

# Australian Government

## The Digital Economy: Opening up the Conversation Consultation Paper

**City of Sydney**  
Town Hall House  
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**City of Sydney Submission**

# Introduction

The City of Sydney welcomes the opportunity to contribute to the development of a Digital Economy Strategy by the Australian Government.

The last two decades, driven initially by increased globalisation of trade and markets, and substantially facilitated by dramatic advances in digitally-based technology, have seen:

- A massive shift in international economic connectivity. McKinsey Global Institute has estimated that the amount of cross-border bandwidth that is used has grown 45 times larger since 2005;
- The development of new products, new processes and new business models – centred around digitally-based technology;
- A challenge to maintain national, city and business economic competitiveness in the face of disruptive effects on traditional businesses and differential lags in the diffusion of new technological innovation, with subsequent dislocation effects;
- The opportunity that this presents for a country such as Australia to reduce its economic reliance on volatile resource and commodity terms of trade for sustainable prosperity;
- The opportunity to dramatically improve productivity and innovation and technological diffusion within the economy;
- The opportunity to develop smart infrastructure and responsive service delivery in the public sector;
- The efficiency benefits of improved and more transparent decision-making through real-time information and open data potentials; and
- The opportunity that improved information and analytics capability has for development and management of the physical landscape to achieve specific economic, social and environmental goals.

These economic and technological forces have dramatically impacted on how we work, how we do business, individual behaviour and activity and how we relate to each other socially.

They also give rise to a number of social ethics questions, related to privacy, security and social inclusiveness in addition to the economic opportunities and challenges. These forces, and their ramifications, impact on government at all levels – both in a responsive and a pro-active sense.

Moreover these driving changes are taking place exponentially, particularly in the technology production possibilities curve as applications of digital technology are transferred across industries through process innovation creating a shock-wave of simultaneous change across the whole economy.

It is therefore important that governments work together to maximise the economic opportunities of this digitally-based technology whilst minimising the economic and social impacts of disruption and transition. The emphasis needs to be on collaboration and co-operation to develop and deliver complementary and effective government responses.

This is particularly the case in the development of standards and regulatory mechanisms between the various jurisdictions of responsibility.

Without projecting too far into the future we can see the widespread utilisation of even newer technology which could change the very nature of economic activity. These include:

- Artificial intelligence. Software algorithms that are capable of performing tasks that normally require human intelligence, such as visual perception speech recognition and decision-making;
- Robots/Automation. Electro-mechanical machines that automate, augment or assist human activities, autonomously or according to programmed instructions;
- Internet-of-Things. Network of objects embedded with sensors, software, network connectivity and computer capability, that can collect and exchange data over the Internet. This could include Drones;
- Blockchain. Distributed electronic ledger that uses algorithms to record and confirm transactions with reliability and anonymity;
- Additive manufacturing techniques used to create three-dimensional products based on digital models by layering or “printing” successive layers of materials;
- Immersive Simulations – Augmented or Virtual reality. Addition of information or visuals to the physical world to improve the user experience for a task or a product; and
- The rise of data as a commodity to be traded and/or shared.

However, this list has the potential to be almost limitless. All of these digital-based technologies and processes have the capacity to provide significant benefits for those that can utilise them. However for others, the potential for disruption to other workplaces, at least in a transitional period until the new technology is widely dispersed and skills have been upgraded or people re-trained, may limit initial access to some of the economic benefits from the transformative change.

Indeed, the uncertainty of future technology paths increases the need for a collaborative strategy that is both adaptable and agile, based on solid principles, as well as comprehensive.

We believe governments should not attempt to pick “winners” or particular technologies. Rather it should develop complementary support for innovative change which enhances individual, multi-government and societal goals. Helping such firms to succeed is more about removing barriers to their growth such as monopolistic cultures or lack of access to markets, skilled workers or investment capital.

This includes addressing the inter-connected issues of:

- Effective regulatory behaviour;
- Effective common standards to maximise inter-operability;
- Encouraging productivity-enhancing innovation;
- Facilitating the rapid diffusion of new technology;
- Skill delivery and retraining programs;
- Providing “trust and confidence” through privacy and security resolution; and
- Addressing social and economic inclusion issues, including digital divide

The City of Sydney supports the 3 broad themes outlined in the consultation paper:

- Enabling and supporting the digital economy
  - Infrastructure
  - Standards and regulation
  - Trust, confidence and security
- Building (on) areas of competitive strength
  - Productivity
  - Digital business capability
  - New sources of growth
- Empowering all Australians
  - Digital skills – training and re-training programs
  - Inclusion – digital divide (skills and infrastructure access)

## Approach of this response

Many of the questions asked in the Discussion Paper can only be answered by technical experts in Commonwealth-State regulatory regimes and business and industry partners. For that reason, in this initial response to “Opening up the Conversation”, with due respect, the City of Sydney does not, or cannot, explicitly answer all the questions posed in the Consultation Paper. Instead we have concentrated on the strategic policy-formulation principles and process, including the issues that need to be addressed.

In particular, as the ‘global heart of the global city’ and the epicentre of much of the digital economy activity in Australia, the City has worked to develop its own local Economic Strategy, under the umbrella of its Sustainable Sydney 2030 over-arching framework to address this issue within its sphere of control and influence. More recently, this has extended to a specific Tech Startup Action Plan. This journey has provided many lessons which in the spirit of collaboration we would share with Australian government counterparts.

Thus most of our response falls within the purviews of the latter questions in the paper, including those related to empowering Australians through digital skills and inclusion.

## Case Study: The City of Sydney Digital Strategy

### Digital Sydney 2030

Sustainable Sydney 2030 is the City of Sydney's Smart City plan to deliver the city our communities told us they wanted, in a digital age.

A digital approach is embedded in everything we do to deliver Sustainable Sydney 2030. We see technology as an enabler to achieve the ambitions of this plan, but it does not drive how we do things. Technology is only important because it enables or accelerates the speed and impact of knowledge and ideas flowing between and inside our communities. Technology is a connector of people, not just a connector of devices. Our first and foremost consideration is the needs of our residents, businesses and visitors. It is imperative we keep our focus on our people and the outcomes we aim to achieve for our communities in a time of continued technological change.

Lively, competitive cities keep pace with change. Advances in digital technology have transformed the way we live, work and experience the world around us. New technologies have empowered our communities to be greener, more global and more connected than ever before. At the same time, Sydney's population is growing faster than ever before. Our growing communities expect high levels of quality services and products, designed around their needs and delivered when and where they want them. They also expect a greater level of accountability and interaction with government.

We must respond to these changing expectations to continue to be effective and accountable to the public. Continually to digitally transform the City's public services will have a number of positive impacts including cost reduction and service efficiency; and we believe these benefits can only be truly realised if all our communities are digitally enabled, skilled and included.

We want to assist our communities to be successful and active participants in the digital era. Digital technology paves the way for greater accessibility to information and services than ever before. It is a great enabler in this regard. However, we are also aware that rapid advances in technology risk causing a digital divide in our communities between those who have access and opportunity and see the benefit of digital engagement and those who do not. In applying a digital approach as we implement this plan, we have the opportunity to create a more connected and inclusive Sydney; however this cannot happen if sections of our communities are left behind. We need to work with all our communities to ensure Sydney's digital future is for everyone.

Inclusion equally applies to the business community as it does to residents. A vibrant tech startup ecosystem is a key element of an innovative and economically competitive Sydney. However, we must also support those small-to-medium businesses outside of the tech sector to develop the baseline infrastructure needed to build their capacity, enhance their skills and attract staff.

Sydney is consistently rated as one of the world's most liveable cities. The Mercer Quality-of-Life Index has ranked Sydney as one of the top 10 cities every year for over a decade. To remain one of these great cities, we must ensure we do not risk limiting our potential to benefit from the digital economy. This requires us to grasp, learn from and grow with the digital world.

Cities whose governance, places, infrastructure and communications best enable digital collaboration are the ones that are thriving. By providing an environment that allows innovation to flourish, we can attract and retain the best talent, attract business, investment and enhance our competitiveness. This innovative culture not only transforms the delivery of our own government services and products, but also enhances social, economic, creativity and environmental sustainability outcomes for Sydney.

To do this, government, the private sector and academia must work together to harness technology to deliver “smart” digital infrastructure. There are many forms of infrastructure that successful digital cities need to have. These include intelligent transport systems, smart grids which improve the management of energy, water and waste, data collection and management systems that have the capability to improve the efficiency of the city, security programs and web-based applications and platforms. Improvements to infrastructure will require clear prioritisation, ongoing partnerships and influencing strategies.

To be successful, the City is focusing on six areas that drive our digital approach to delivering Sustainable Sydney 2030:

1. Champion digital inclusion and lifelong learning – programs that encourage skilled, digitally-literate, resilient communities that are enabled to participate more fully in daily life and capable of accessing and enjoying the benefits of the digital economy;
2. Create people-centred digital programs and services – improving the design, efficiency, effectiveness and responsiveness of our programs and services, not just to cut costs, but to meet the changing needs of our communities and deliver a better experience;
3. Transform how we engage with all our communities – using existing and new platforms to engage with residents and businesses;
4. Support businesses that promote digital skills, knowledge and infrastructure – supporting a diversified local economy that is more resilient and enhances Sydney’s reputation as a collaborative, connected dynamic and innovative city that attracts talent;
5. Actively participate in urban renewal of Sydney – advocating for and where appropriate, providing infrastructure needed to ensure Sydney’s global competitiveness; using our influence to get the right infrastructure and networks in place; and
6. Innovate ethically in the information marketplace – creatively using data and city analytics to improve the performance and operation of our systems and infrastructure, including open data initiatives to benefit local communities and businesses.

Underpinning this work are two enabling actions that are critical to our digital success.

Firstly, the City must embrace a digital mindset within our own organisation. Cultural change is essential for the development of people-centred digital services, systems and innovative working practices and to attract talent to the organisation. We need to address our skills shortages, manage digital change and achieve greater productivity

and improved performance with fewer or similar resources and investigate how we can better involve suppliers in the development of innovative solutions.

We are not alone in seeking digital transformation in Sydney, nor can the City achieve digital transformation of Sydney alone. To enable this, we need to identify the influence we can have in promoting the digital economy and be an essential part of the wider metropolitan goals to retain and attract the talent and investment in digital infrastructure Sydney will need in future. We must enable effective partnerships with private companies, organisations, academia and other levels of government, which will be critical to the delivery of public benefits associated with a digital approach.

Technology is a cross-cutting enabler that is incorporated into the work which will deliver Sustainable Sydney 2030. The digital environment is dynamic and projects and priorities will change. It will require a process of continuous organisational learning and a commitment to testing, iterating, improving and monitoring progress. It will require commitment to collaboration. This is what will deliver a digital Sydney that is a great place to live, visit and work for everyone.

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## The digital economy

The City of Sydney would urge the Australian Government to take a broad definition of the so-called “digital economy” for its Strategy.

The digital economy is more than the ITC or ITM industry designations of industry classifications, or direct technological advances in the goods and services sector. Nor does it relate just to ‘Tech Startups’, or even the process of innovation and diffusion of digital-based technology. Although all of these are critical to the sustainability and expansion of the “digital economy”.

Much of the impact of the digital economy comes from its capacity to cross-over into more innovative processes in traditional industry and existing businesses – which can increase both the efficiency and productivity of those businesses. Like the Green Economy, this makes it difficult to measure directly.

