traditional stories, customs, and

practices of the Gadigal people.
The use of soundscapes, projections, and lighting effects create an immersive experience that allows visitors to feel connected to the land and its people.

In addition to being an educational experience, Wellama is also a powerful tool for reconciliation and cultural awareness. It allows visitors to gain a deeper understanding of the Gadigal people's connection to the land and to learn about the importance of respecting and preserving First Nations culture.









This plan details the actions that will drive progress towards Strategy objectives over the next four years and beyond.



A DATA-LED AND INNOVATIVE ORGANISATION

NO.	ACTION	HORIZON	RESPONSE TO CSP	COUNCIL'S Role
1.1	Adopt data standards and governance framework			
1.1.1	Implement a data governance framework	H1	Fair, Innovative	D
1.1.2	Establish policies, procedures, and practices for effective data management that complies with relevant standards	H1	Innovative	D
1.2	Embed innovation in Council's culture			
1.2.1	Implement a data integration framework	H1	Innovative	D
1.2.2	Create an internal data portal to improve access to quality data	H1	Innovative	D
1.2.3	Improve existing corporate and project reporting system	H1	Innovative	D
1.2.4	Investigate improvements to systems including spatial analytics (GIS) and capital works monitoring	H2	Innovative	D
1.2.5	Improve analysis and visualisation of spatial data sets	H2	Innovative	D
1.2.6	Support implementation of NSW Government digital tool trials (including AI and ML)	H1	Innovative	DP
1.2.7	Upskill Council in data literacy	H1	Innovative	D
1.2.8	Enable internal innovation through programs and incentives	H1	Innovative	D

PRIORITY 02

CLIMATE ADAPTATION AND CIRCULAR ECONOMY

NO.	ACTION	HORIZON	RESPONSE TO CSP	COUNCIL'S ROLE		
2.1	Protect our community from climate change using innovative solutions					
2.1.1	Improve urban heat models of the LGA to include place- based influencing factors	H1	Green, Innovative	P		
2.1.2	Identify a suite of heat mitigations solutions for council projects	H1	Green, Innovative	D		
2.1.3	Deliver high impact heat mitigations in Council projects	H2	Green	D		
2.1.4	Investigate real-time water quality monitoring technologies	H1	Green	D		
2.1.5	Collect and communicate real-time bacteria levels in Lake Parramatta	H1	Green	P		
2.1.6	Trial remote stormwater monitoring technologies to identify improvement opportunities	H2	Green	D		
2.1.7	Trial water quality monitoring at locations across the Parramatta River catchment to influence behaviour change program	H2	Green	D P		
2.1.8	Identify and fill gaps in data collection to support resilience planning	H1	Green, Innovative	P		
2.1.9	Expand existing warning networks to improve community environmental decision making through data-led tools and behavioural insights	H2	Welcoming, Green	D		
2.2	Facilitate a circular economy within the LGA					
2.2.1	Investigate digital systems for waste collection and circular redistribution	H2	Green	P		
2.2.2	Scale up circular projects with strata organisations to encourage greater participation	H2	Green	P		
2.2.3	Identify enabling infrastructure required for circularity within precincts to inform advocacy to the State Government and planning within Council	H2	Green	PA		

HOW TO READ THE ACTION PLAN

Horizons will be used to identify the timeframe in which the action will be implemented:

- > Horizon 1 (H1): 1-2 years
- > Horizon 2 (H2): 2-4 years

Response to CSP reflects the relevant CSP goal that this work will contribute to (Fair, Accessible, Welcoming, Green, Thriving and Innovative).

Council's role refers to the Deliver (D), Partner (P), Advocate (A) model of work adopted in the CSP.

AN INTELLIGENT AND CONNECTED TRANSPORT **SYSTEM ORGANISATION**

NO.	ACTION	HORIZON	RESPONSE TO CSP	COUNCIL'S ROLE
3.1	Data and technology improve the transport network			
3.1.1	Improve technology capability to collect and share data to inform transport planning, transport servicing and to support dynamic trip planning	H1	Accessible, Welcoming	D
3.1.2	Utilise data to advocate to the NSW Government to improve how people get around the city	H2	Accessible, Innovative	A
3.1.3	Investigate using data and technology to improve equitable use of kerb lanes in the City centre	H2	Accessible, Innovative	D
3.1.4	Support scaling of successful transport innovations into the Parramatta LGA including micro-mobility, shared mobility and mobility as a service	H2	Accessible, Innovative	P
3.1.5	Undertake a needs assessment of freight and logistics last mile improvements	H2	Innovative	P

PRIORITY 04

TRANSFORMATIVE URBAN TECHNOLOGY

NO.	ACTION	HORIZON	RESPONSE TO CSP	COUNCIL'S ROLE
4.1	Enhance places with smart city solutions			
4.1.1	Identify locations, technologies and prioritisation to activate places with innovative solutions	H1	Innovative	D
4.1.2	Trial smart city solutions to enhance safety	H2	Welcoming, Innovative	D
4.1.3	Support 'seed to scale' smart places projects developed by the NSW Government	H1	Thriving, Innovative	P
4.1.4	Investigate options to trial new smart infrastructure including solar charging stations in the public domain	H1	Innovative	D
4.2	Include smart infrastructure in precinct planning			
4.2.1	Incorporate smart infrastructure in precinct planning, including in Development Control Plans	H1	Fair, Thriving, Innovative	D
4.2.2	Identify connectivity needs across the LGA including public domain and urban renewal areas	H1	Fair, Accessible, Thriving, Innovative	P
4.2.3	Develop a policy for implementation of connected assets such as smart lighting, sensors, and other internet of things (IoT) devices	H2	Innovative	D
4.3	Proactively maintain our assets			
4.3.1	Contribute data to asset renewal database for predictive maintenance	H1	Innovative	D
4.3.2	Scope opportunities to apply technology to asset maintenance	H1	Fair, Innovative	D
4.3.3	Ensure that smart and digital infrastructure including smart lights, sensors, IOT devices and multi-function poles are separately registered as assets within a Council asset management system	H2	Innovative	D