In estimating the value of the digital economy, Deloittes Access estimated it at \$78 billion or about 5% of the Australian economy for 2013-14. This is in line with similar estimates made by McKinsey for the US economy. Between 2014 and 2020, this contribution was forecast to grow by 70% to \$139 billion.

Notably however, only 16% of this contribution was in the measurable IMT (Information, Media, Telecommunications) industry value-added. This was equivalent to 0.8% of the total economy, the remainder was in other sectors of the economy.

This is because part of the process initiated by the ‘vanguard’ of the digital economy has resulted, and will continue to result, in the breakdown of traditional economic sectors be they manufacturing, retail, financial services and transport. The new industries (and business) are converging into multi-sector entities, often based on project collaboration with specialised partners.

Similarly, beyond the ICT sector (information and Communications Technology) new types of digital assets and processes are being connected in ways that sometimes overturn existing business models. Digitisation now touches every sector of the economy.

Increasingly, the ‘digital economy’ is the economy.

## The imperative of the digital economy in Australia

Whilst Australia (and Sydney) pushes above its weight in terms of innovation adoption, we don’t seem to achieve our potential.

This is having adverse impacts on our international competitiveness, particularly in the area of productivity. To some extent this has been hidden by the volatile terms of trade gains from the resource commodities sector. Now that this has abated, the productivity reality facing Australia is starting to hit home.

The 2016 Australian Innovation System Report says Australia ranks relatively well on general entrepreneurship and innovation measures, but poorly on new-to-market innovation, compared to other OECD countries. That is, Australia tends to be more of a follower than a leader when it comes to innovation.

“Compared to 31 other OECD countries, Australia ranked 23<sup>rd</sup> for the year 2012-13. Large Businesses (with 250+ employees) rank even lower at 29<sup>th</sup> out of 30 OECD countries.”

The Report also notes that Australia ranked last of OECD countries on ‘economic complexity’ – the measure of how well an economy can hold and combine knowledge.

This is also reflected in R&D expenditure of business. To quote the Assistant Governor (Economic) of the Reserve Bank Luci Ellis, in giving the Stan Kelly Lecture in Melbourne just recently:

"Australia is normally seen to be a relatively fast adopter of technology. But there are some aspects where we seem to lag. One is R&D expenditure... It has been declining in importance lately. Some other indicators also suggest that Australian firms have in recent years been less likely to adopt innovative technologies than their peers abroad. For example, while small firms are holding their own, large firms in Australia are less likely to use cloud computing services than large firms in many other countries. This wasn't always the case: a decade and a half ago, Australian firms were towards the front of the curve in adopting the e-commerce technologies that were new at the time. A lot depends on whether the workforce has the skills to use these new technologies, but at heart, technology adoption is a business decision."

All of this has seen a decline in our productivity growth, particularly when compared with other advanced countries. Multi-factor productivity measures the growth in economic output above that directly attributable to growth in measured capital and labour inputs. As such, it captures the influence of improvements in production-related factors such as skills, technology and management practices.

The 2016 Australian Competitiveness Report, produced by the Chief Economist showed that:

"There has been a slowing of multi-factor productivity growth across most advanced economies in recent decades. Australia's multifactor productivity has fallen below the rates of most OECD countries over the past ten years and recorded the weakest productivity growth of the comparator countries from 2009 to 2014."

Figure 1.3 in the Report shows that over the 2004-2014 period, multifactor productivity grew in Germany, USA and Japan; it declined by about 5% in the UK and Canada – but it fell consistently to a decline of more than 10% in Australia.

In addition, future prospects for Australia to become a technology leader do not appear good. Only last month, the Productivity Report notes that Australia now leads the OECD countries in the rate at which our maths skills are dropping.

The conclusion is that if we are not to lose competitiveness to other comparable nations we need a strong strategy to address some of the current innovation and productivity outcomes.

An over-reliance on overseas technology innovations also raises other issues, notably in the area of National/Information Security. There are significant implications of overseas technology suppliers (whether application, network, etc.) thereby gaining access to data that impact the public's security.

## Skills shortage and job re-training

A further critical area that an Australian Government Digital Economy Strategy needs to address is the barrier to growth from an apparent shortage of IT skills in Australia.

Given the global nature of the digital economy and technology, IT workers have one of the most readily transferable skill sets of all global workers. To obtain the requisite capabilities to grow in the digital economy, Australian businesses have been forced to attract workers from other countries.

According to the Australian Digital Pulse Report prepared by Deloitte Access Economics for the Australian Computer Society, in 2013-14, over 21,000 IT workers

arrived from overseas. Approximately half of these were granted a 457 (temporary skilled work) Visa.

As Deloitte's argues:

"While temporary skilled migration of a little more than 10,000 workers per year is not a significant number in a workforce totalling 600,000 ICT workers, anecdotal evidence indicates that 457 visas are being used to address skills gaps in key areas of technical computing capabilities within the ICT workforce. In particular, consultations with the business community suggest that there are shortages in skills such as programming and coding, computer science theory and computational thinking which could potentially be associated with a weak graduate pipeline."

Such a reliance on a non-domestic supply of skills leaves the digital economy sector in Australia subject to the global demand for such workers from other countries and cities, and could well act as a barrier to sustainable economic growth of the sector.

Industry sources suggest that the recent 457 rework has dented confidence among businesses and made potential overseas applicants more hesitant about relocating to Australia, irrespective of the six monthly reviews of the scheme.

Whilst the 457 scheme helps identify skills gaps what is still missing is the segue into training to plug those gaps.

The Innovation System Report lists a lack of skilled people as second only to 'getting access to additional funding' as one of the main barriers to innovation.

On the converse side, strains in the labour market could worsen as technology develops the capabilities to perform more human tasks. An analysis of the tasks that can be automated by adapting currently demonstrated technologies shows that a majority of occupations, at all skill levels, are likely to be affected to some degree. Over the coming decade, companies will redefine many roles, and the rate of job displacement could accelerate sharply. Addressing a shift of this magnitude will require much more than a business-as-usual approach to skills development.

## Digital economy precincts and hubs

Whilst the recent Australian record on productivity and innovation in the digital economy may have been less than stellar, significant locational variations occur, where innovation seems to provide significant productivity benefits, digital businesses grow in size and number, and attract others and jobs grow.

It is respectfully suggested that in the development of the Strategy attention be placed at localisation factors that appear to give rise to success.

The recent Census indicated that the inner cities of Sydney and Melbourne attracted much of the increase in employment in the explicitly IT part of the digital economy.

Employment in "Computer System Design" Industry increased by 75% of almost 10,000 jobs between 2011 and 2016.

[Note: On 17 November the ABS withdrew this previously released place of work data to correct for errors. Unfortunately, the statement by the ABS did not specify the nature, cause or location of the errors, so the results have been used pending the re-release of the data in December].

Much of this growth occurred endogenously from innovation hubs in both the CBD and immediately surrounding areas and linked to university locations.

Coincidentally or not, these two Local Government Areas increased their total jobs in the 5-year inter-censal period by 26% and 21% respectively.

Whilst the City of Sydney does not suggest that its strategies and policies were responsible for the extent of the increase – with significant global forces, including China’s connection with Sydney, as well as infrastructure development all contributing – it is respectfully suggested that these clusters of linked activities (linked by the digital economy) be investigated.

A priori, several aspects stand out:

- A skilled workforce and local residents;
- The location of 3 universities plus the presence of another 12 universities;
- Transport infrastructure;
- Strengthening cultural ties to the growing Chinese market (China now provides about 40% of the world’s venture capital funding);
- Access to co-working spaces and co-learning special events; and
- Specialisations based on the location of other activities
  - IT firms
  - Finance firms
  - Professional and Business Services firms
  - Teaching and Research Hospitals
  - Transport Logistics Firms

Such physical locational aspects may prove significant in understanding the growth of these areas.

The presence of localisation effects and agglomeration economies emphasis the need for strategic collaboration amongst all levels of government and their communities in achieving national outcomes.

## Digital divide

Digital inclusion is recognised as one of the key social justice challenges facing policy-makers and communities worldwide. Digital inclusion is not just about computers, the internet, mobile phones or even technology. It is about using technology as a channel to improve skills, enhance quality of life, drive education and promote wellbeing across all elements of society. Digital inclusion is ultimately about social inclusion.

As the City’s Digital Strategy states, digital technology paves the way for greater accessibility to information and services than ever before. It is a great enabler for all members of the community and has particular benefit for people with a disability.

As technology changes, significant disparities in access and opportunity can emerge. With an increasing proportion of economic, social and government activities going digital, people who are not digitally connected or engaged are less able to experience the educational, workforce and civic benefits of digital technology.

Successful government digital strategies in Chicago, London and Seoul have prioritised enabling digital access, understanding and skills across all communities. These cities found this led to improved social and civic engagement, improved quality of educational achievement.

The Digital Inclusion Index presents an array of data on relevant measures of inclusion/exclusions, with data drawn from a variety of sources.

The data shows:

- 1.3 million Australian households were without internet access at home in 2014-15 (15%);

- over 20% of Australians born in non-English speaking countries do not access the Internet;
- 77% of people educated to year 12 or below use the Internet, compared with 93% of people with a tertiary qualification;
- One million people with a reported disability do not have Internet access; and
- Only 51% of people aged 65 or more are internet users compared the 85% national average.

A digital divide can also exist among businesses – particularly based on firm size.

## **Additional considerations**

The Strategy has to be a ‘living’ document able to adjust with agility to a changing economic, environmental and technological frontier – adaptability is an important principle.

The Strategy should have measurable outcomes and be subject to evaluation on a regular basis.

No one can predict the future with any certainty – and rapid and dramatic changes in technology least of all – but we can be prepared and able to adjust our strategy and policy actions to encompass the opportunities and challenges of even newer and even unforeseen technology.

In this regard we need to recognise that technology can, and will, have a disruptive effect on other industries. This will make other technologies redundant or less competitive, as it will certain skills.

There is a need to accept a ‘transition’ period and the Strategy needs to appreciate and plan for that through adjustment to skills training and particularly re-training, as well as ensuring a planned response rather than a chaotic impact which may harm a number of people.

Conversely, we cannot be ‘trapped in a rapidly-redundant present’ by not addressing the opportunities of new technology. This means addressing barriers to development, finance, investment, education and market entry as well as dealing with necessary regulatory change promptly in anticipation.

Given the increasing connection between the economics of technology and its social impact, this needs to extend to broader social change issues, beyond privacy and security.

New technology not only changes how we do business with each other but also how we relate and engage with each other socially. The challenges and opportunities of social impacts of technology need to be a significant component of any Digital Economy Strategy.

Finally, one of the most important outcomes of implementing the Strategy will be that Australia becomes a more connected and inclusive nation. This cannot happen if sections of our communities are left behind – we need to work with all of our communities to ensure that Australia’s digital future is for everyone.

To quote our own City of Sydney Digital Strategy:

“Our Strategy is not just a reaction to a changing landscape, it is an opportunity to reshape the future of the city to ensure all our communities can thrive.

We believe the City’s digital future must be people-led, not technology-led.”

## **Attachment: City of Sydney Digital Strategy**

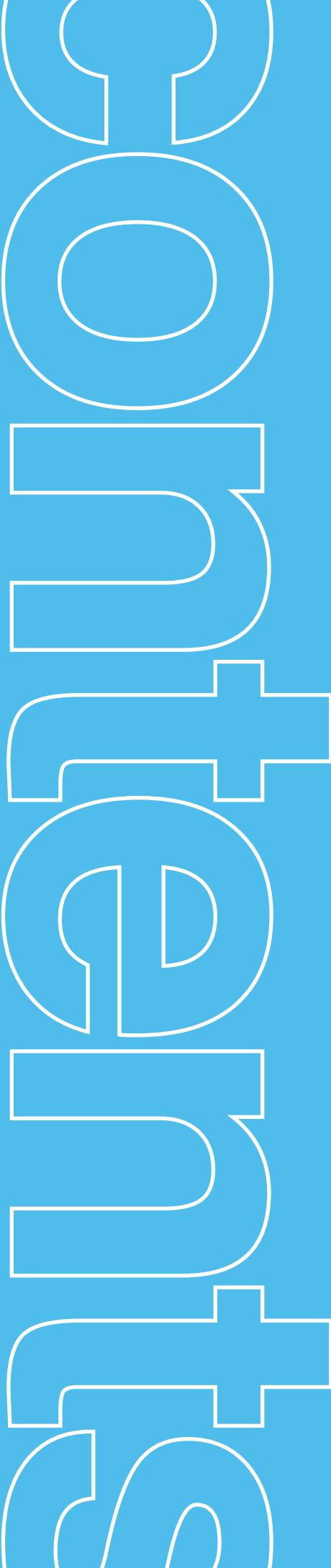
# Digital Strategy



*city of villages*

Sydney2030/Green/Global/Connected

CITY  
OF SYDNEY  
2030



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Within this document, the organisation, the City of Sydney is referred to as 'the City'. The geographical area of more than 30 suburbs managed by the City is the local government area, and is referred to as 'the local area'.

#### **Acknowledgement**

This strategy was developed in consultation with Arup as trusted and experienced digital advisors to the City. Arup is a global consulting firm of designers, engineers, planners and technical specialists.

#### **Image credits**

Cover image Simone Becchetti; p2 Jamie Williams/City of Sydney; p3 Hired Gun; p4 Katherine Griffiths/City of Sydney; p5 Yuko Hirao; p7 Don Arnold/City of Sydney; p9 Damien Shaw/City of Sydney, Katherine Griffiths/City of Sydney; p11 Jovo Jovanovic; p12 Katherine Griffiths/City of Sydney; p13 City of Sydney; p14 Lend Lease; p18 Katherine Griffiths/City of Sydney; p20 Stephen Morris; p21 Katherine Griffiths/City of Sydney; p23 Trinette Reed; p24 Katherine Griffiths/City of Sydney; p25 General Assembly; p27 (main) Massachusetts Institute of Technology, Claudia Lommel; p28 Transport for NSW; p31 Joseph Pham/GovHack; p35 City of Sydney; p36 Katherine Griffiths/City of Sydney; p40 Damien Shaw/City of Sydney

# 01

# Lord Mayor's message

I want all our communities to benefit from the changes brought by new technologies. This strategy outlines how we can embrace the opportunities.

Lord Mayor Clover Moore

Several years ago we developed Sustainable Sydney 2030 – the City of Sydney's blueprint for delivering the city our communities told us they wanted. The City's Digital Strategy is how we add to that blueprint in a digital age and create a smart city.

The City sees digital technology as an enabler, rather than driving how we do things. Sydney is a city with people at its heart and the City of Sydney prides itself on being a people-centred organisation that puts the needs of its residents, business and visitors first.

This strategy sets out how we will keep our focus on our people and the outcomes we need to achieve for our communities in a time of continued technological change.

As the City makes the changes necessary to keep pace with a digitally transforming world, it's important we bring all our communities along with us. We need to make sure Sydneysiders see and experience the benefits of digital technology and that we are able to meet the technological expectations of our community.

This strategy will help us understand which of our services and programs should be delivered digitally in future and which should remain available offline. The City is committed to excellence and when we do go digital, we need to make sure we continue to offer the best possible service and experience for everyone.

We cannot do this alone – to be successful on a metropolitan scale, we rely on partnerships with all communities, industry and government to achieve these digital goals.

Digital technology provides an opportunity for a brighter future for Sydney to become an innovative and resilient worldclass leader.



A handwritten signature in black ink that reads "Clover Moore". The signature is fluid and cursive, with a large, expressive "C" at the beginning.

Clover Moore  
Lord Mayor

# 02

## A Digital Strategy for the City

In 2009, the City of Sydney produced Sustainable Sydney 2030, a strategy that laid out our ambitions for Sydney to lead the way as a green, global and connected city.

Sustainable Sydney 2030 signalled our determination to exceed expectations. Since then, rapid development in technology has opened new opportunities to enhance the liveability and therefore the competitiveness of cities - the "smart city". The City's Digital Strategy is a roadmap for how we can achieve that in a changing digital environment.

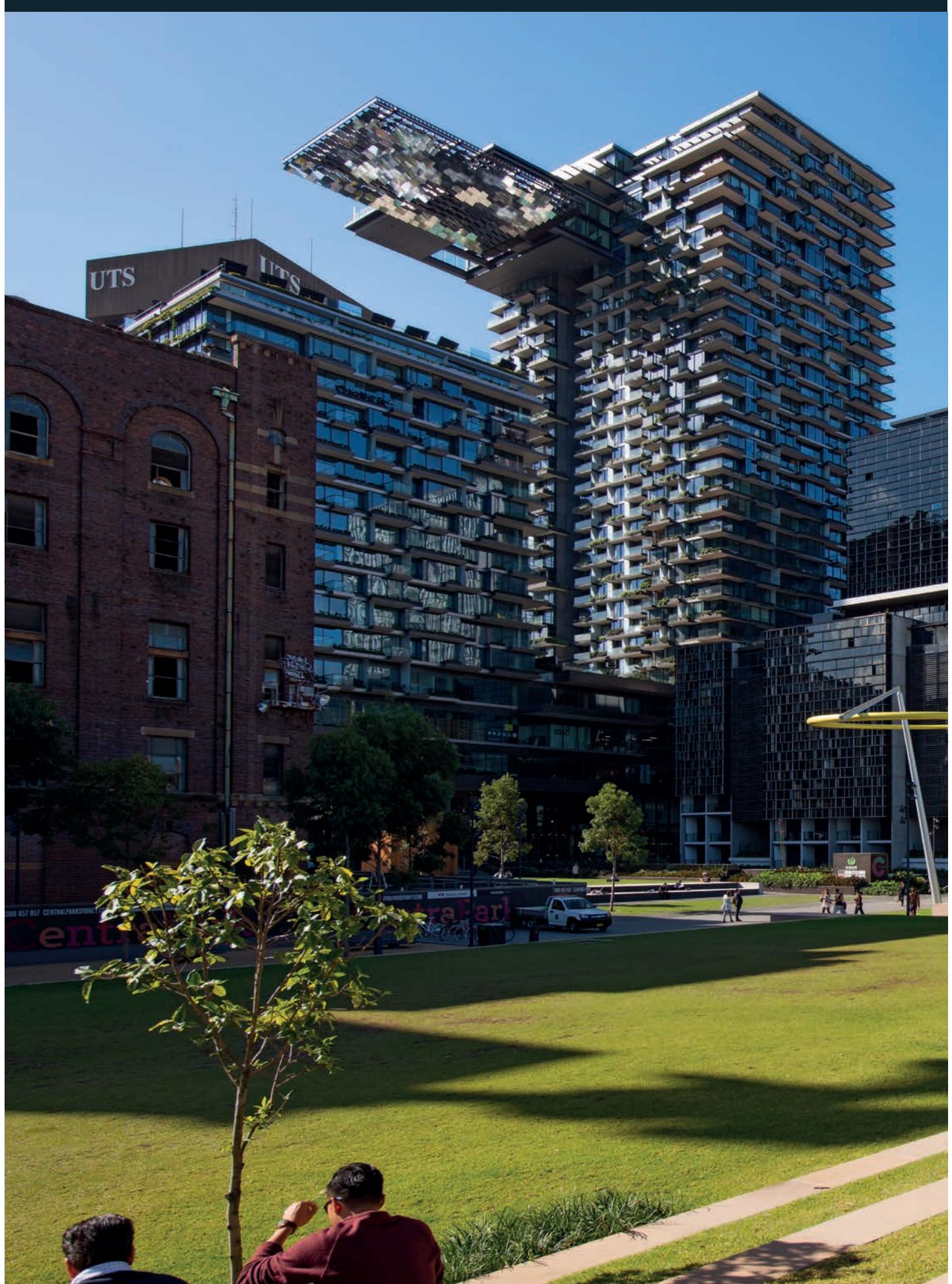
The Digital Strategy sets out the City's vision for a smart digital future. We are not starting from scratch – the City has already implemented many digital initiatives. This strategy provides context for those initiatives and a roadmap for how we can continue to transform our organisation and participate in the digital transformation of the city, creating opportunities for our residents, visitors and business and addressing the challenges of the digital age.

The strategy provides the overarching framework for digital transformation, guiding the approach we will take and articulating the things we need to consider and achieve to be successful.



*Panel discussion at City of Sydney CityTalk, 2014: Gigabytes and Giving Back - Using technology for social good.*

# 02



Central Park, Chippendale

# 03

# Why does the City of Sydney need a Digital Strategy?



Surry Hills library workspaces utilising the City of Sydney's free Wi-Fi

## Services

Lively, competitive cities keep pace with change. Advances in digital technology have transformed the way we live, work and experience the world around us. New technologies have empowered our residents, visitors and businesses to be greener, more global and more connected than ever before.

At the same time, the City of Sydney's residential population is also growing faster than ever before. There are now 205,000 people living in the City of Sydney local area, and this is growing at a rate of 4 per cent per year<sup>1</sup>. All up, 25 per cent of Sydney's population comes into the city every day, swelling the numbers to 1.2 million<sup>2</sup>.

As a result, our growing communities expect a high level of services and products, delivered when and where they want them, 24/7. They also expect a greater level of accountability and interaction with government.

We believe this is a positive development and the City needs to adapt to meet this challenge. In order to do this, we need to reshape our services and how we engage with our communities. We also need to change the way we work as an organisation.

This is a challenge all levels of government are facing. Governments around the world must respond to digital disruption to continue to be effective and accountable to the public.

Continuing to digitally transform the City of Sydney's public services will have a number of positive impacts including cost reduction and service efficiency; and we believe these benefits can only be truly realised if all our communities are digitally enabled, skilled and included.

## Inclusion

The City of Sydney strives for excellence and our Digital Strategy is focused on proactively responding to a changing environment. As well as transforming the way we work, we also want to help our communities be successful and active participants in the digital era.

Digital technology paves the way for greater accessibility to information and services than ever before. It is a great enabler for all members of the community and has particular benefit for people with a disability.

In 2015, community consultations for the Digital Strategy revealed 74 per cent of our residential and worker communities reported feeling "happy" or "excited" about using digital technology.<sup>3</sup> This is a promising start, however, there are challenges involved.