A THRIVING INNOVATION ECOSYSTEM ORGANISATION

NO.	ACTION	HORIZON	RESPONSE TO CSP	COUNCIL'S Role
5.1	Utilise data and digital tools to support collaboration	, research and	l business decis	ion-making
5.1.1	Create an open data portal for the public to access	H2	Fair, Thriving	D
5.1.2	Investigate gaps in Council's data collection that inhibit innovation and collaboration for industry, researchers and the community	H1	Innovative	D P
5.1.3	Facilitate innovation challenges to provide opportunities for innovators to solve complex city problems	H1	Thriving, Innovative	D P
5.2	Support the innovation ecosystem in Parramatta			
5.2.1	Explore and promote the opportunities of our existing advanced manufacturing precincts from a regional productivity perspective	H1	Thriving	D
5.2.2	Promote the brand of Parramatta's innovation ecosystem	H1	Thriving, Innovative	P
5.2.3	Provide physical and digital spaces for innovators to connect, share ideas and gain knowledge	H1	Thriving	D P
5.2.4	Advocate for improved amenity and connection across the innovation ecosystem	H1	Thriving, Innovative	A
5.2.5	Partner to host network events and workshops that support local talent	H1	Thriving, Innovative	P

PRIORITY 06

CREATIVE COMMUNITY EXPERIENCES

NO.	ACTION	HORIZON	RESPONSE TO CSP	COUNCIL'S ROLE
6.1	Implement digital experiences that allow creative expression of our community			
6.1.1	Trial digital experiences programming in Community Hubs at PHIVE and Wentworth Point	H1	Thriving, Innovative	D P
6.1.2	Work with partners to trial new digital experiences	H1	Thriving, Innovative	P
6.1.3	Support the delivery of First Nations projects with augmented or mixed reality	H2	Welcoming	P
6.2	Support a consistent customer experience in the City	1		
6.2.1	Collaborate with partners to share data and align information across the Central River City	H1	Thriving, Innovative	P
6.2.2	Develop a digital-first solution for city exploration and wayfinding	H1	Thriving, Innovative	D
6.2.3	Align and unify Council digital products to improve customer journeys	H2	Thriving, Innovative	D
6.2.4	Meet accessibility requirements across Council's digital products	H2	Accessible, Innovative	D
6.3	Facilitate digital inclusion and capacity building			
6.3.1	Identify gaps in digital skills, knowledge and access of the community and trial new programs to address needs	H1	Accessible, Innovative	D





GLOSSARY

TERM	DESCRIPTION
The City/ our City	All areas within the City of Parramatta Council local government area
Smart city	Utilisation of information and communication technologies to increase and improve efficiencies of operations, services and programs of a city. This could the implementation of smart sensors to gather specialised data to influence planning and design
Innovation	Introducing and implementing new ideas, methods, products, or services that result in advancements, improvements, or changes to operational efficiency, customer experience or quality of life for our community
Minimum viable data	Collecting/ storing the minimum amount of data necessary to make the data useable by Council staff, the community or industry partners. This may include collecting things like age, gender and postcode for demographic analysis or an email address to contact a resident. However, any information which is beyond this should not be collected
Sustainability	Sustainability is about managing the relationship between growth and liveability, as well as creating the right balance between the urban and the natural environment
Climate change	Changes to global and region climate patterns as a result of human use of fossil fuels that have increased the levels of carbon dioxide in the atmosphere. Some of the changes include increasing temperatures, rising sea levels and more frequent natural disasters
Circular economy	A whole-of-system approach which tackles climate change, biodiversity loss, waste and pollution. It is a resilient system by design, where finite resources are continuously made and remade, delivering environmental, economic and social benefits to communities, businesses and our natural environment
Equity	Equity is about ensuring equal access and opportunity through addressing systemic inequalities and the diverse barriers that different people face
Precinct	A defined area of land that has a particular interest to Council with economic, social or environmental benefits. Some key precincts include Parramatta Square, Sydney Olympic Park, Camellia-Rosehill and North Parramatta
Co-location	Co-location refers to key organisations being located in close proximity to one another to provide opportunities for collaboration

TERM	DEFINITION
Innovation area	A defined area with condense economic activity marked by co-location, that actively promotes the sharing of ideas and collaboration. The two key innovation areas in Parramatta LGA are the Parramatta CBD and the Westmead Health and Innovation District
Intelligent transport systems	Systems that combined telecommunications and information technology to improve safety and travel times across the transport network
Mobiity as a service (MaaS)	A digital channel (app or website) that allows users to plan, book and pay for trips using multiple transportation modes
Micro mobility	Small, lightweight vehicles usually operating at speeds less than 25km/h. Micro mobility includes devices such as bicycles, e-bikes and e-scooters
First and last mile	Connection between a users place of origin or destination, and a major transport mode. For our community, this could be the walk to the office from the station. For freight and logistics, this is from the transport hub to a customer's address
15-minute city	An urban planning concept where daily necessities such as work, shopping, education and healthcare, can be reached within a 15min walk
IoT sensors	Devices that are connected to the internet and collect data from the physical environment. The sensors collect information such as temperature, air quality, noise, wind speed and direction etc.

ACRONYM	TERM
CBD	Central Business District
CSP	Community Strategic Plan
LEP	Local Environment Plan
LGA	Local Government Area
LSPS	Local Strategic Planning Statement

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Smart Places NSW
The Smart Central River City Group
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> Parramatta Smart City & Innovation Strategy

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