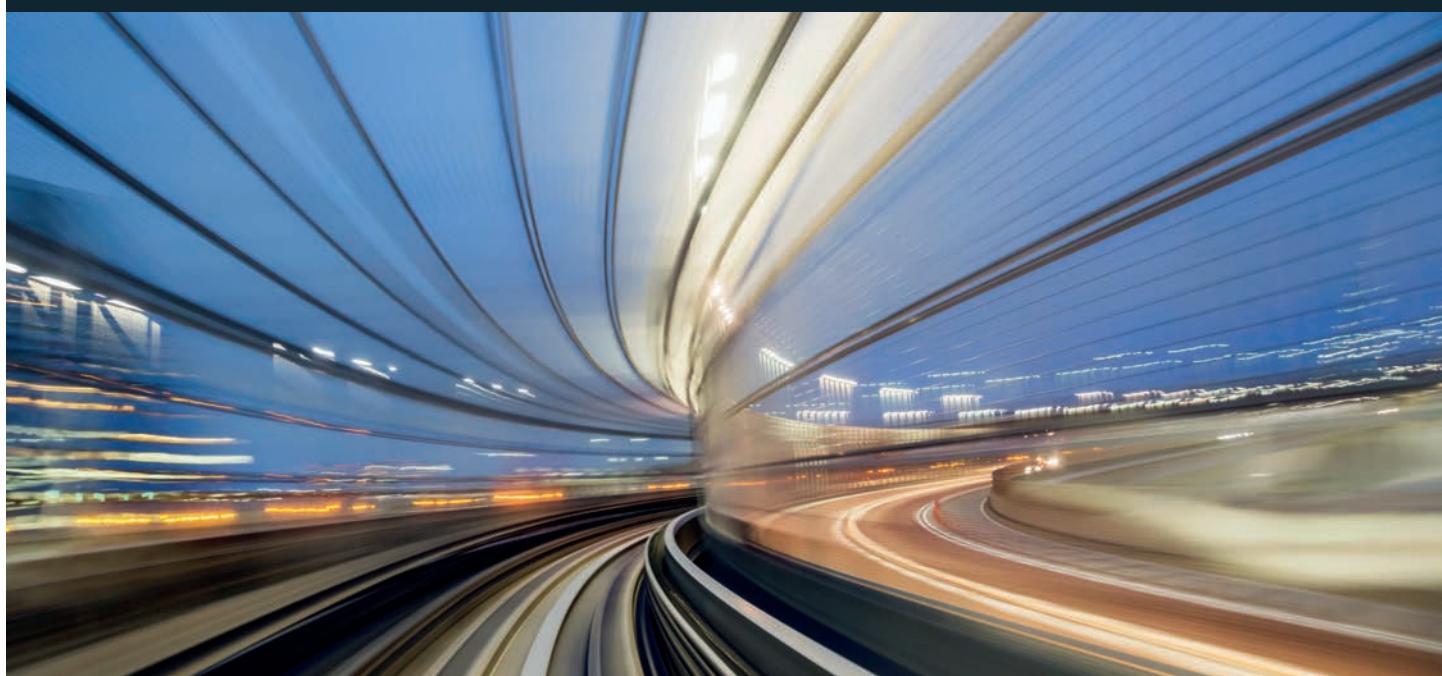
The City is aware that rapid advances in technology risk causing a digital divide in our communities between those who have access and opportunity and see the benefit of digital engagement and those who do not.

One of the most important outcomes of implementing this Digital Strategy will be that Sydney becomes a more connected and inclusive city. This cannot happen if sections of our communities are left behind – we need to work with all our communities to ensure Sydney's digital future is for everyone.

Our Digital Strategy is not just a reaction to a changing landscape; it is an opportunity to reshape the future of the city to ensure all our communities can thrive.

We believe the City's digital future must be people-led, not technology-led.

# 04



### Economy

Sydney is consistently rated as one of the world's most liveable cities. The authoritative Mercer Quality-of-Life Index has ranked Sydney as one of the top 10 cities every year for over a decade. However, if we do not grasp, learn from and grow with the digital world, we risk limiting our potential to benefit from the digital future. The City wants to ensure Sydney remains one of the greatest cities in the world.

Sydney will need to attract and retain the best talent from around the world to be competitive. However, this strategy is not just about attracting a new generation of 'bright young things' to Sydney. It's about helping our existing small-to-medium businesses – the foundation of our city's economy – to realise the benefits of fully developing their digital capability for their own future. They comprise well over 95 per cent of all City businesses and contribute approximately half of all City annual output – over \$50 billion per year<sup>4</sup>. It will be those businesses that incorporate digital strategies that will thrive as they will be able to raise the profile of their businesses, provide better or new services to their existing customers and gain new ones.

We want all people, organisations and business in our local area to have the infrastructure and connectivity, as well as the information, skills and capability, to engage with and benefit from digital technology. This strategy starts our journey towards achieving this goal.

**I would like us to have the best [digital future] in the world – reliable, fast and simple.<sup>5</sup>**

1 ABS Regional Population Growth, Australian 2014–15, Cat. No. 3218.0

2 Estimates derived by City of Sydney

3 City of Sydney Digital Strategy Community Survey, Woolcott Research and Engagement, August 2015

4 City of Sydney Floorspace and Employment Census 2012

5 City of Sydney resident

# 04

# The vision for the City's Digital Strategy

I want digital technology  
that encourages human  
interaction, kindness,  
empathy and inclusion.<sup>6</sup>

Implementing the Digital Strategy will change the way the City of Sydney works and how we engage with our residents, visitors and business.

The Digital Strategy identifies six strategic priorities to deliver the results needed to achieve our vision for a digital Sydney:

- Champion inclusion and lifelong learning to ensure our communities, especially vulnerable people, are digitally skilled, confident and literate;
- Create people-centred programs and services using technology to be both more efficient and responsive to the needs of our communities;
- Engage with our communities, using technology to transform how people in our local area participate in the democratic process, influencing the kind of city they want to live and work in;
- Support business to build the skills, knowledge and infrastructure required to thrive in the digital future of Sydney;
- Actively participate in the urban renewal of Sydney, advocating for – and where possible, providing – the infrastructure needed to ensure the city's global competitiveness; and
- Innovate ethically in the information marketplace to share information that benefits the community.

And in order to achieve these aspirations we must:

- Lead by example on digital change by changing the way we work; and
- Facilitate partnerships – with private companies, education institutions, organisations and other levels of government to maximise the creative, social, economic and service benefits that digital offers.

# 06

6 City of Sydney resident



Digital engagement at Sydney New Year's Eve – live updates are released by the City of Sydney throughout the event to improve the visitor experience

# 05

# What does success look like?

**A digital presence that is not intrusive but seamless with day-to-day life. Something which is more of a tool than a burden.<sup>7</sup>**

A digital city provides major benefits for our residents, visitors and business. Digital inclusion increases social and civic engagement, improves opportunities for business to succeed and scale, facilitates community development and contributes to the creation of employment opportunities and the economic health of the city.<sup>8</sup>

We want all our communities to have access to and feel confident in using digital technology and be aware of the benefits it can bring. Access to data, and an understanding of how to interpret it, will improve and enrich the lives of our residents and contribute to business success.

We are already seeing our communities adopt the digital services and data the City provides. For our Sydney New Year's Eve celebrations, the City provides real-time information for more than a million people on vantage point capacity around Sydney Harbour. This has been beneficial for visitors, city staff and emergency services. It makes visiting Australia's largest public event on a single day easier for everyone and improves crowd safety. We have the opportunity to build on these initiatives to continue to deliver value and usefulness to our community.

Continuing to transform our services so they best suit a community which expects to engage online will lead to a more efficient local government, capable of responding to the needs of our communities to transact how and when they want. It will enable the City to respond more effectively to people's needs. The continued expansion and improvement of the services the City offers online, such as eplanning will make dealing with us easier for our customers.

A digital city will revolutionise the way people get to work through more efficient transport, automation and accessible real time, multimodal transport information. It will change how they enjoy leisure activities, how they interact with the built environment and even how they engage with the democratic process. Being better connected will enable our communities to participate more fully in decision-making to influence the kind of city where they want to live and work.

Improving the city's digital infrastructure with initiatives such as publicly accessible Wi-Fi will connect our communities and provide an environment where creativity and commerce can grow. These improvements will provide access to data that will inform longer-term planning and policy decisions on city management issues such as public transport, congestion, noise levels, availability of public spaces, road closures and energy usage.

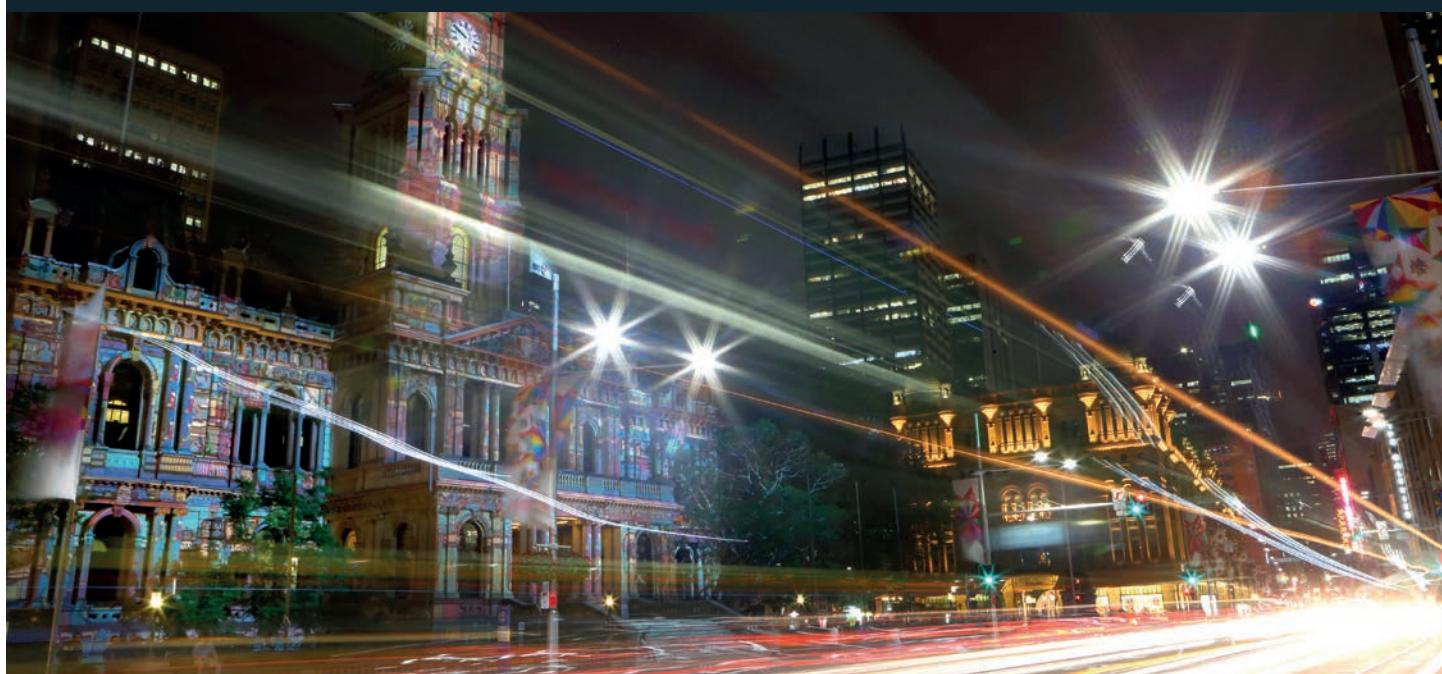
In recent years there has been increasing recognition of the importance of innovation in generating the economic foundations for global cities like Sydney. The City is fostering a culture of support for innovation, with particular focus on supporting entrepreneurship in the startup sector. The City of Sydney's Tech Startups Action Plan<sup>9</sup> outlines the City's approach to playing a meaningful role in the growth of the tech startup community.

The City of Sydney will also foster a culture of supporting innovation internally, becoming a digitally-enabled workplace that offers flexible working arrangements, nurtures its employees to upskill for the future and attracts and retains the top talent.

We will collaborate with business, government, academia, education providers and advocacy groups to actively participate in realising the digital future of Sydney.

In short, a digital Sydney will be a greater place to live and work for everyone.

# 08



Creative projections for Christmas on Sydney Town Hall

**I would like to see more festivals or community-based projects like Vivid that incorporate digital technologies to brighten the city and enrich Sydney's culture.<sup>10</sup>**



School children participate in a robotics after school program at the National Centre of Indigenous Excellence, Redfern – supported by the City of Sydney

7 Sydney resident and worker

8 New York City, *One New York: The Plan for a Strong and Just City* 2015

9 [sydneyoursay.com.au/tech-startups-action-plan](http://sydneyoursay.com.au/tech-startups-action-plan)

10 City of Sydney resident and worker

# 06

# Priority one: Champion digital inclusion and lifelong learning

**The future success of the city depends on our residential and business communities being digitally active.**

**Technology is a great enabler of people. Amongst the greatest beneficiaries of digital technologies are people with a disability – increasing access to information, enhancing mobility and the quality of daily life.**

**We need to develop programs that encourage skilled, digitally-literate, resilient communities capable of accessing and enjoying the benefits of digital technology.**

## Digital inclusion demographics

Digital equity is vital for Sydney's social sustainability<sup>11</sup>.

ABS data for 2014–15<sup>12</sup> shows the number of households nationwide with access to the internet at home was 7.7 million. This represents 86 per cent of all households in Australia (up from 83 per cent in 2012–13). Households in major cities have a higher rate of internet access – averaging 88 per cent.

Nationally, households with children under 15 were better connected: 97 per cent had access to the internet compared with 82 per cent of households without children under 15.

- Ninety-six per cent of those with a bachelor degree or above were internet users;
- Ninety-three per cent of people in employment were internet users compared with only 70 per cent of those not employed; and
- Ninety-seven per cent of households in the highest income bracket were internet users compared with just 67 per cent in the lowest income bracket.

At a local level, in 2011, 87 per cent of households in the City of Sydney's local area were connected to the internet. This compared to 83 per cent for greater Sydney and (at the time) 80 per cent for Australia.<sup>13</sup> More recent research shows that in 2015, only 7 per cent of residents surveyed in the City of Sydney local area use the internet less than weekly, or not at all.<sup>14</sup>

As technology changes, significant disparities in access and opportunity are emerging. With an increasing proportion of economic, social and government activities going digital, people who are not digitally connected or engaged are less able to experience the educational, workforce, and civic benefits of digital technology.

Unless this is remedied, the digital divide will soon become entrenched and some communities will become disenfranchised from the future. Equitable digital engagement is vital for Sydney to become a more connected and inclusive city and ensuring no one is unavoidably left behind. The City's Social Sustainability Policy and Discussion Paper outlines our commitment to supporting community connectedness through digital inclusion.<sup>15</sup>

Successful government digital strategies in Chicago<sup>16</sup>, London<sup>17</sup> and Seoul<sup>18</sup> have prioritised enabling digital access, understanding and skills across all communities. These cities found this led to improved social and civic engagement, improved quality of life and educational achievement.



**It is vital that as the city becomes more digital, vulnerable groups are not left behind. Our Digital Strategy must have digital inclusion at its heart.**

### Addressing the digital divide

Physical access to the internet is only part of the digital inclusion story. The Australian Digital Inclusion Index 2016, which focuses on household personal use of digital technologies, measures three key aspects of digital inclusion: access, affordability and digital ability. Sydney's digital inclusion score of 57.5 is well above the national average of 54.5 and is directly linked to employment, education and age.

In 2015, the main reasons given by surveyed local residents who either do not have internet access at home, or use it infrequently (less than weekly)<sup>19</sup> were:

- Not being interested, having the time or seeing the need (26 per cent);
- Lack of skills (25 per cent); and
- Cost (21 per cent).

In order to overcome these barriers, the City needs to help foster awareness of the benefits of participation, on top of supporting programs that develop skilled, confident and digitally literate communities capable of maximising those benefits.

### If digital would benefit us then yes!<sup>20</sup>

In order to achieve digital inclusion, the City of Sydney must target the challenges people face:

- Understanding the benefits of digital technology for them;
- Accessing digital infrastructure so they can get online;
- Updating their skills so they can make the most of being online; and
- Understanding the security issues associated with being online.

11 AT Kearney and Infoxchange Australia, *Assessing the economic benefits of digital inclusion 2009*

12 <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/8146.0Main+Features12014-15?OpenDocument>

13 ABS Population and Dwelling Census 2011

14 City of Sydney Wellbeing Survey 2015

15 A City for All – City of Sydney Social Sustainability Policy and Discussion Paper, March 2016

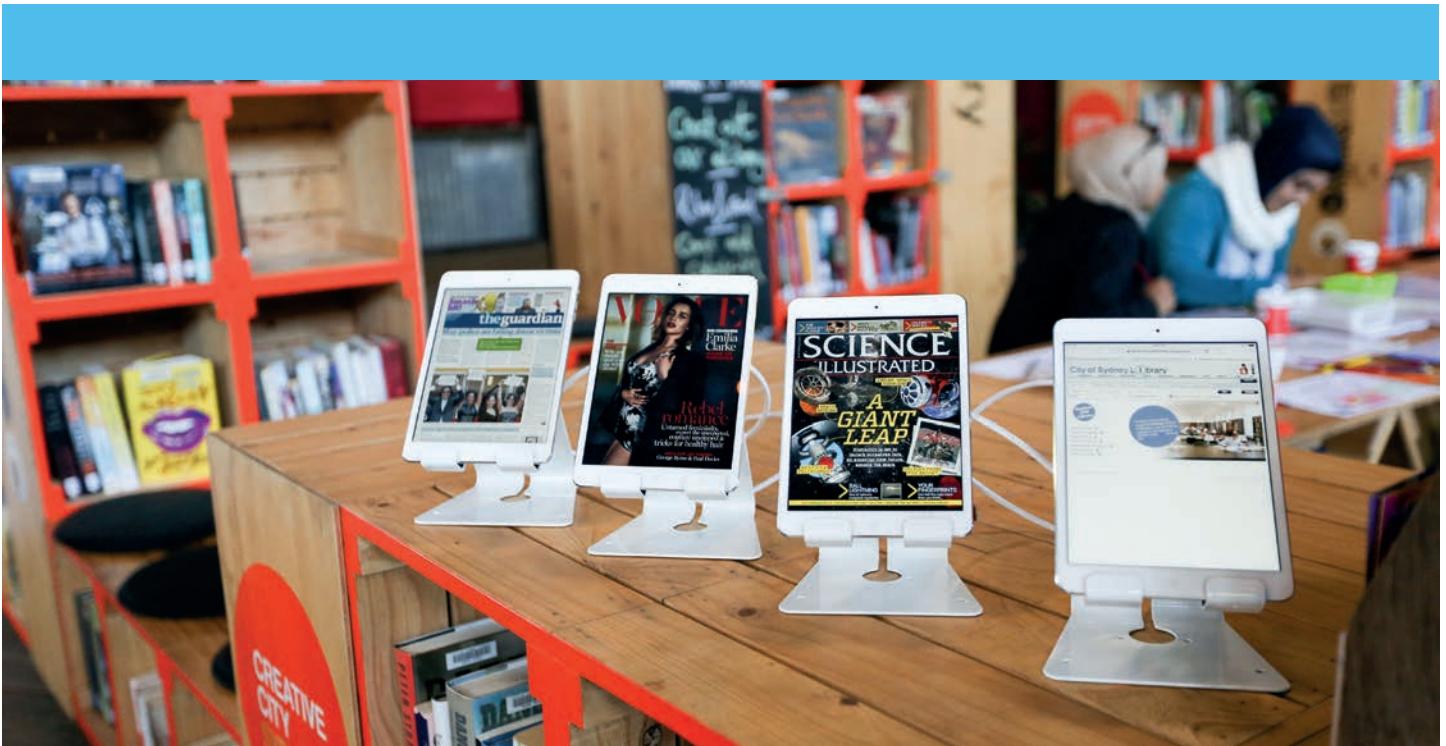
16 City of Chicago Chicago Tech Plan 2013

17 Greater London Authority A Digital Inclusion Strategy for London 2015

18 Seoul Metropolitan Government Smart Seoul 2015 and Global Digital Seoul 2020 2016

19 City of Sydney Wellbeing Survey 2015

20 Sydney resident



Newspapers, magazines and ebooks available as part of the digital catalogue at a pop-up City of Sydney library

### Examples of what we are already doing

- ▶ The City offers a range of essential computer literacy courses and coding classes in its libraries and community centres;
- ▶ Wi-Fi and computers are available for free use by the community in our libraries;
- ▶ Our library network is undergoing a significant IT upgrade and we are preparing to build two state of the art libraries in Green Square and Darling Harbour with innovative tech set-ups; and
- ▶ The City continues to develop, evaluate and improve the accessibility of our online information and services so we become more inclusive to a wider audience.

### What needs to be done?

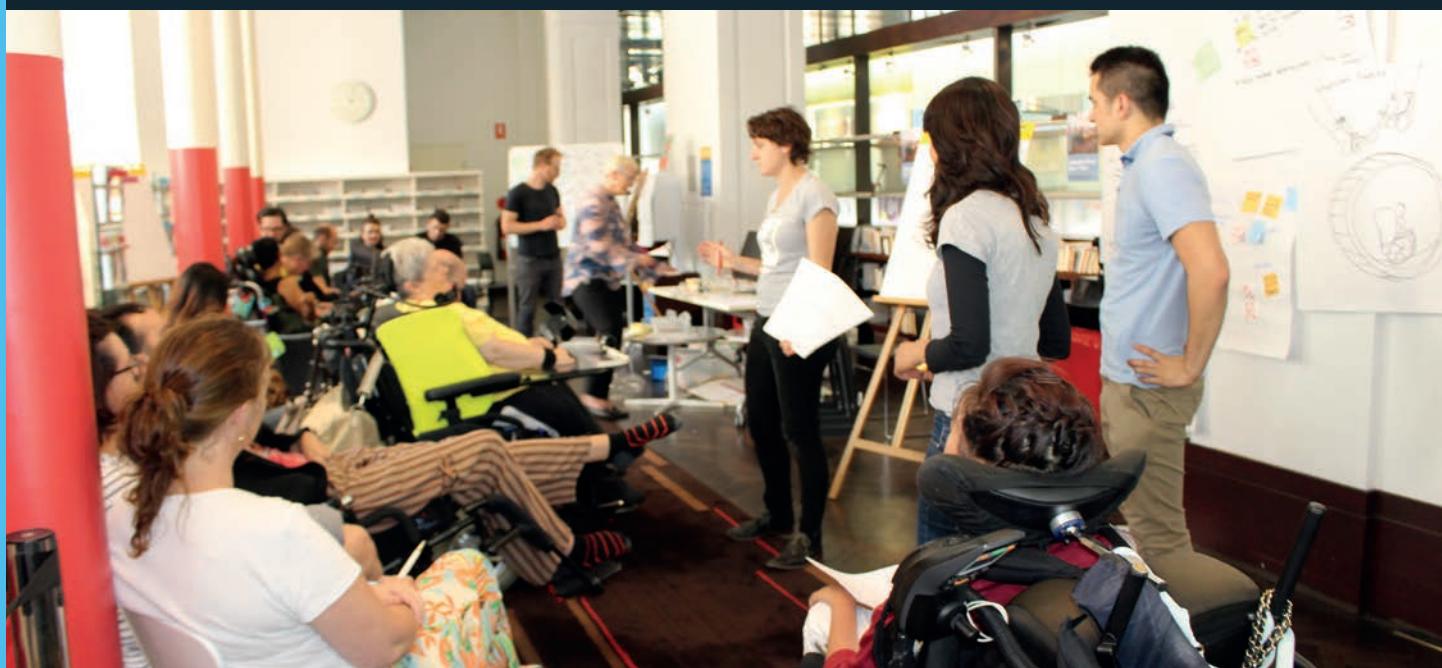
The City will ensure we continue high quality non-digital service delivery to our customers so no one is left behind. However, we must prioritise offering digital services and ensuring digital inclusion for all our communities.

### **Goal: Upskilled community members**

The City of Sydney will work to ensure residents and businesses have the skills and infrastructure needed to participate fully in the digital world.

#### **Ways we can achieve this goal:**

- Investigate the different ways going digital can contribute to city resilience;
- Promote and hold events to raise awareness of the benefits of digital technology;
- Form partnerships with formal education institutions and non-government organisations to ensure residents and businesses have the skills and infrastructure they need;
- Support less formal initiatives to encourage digital learning involving neighbours, friends and colleagues, peak organisations and chambers of commerce helping community members to ‘go on, get online’; and
- Continue to build on the skills development programs offered at our community centres and libraries and consider how staff can better engage with the communities where digital inclusion activities will be most effective.



*Inclusive Technologies Co-design Workshop, Customs House Library, International Day of People with Disability event*

## Case study

### From User Education to Digital Citizenship – re-imagining technology within the City of Sydney libraries.

The City of Sydney is committed to building sustainable, smart communities that embrace emerging technologies. Digital literacy programs provide a pathway to becoming a digital citizen. Recently, we have broadened our approach to technology programs in our libraries so that they are no longer focussed purely on building base computer skills. We work with people to become “digital citizens” who engage meaningfully in the community through accessing, using and learning about different technology and digital resources.

We have created an experiential learning program that enables digital fluency through learning how to use digital tools such as apps, developing digital media skills to produce audio and video content for digital storytelling and digital making skills such as coding, robotics, 3D printing and electronics.

Developing new skills, knowledge and ideas enriches the lives of the participants. They provide equality of opportunity, important employment skills and help people to remain connected in their communities.



Darling Exchange: Artists Impression North – future City of Sydney library with digitally enabled makerspaces

**“There are so many people who don’t have a computer, so what are they going to do if you introduce all these digital things? We need more public access to computers so that people who can’t afford them can still take part.”<sup>21</sup>**

### **Goal: Improving access to digital infrastructure**

Provide community members with public access to digital infrastructure and services through the City’s existing neighbourhood and community spaces, as well as encourage others to do the same, such as in shopping centres and spaces run by other government agencies.

#### **Ways we can achieve this goal:**

- Identify infrastructure gaps in our communities;
- Continue to improve access and skills through our libraries and community centres;
- Advocate for digital infrastructure in private and public spaces; and
- Identify opportunities for digital inclusion as part of built environment projects.

### **Key opportunity: The City’s lifelong learning infrastructure**

Both internationally and in Australia, public libraries are leading the way in building digitally inclusive communities by providing digital infrastructure, delivering lifelong learning programs, celebrating digital creativity and increasing access to information, knowledge and skills.

Libraries are increasingly seen as key community hubs, with particular significance for families, baby boomers, the aged, culturally and linguistically diverse groups including people who have recently arrived in Australia and international students.

The City has an extensive existing library network and we can use this to provide the digital infrastructure and platforms necessary for digital inclusion and fostering creativity in makerspaces – particularly in our new Darling Exchange and Green Square libraries.

The City’s libraries already provide a number of free digitally based services, learning programs and staff who can provide guidance. The City also has a number of community spaces, which can host group learning activities, such as coding skills for children or how to use social media and be safe online.

21 Sydney resident

# 07

## Priority two: Create people-centred digital programs and services

**The City will improve the design, efficiency, effectiveness and responsiveness of our programs and services – not just to cut costs, but to meet the changing needs of our communities and deliver a better experience for everyone.**

### The challenge of doing more with less

Public budgets are under pressure due to increasing population growth in cities. Local government areas across Australia are reviewing their resources and delivery approaches to ensure continued value for money and impact. The City needs to respond to the very real challenge of doing more for our communities with fewer resources.

However, although we believe digital transformation is key to meeting this challenge, the solutions need to be people-led, not technology-led.

Introducing people-centred digital programs and services provides an opportunity for the City of Sydney to redesign itself to better meet the needs of all its communities.

### People-centred service design

People-centred service design doesn't involve just applying technology to our existing services, it means re-thinking those services and how they fit within the organisation – and positively transforming the experience of the service for our communities.

Digitalising the City's services enables individuals to access their own data and records while also selecting services to meet their needs at times that suit them. It allows them to transact with the City efficiently. We are already seeing this to an extent on the City's website where residents and business can conduct a number of transactions online including paying their rates or childcare, reporting issues and booking venues.

As our communities continue to increase their interactions with the City online, we envisage digital transformation will mean some of our services could become fully automated with simple, intuitive interfaces designed to suit our customers.

**“A digital future that makes it continually easier for users. Something that opens up access to the things that are exciting about Sydney.”<sup>21</sup>**

Digital transformation will mean our communities will have a ‘multichannel’ interaction with the City of Sydney – from the bricks and mortar experience, to online. In order to achieve this, we will need to understand and curate each part of our customers’ journeys.

This won’t be a static one-off change to our programs and services, it will be a continual process of transformation. We will use the data we get from digital technology to continually inform our staff, and adapt the processes and the technology underpinning how we deliver each service, to suit the changing needs of our communities. The City’s Information and Technology Strategic Plan identifies the technical response required in order to deliver on this ambition.

**People-centred digital programs and services are about delivering a better experience for the user, while creating efficiencies and benefits for the City.**

### Examples of what we are already doing

- ▶ The City’s customers can conduct a range of transactions online such as payments, booking tickets or ordering library books;
- ▶ Much of the City’s communication is done online, through a range of websites, social media channels, apps and platforms. We have been progressively developing our suite of digital communications to offer a more integrated and seamless experience for our communities;
- ▶ Collective storytelling with our communities online is an exciting way for people to share their experiences of life and work in Sydney, explore what is on offer and find out about the services and activities of the City. We have developed a content strategy to provide a coherent framework for this storytelling through our digital channels;
- ▶ As we strive to improve service for our customers, we are implementing customer service management systems and investigating ticketless parking. We are also working towards offering our customers a smart ePlanning service to make it easier to work with the City when preparing and lodging development applications; and
- ▶ In order to better understand the customer experience of engaging with the City online, we have commenced mapping their journey through all touchpoints related to specific programs. We collect feedback and use data analytics to help us plan improvements to our customers’ experiences.

<sup>21</sup> Sydney resident



City of Sydney Culture Walks smartphone app utilises data from the City of Sydney data store

## What needs to be done?

The City of Sydney will need to understand what level of redesign is required in our different programs and service areas – and we must ensure this is guided by the needs of our communities.

### Goal: Understand customer journeys

The City will use the in-depth understanding we already have of current customer journeys across the organisation as a starting point for mapping service redesign.

#### **Ways we can achieve this goal:**

- Identify and consolidate the customer journeys that have already been mapped and the methods used;
- Jointly review our current key services with our communities to develop a comprehensive and coherent customer journey map; and
- Establish a consistent methodology.

### Goal: Redesign digital services

Identify and redesign current City services in order to deliver better services for our communities, and also to realise efficiencies and better collaboration.

#### **Ways we can achieve this goal:**

- Review current services and understand which services are best delivered online and the effort required for redesign;
- Examine digital design principles in use elsewhere in government<sup>22</sup> and in other countries around the world<sup>23</sup> to help us understand their value and place;

- Develop our own digital design principles and implement them across the organisation;
- Develop a method for ensuring people-centred service design at all times; and
- Continue work on the implementation of our customer service management system to increase focus on the customer experience.

### Goal: Digital as the primary communication tool

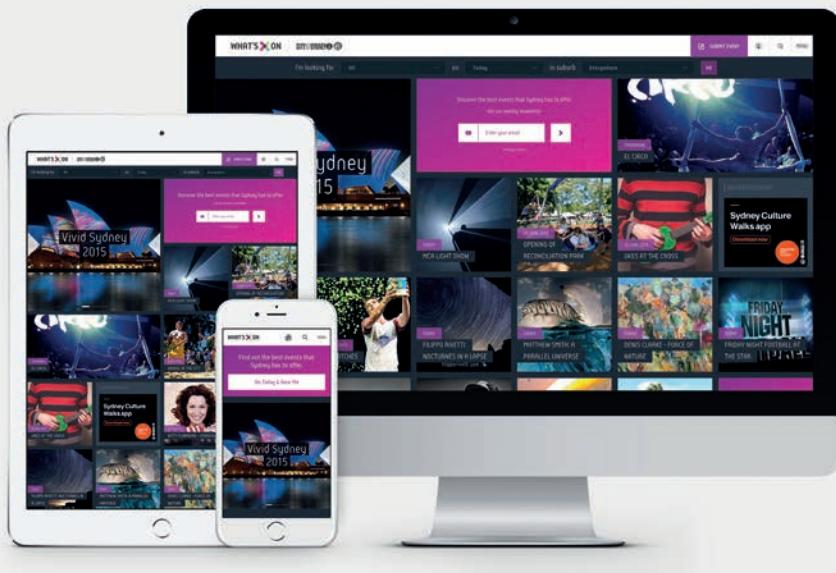
Transition to digital technology as the primary method of communication while understanding which service areas need to stay non-digital.

#### **Ways we can achieve this goal:**

- Identify when non-digital communication must be maintained;
- Identify where we can integrate social media use to better meet the needs of younger people and those who prefer to use social media;
- Continue to focus on the development of a single, coherent online environment for our communities to communicate and transact with us in the one place; and
- Move towards providing a more personalised experience of communicating with the City.

22 Such as the Australian Government's Digital Transformation Office ([www.dto.gov.au/standard/design-principles](http://www.dto.gov.au/standard/design-principles))

23 Such as the UK Government ([www.gov.uk/design-principles](http://www.gov.uk/design-principles))



*City of Sydney's What's On website. An internationally recognised example of excellent website design and innovation, designed around people*

## Case study

### What's On – building a new online information resource for the community.

**The City of Sydney's What's On website is a long-standing, trusted and broadly used resource for finding out about events and activities in Sydney. The vast majority of the event listings are submitted by the community and event organisers. In 2013, the City decided it was time to redevelop the site to bring it up to current best standard and improve the experience of using the website both for submitters of event details and for customers looking for information.**

**A very thorough process of analysis and discovery gave us a deep understanding of who uses the site, what they want from it and how they want to use it. By following a user experience design process, we were able to design and develop a new product around the customer. Once we launched the site in 2015, we were able to understand what works and what needs improvement through web analytics and ongoing user testing. This constant test, learn and iterate process means that we are always improving the experience for users.**

**The site has won many international website awards and receives over two million visits annually.**

# 08

# Priority three: Digitally transform how we engage with our communities

**Use existing and new digital platforms to engage with our residents and business to support the functioning of our democratic process.**

## Increased digital connectivity and engagement

Digital technology is both increasing the connections in our communities and changing how people connect with one another. In addition to more traditional social networks, many people now belong to a number of virtual communities, which exist on social media and other digital channels. These communities can be based on their geographical location, interests or identity. Technologies and digital platforms are enabling these virtual community groups to take more ownership of their local environment as well as share knowledge and resources and access services that might otherwise be out of reach. We see this in online forums or community groups hosting 'meet ups' and digital storytelling, which provide avenues to present information and explore multiple layers of the city that may otherwise be invisible.

The City sees the emergence of virtual communities as an opportunity to enhance social cohesion and connectedness in our local area. The two-way conversations these new digital platforms enable can mean the City has the ability to better connect with our communities.

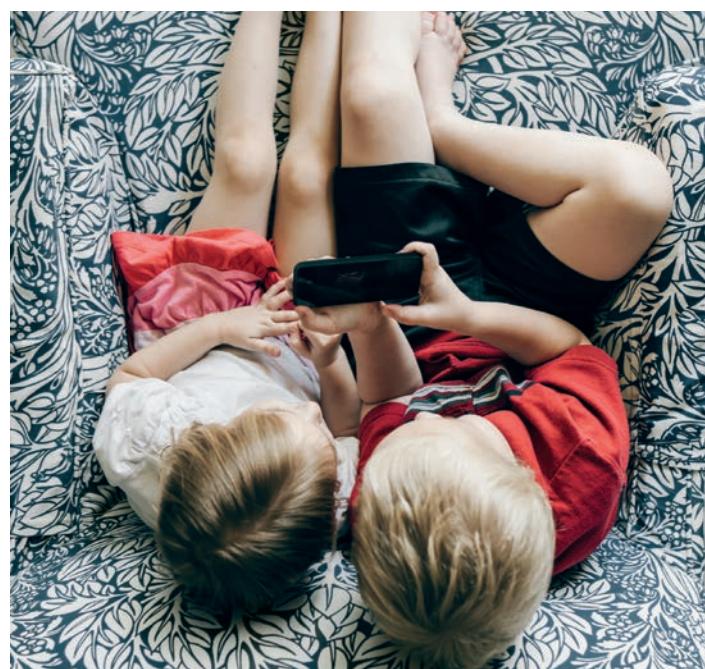
The reach, accessibility and immediacy of digital platforms and social media, and the ease with which content can be sent and received, allow far more people to contribute to solving our city's challenges.

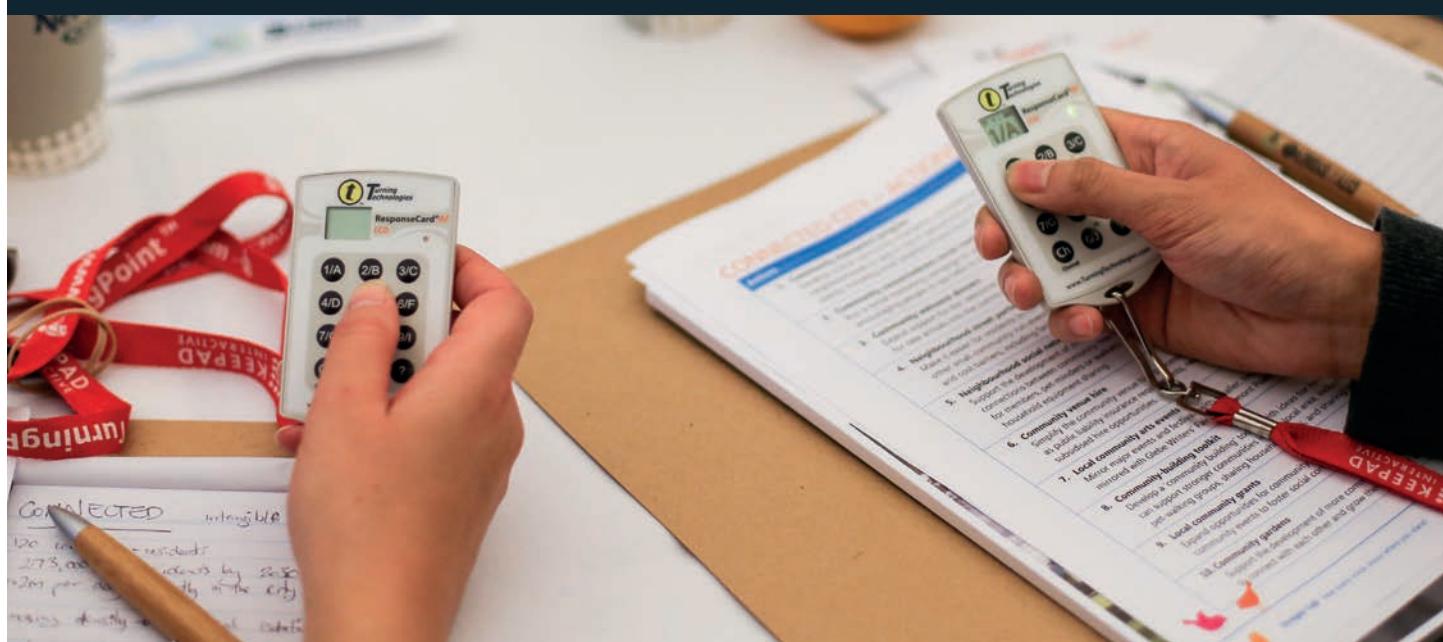
In future, digital engagement with our communities could lead to benefits such as crowd-sourcing policy innovation, shared problem solving and more instant feedback loops that will improve the whole city.

The City of Sydney will become 'smarter' and learn from customer feedback in a more systematic way, helping us deliver better services that are more relevant to the needs of our communities.

The future of the City of Sydney is not about creating a bigger delivery team, it is about being a highly connected player in a large ecosystem. We want Sydney to be a 'smart city' – but smart cities are not smart just because of technology – they have smart governance and empowered communities sharing knowledge and intelligence about their city.

**We need to re-engineer our organisation and processes to enable our communities to take a more active role in improving the city.**





City of Sydney People's Summit – using live polling to collect citizen opinion in real time during community engagement workshop for the City's social sustainability policy

### Enhanced citizen dialogue

Digital has the potential to reinvigorate and reimagine local democracy. Digital platforms broaden our engagement beyond traditional forums like Council meetings in Sydney Town Hall to reach people who are short on time or not comfortable in group environments.

Welcoming our communities into transparent decision-making processes where progress is monitored and shared online will result in greater trust and a higher quality of public discussion.

The City is already using digital platforms such as the Sydney Your Say consultation hub. The challenge is for this to be more integrated with social media and the online platforms our communities use to provide a more personalised experience.

**I'd like to see a better facility to make people's opinions count.<sup>24</sup>**

### Examples of what we are already doing

- ▶ Our communities can give us their comments, feedback and views on the work of the City through our Sydney Your Say online platform, including via social media, website and surveys; and
- ▶ We use live polling to collect community views during consultation events and meetings.

### What needs to be done?

#### **Goal: Improve digital engagement and data sharing**

The City of Sydney will look for opportunities to improve digital engagement and data sharing with our communities.

#### **Ways we can achieve this goal:**

- Integrate our existing platforms with social media and other online platforms that our communities use to provide a more personalised experience; and
- Build on the momentum of Sydney Your Say by testing participatory decision-making channels.

24 Sydney resident and worker

# 09

# Priority four: Support business to build skills, knowledge and infrastructure

**The City must support a diversified local economy that is more resilient and looks to the future.**

**We need to ensure we support innovation in existing enterprises while enhancing the reputation of Sydney as a collaborative, connected, dynamic and innovative city that attracts and supports talent.**

Digital technology is both transforming and disrupting how organisations in the public, private and not for profit sectors do business. It is affecting and changing how they operate and how they meet the expectations of their customers.

Out of this challenge, a pattern is emerging around the world: the cities whose governance, places, infrastructure and communications best enable digital collaboration are the ones who are thriving.<sup>25</sup>

The most innovative cities that most effectively harness the energy, talent and creativity of existing residents will secure the most investment and will attract the most talented.

Traditionally, cities have sought to attract capital and investment to increase their productivity. However, in our Tech Startups Action Plan, the City of Sydney identified that attracting and retaining highly skilled talent in turn attracts business, entrepreneurship, investment and innovation. Successful global cities do both, not one or the other.

Sydney has world-class education institutions and is the digital knowledge hub of Australia and a significant hub in Asia. However, as it becomes easier and more attractive to move between countries and regions, Sydney is competing with Singapore, Shanghai, Tokyo and Hong Kong, as well as other cities such as London and San Francisco, for business and talent.

Sydney's knowledge economy is clustered close to the centre of the city and it needs new infrastructure, new businesses and new essential services as well as more suitable workspaces in order to thrive. The digital transformation of the city will change people's patterns of working and mobility and impact on the built form of the city and its transport.

## Innovative, high-growth potential companies

To attract talent, and to nurture the talents of those who already live in our local area, we need well-managed urban environments with vibrant neighbourhoods, high quality digital infrastructure and precincts that attract clusters of talent to live and work.

Nurturing and attracting highly skilled innovators locally benefits the city's economy. New companies which are using innovation and technology to tackle a large and often global market, have the potential to grow fast and to create more jobs and economic growth than any other. Up to 15 per cent of Australian workers employed in the ICT sector are located in the City's local area<sup>26</sup>.

25 OECD Competitive Cities 2006

26 City of Sydney Tech Startups Action Plan 2015



*Small businesses outside the tech sector also require support to build digital capacity*

These new companies will directly provide a range of new jobs from web-designers and media producers, through to market researchers and virtual personal assistants and a wide variety of freelancers and contractors. These innovators and the people they employ will need doctors, hairstylists, lawyers, financial advisors, fitness instructors and restaurants.

Fostering a vibrant tech startup ecosystem is as much about the liveability of the city and supporting small business as it is about providing access to flexible workplaces and capital investment opportunities.

In producing this Digital Strategy and the Tech Startups Action Plan, the City of Sydney is highlighting our digital ambitions. We are positively signalling to the talented and innovative – whether here already or considering relocating to Sydney – to explore new possibilities in the city.

It is vital the City positions Sydney as a supportive, digital-friendly place that can attract and retain talent because these companies and those that are embracing digital transformation will create the jobs of the future.

### **Small to medium enterprises (SMEs)**

Outside of the rapidly growing ecosystem of tech startups addressed in the City's Tech Startups Action Plan, there are a large number of existing SMEs operating in non-tech industries which require support and baseline infrastructure to build their capacity, attract and retain skilled staff and ensure Sydney remains economically competitive in a digital world.

SMEs represent approximately 50 per cent of the city's economy<sup>27</sup> and although a growing number of them are digital-ready, we believe many are not making full use of digital technology.

Some small businesses lack the resources, time or capacity to explore, adopt and maximise the benefits of new technologies and applications, or do not fully understand the benefits on offer for their businesses.

It is vital the City fosters understanding of the benefits of the digital economy for SMEs. In future our SMEs will need to be online and digitally enabled to operate their businesses, grow their customer base, access international markets or work with larger businesses.

As reported by Deloitte Access Economics in Connected Small Businesses 2016, compared to businesses with basic digital engagement, small to medium businesses that have advanced levels of digital engagement are:

- 1.5 times more likely to be growing revenue and earned 1.4 times more revenue per employee in the previous year;
- More than 8 times more likely to be creating jobs, creating an average of 12 additional jobs in the previous year;
- 7 times more likely to be exporting; and
- More than 14 times more likely to be innovating by offering new products or services.

Whether they are in manufacturing, services or retail they will need to develop their own digital strategies and incorporate them into their core business in order to thrive.

<sup>27</sup> City of Sydney Floorspace and Employment Census 2012



City of Sydney Business 101 Seminar – information sessions supporting small businesses

## Examples of what we are already doing

- ▶ The City has Memoranda of Understanding with the major universities in our local area to work together on a range of projects and initiatives;
- ▶ Every year, the City supports organisations through our program of Knowledge Exchange grants such as Spark Festival for the tech startup community, to showcase local and global issues;
- ▶ The City supports the establishment of co-working spaces and we are currently establishing a visiting entrepreneur program to foster the tech startup community and support innovation in business;
- ▶ The City plays a role in facilitating introductions and networks of members of the ecosystem with government and industry bodies;
- ▶ We program an annual series of Business 101 seminars covering online business topics for all businesses, but particularly for “non-tech” small businesses; and
- ▶ We are conducting research into the digital competency of the small and medium businesses in our local area.

## What needs to be done?

### Goal: Support business to enable the city's digital economy

We must support local business and innovators to participate and thrive in order to drive the city's economy.

#### **Ways we can achieve this goal:**

- Foster partnerships with influencers to build on emerging and established clusters in technology, higher education and data analytics;
- Prioritise relevant, tailored and accessible support that helps business to attract and retain talent in Sydney;
- Continue to deliver the City of Sydney Tech Startups Action Plan to enable local businesses to grow into global businesses; and
- Celebrate and promote digital success across both the startup and broader business communities.

### Goal: Digitally enabled small to medium enterprises (SMEs)

The City of Sydney will work with SMEs to help them realise the benefits for their businesses of going digital and improve the digital skills of their employees.

#### **Ways we can achieve this goal:**

- Raise awareness of the benefits of digital technology for SMEs;
- Connect SMEs with relevant training and resources to build their digital capability;
  - Consider how to better include SMEs in our procurement processes; and
  - Foster opportunities that enable SMEs to maximise their productivity and growth through digital technologies.



The General Assembly Event Series. How to Build a Business People Love: The Art of Building Great Businesses, 22 November 2016

## Case study

### General Assembly – Knowledge Exchange Sponsorship.

In July 2016, a Knowledge Exchange Sponsorship of \$20,000 was provided to General Assembly to produce the General Assembly Event Series - four capacity building events in Sydney aimed at small to medium businesses.

General Assembly is a global education company which aims to encourage local communities to pursue work they love through education and opportunity in technology, entrepreneurial business and design. Focus is on the most relevant and in-demand skills across data, design, business and technology.

General Assembly also works with organisations as partners, such as the City, to develop specific course and training needs to assist them to stay competitive within a digital market place.

The General Assembly Event Series addresses a gap in the market for the provision of free and direct engagement with industry experts on relevant topics covering technology, entrepreneurship and innovation. Support for this initiative complements the existing work of the City to build the capacity of local business including the popular Business 101 seminar series.

# 10

# Priority five: Actively participate in the digital urban renewal of Sydney

**The City must identify the influence it can have in promoting Sydney's digital future – and then use that influence effectively to get the right infrastructure and networks in place to ensure Sydney is globally competitive.**

**Where it is within the City's control, it will provide that infrastructure itself; however, most infrastructure improvements will require partnerships with the private and public sectors.**

## Digital infrastructure

A 'smart' city is one that harnesses technology to manage assets better, encourage inclusive participation, celebrate creativity and champion digital business; and one that contributes to the digital infrastructure of the city through collaboration.

There are many forms of infrastructure that successful digital cities need to have. These include intelligent transport systems, smart grids which improve the management of energy, waste and water and building management systems that have the capability to improve the efficiency of the city, security programs and web-based applications and platforms.

The City of Sydney will need to engage with a number of different stakeholders to make this smart infrastructure a reality. We will need to support and influence the provision of digital infrastructure in the same way we have supported and influenced the development of transport and utility infrastructure in Sydney.

However, technology is only important because it enables or accelerates the speed and impact of knowledge and ideas flowing between and inside our communities. Technology is a connector of people, not just a connector of devices.

To make that work, what matters is a change in culture, practice and governance, not just technology.

**It is not a case of 'build it and they will come'. We also need to encourage digital transformation and digital technology uptake in our communities.**

## Community connectivity

Reliable high-speed broadband (fibre and wireless) is an essential community service. In 2011, 78 per cent of households in the City's local area had access to a broadband internet connection.<sup>28</sup>

However, for all communities in the city to make full use of digital technology, there needs to be public Wi-Fi access in key areas of the city. This will address congestion issues on the telecommunications networks, particularly in times of very high usage such as during a city emergency or major event and also provide an important alternative for those without reliable access to paid networks, for example people on low incomes and visitors to Sydney.

Providing public Wi-Fi for our visitors in key areas will help Sydney to market itself as a networked community and leading global city. In other cities around the world, Wi-Fi networks are also used by emergency services as communication networks.

And Wi-Fi enhances the overall experience of the city, including safety, wayfinding, reporting of issues and how people can more easily move around the city. Embedding Wi-Fi into the public domain allows us to better manage the city.

Improvements to citywide digital infrastructure networks will require ongoing partnerships and influencing strategies.



*EyeStop developed by MIT's SENSEable City Lab is an exploration into the next generation of smart urban furniture*

However, the City already provides free or low-cost physical access to digital technology in our community centres and libraries such as free Wi-Fi and, there are many other ways we can use our existing assets as well as our influence to encourage digital technology in Sydney.

Digital infrastructure does not have to be provided through the conventional infrastructure pathways in the same way as utility infrastructure.

In a modern city, digital connectivity is increasingly linked to placemaking. In future, the city's built environment will incorporate more artificial intelligence and automated processes will change the way it is maintained and experienced.

**Compared to China where I lived the Wi-Fi access is far behind in Sydney. We need free faster public access.<sup>29</sup>**

### Examples of what we are already doing

- ▶ The City provides free Wi-Fi and computers for the community in our libraries. When surveyed, 47 per cent of the people using the computers said they do not have access to another computer.<sup>30</sup>
- ▶ The City is developing a monitoring and control system for parks in the local area to enhance the management of the consumption of water and energy; and
- ▶ We are exploring the potential of street furniture such as bus stop shelters to contribute to the digital infrastructure of the city.



*The provision of Wi-Fi in public areas provides visitors and locals with a better experience of our city. However, it can also provide valuable city analytics to help run our city more efficiently and provide a platform for smart city applications. The City of Sydney is working with the NSW State Government towards the provision of Wi-Fi in more places in the city.*

28 ABS Population and Household Census 2011

29 City worker

30 City of Sydney Library PC Usage Survey 2014



A new light rail system for Sydney

## What needs to be done?

### Goal: Influence the provision of digital infrastructure

The City needs to understand where and how it can use its influence to get the right infrastructure in place to help our communities to thrive.

### **Ways we can achieve this goal:**

- Look at the requirements of our different communities and identify the digital infrastructure gaps;
- Understand the existing broadband fibre networks in the city, what extensions are needed and how to influence the rollout of national fibre and wireless mesh networks;
- Engage with technology innovators and suppliers and work with them to develop innovative solutions;
- Plan to implement an open and accessible Wi-Fi network in key areas of the city's public domain as a basis for 'smart city' projects including data collection through sensor networks and wayfinding solutions;
- Conduct further research through academic and government networks and the C40 cities climate change leadership group in the areas of smart energy, smart transport, smart water, smart waste and smart healthcare and how they could benefit the city and contribute to building a resilient city; and
- Develop a framework for assessing and prioritising 'smart city' opportunities.

### **Key opportunity: The City's transport integration**

In most global cities, rising congestion and sustainable thinking have led to a renewed focus on public and active transport use. However, while many cities have responded to increasing peak travel demand by building new physical infrastructure (roads, rail, bike paths, etc), this cannot be the whole solution.

The need to do more with less means the city must maximise the usefulness of existing and planned infrastructure by distributing demand across different modes of transport and different routes at different times using data and digital technology.

We can use mobile device interfaces in and around public transport to provide information on service availability and we can change the patterns of movement in the city by incorporating digital wayfinding and access to information into our public domain design.

In the digital future, access to high quality transport information and integrated ticketing will be just as important as having more and improved transport infrastructure. People's personal mobile devices can be seamlessly integrated with the built environment to enable real-time location-based information, touch free ticket validation and payment options for other items.

Integrating digital technology into our public domain and transport infrastructure will provide opportunities to address both operational issues and improve the way people experience moving around the city.

**We can use digital interventions to promote sustainable transport in our city.**

# 11

# Priority six: Be an ethical innovator in the information marketplace

**The City will creatively use data and city analytics to improve the performance and operation of our systems and infrastructure.**

**We will investigate open data initiatives to benefit local communities and business.**

**We will also operate ethically in the new information marketplace, meeting privacy expectations and encouraging understanding of emerging security issues.**

Providing access to data in the digital era is as important as building transport infrastructure was in the industrial age.

In a digital world, cities themselves are becoming networks producing data on city performance. This is known as 'city analytics' and our communities will increasingly demand access to this data to manage their city more effectively and benefit from the opportunities available from the digital transformation. Use of government data to provide real time public transport information is a well known example of how data can be repurposed by software developers to provide useful public benefits.

In previous sections of the Digital Strategy, we've discussed the need for the City of Sydney to move from static, largely one-way communication with our communities to two-way people-centred digital communication that will help improve and prioritise our operations.

To do this, the City will need to use data from our own operations and the information provided by our service users. We will also benefit from the civic insights gained from city analytics.

**If properly managed, the use of data will enable the City not only to improve our own performance but that of Sydney more broadly.**

## Information marketplace

All over the world, communities need access to digital information to stimulate and maintain economic and social growth<sup>31</sup>. The amount of data being generated and collected is growing and computers to analyse and visualise that data are becoming faster and cheaper.

The success of high-profile Federal initiatives like Data.gov and the White House's Open Government Initiative, mean more and more local governments are developing 'information marketplaces' – ways of sharing and exchanging information – for 'open data'.

Developing an information marketplace will assist the City to improve our services and policies and encourage innovation and economic development. Better data gathering and information systems will increase efficiency and reduce effort.

It will also lead to more transparency, enhanced community dialogue and participatory decision-making and equity in our communities.

We already share our research data publicly to benefit residents and business; for example, we provide local area profiles for business on our website. We are also developing a pilot open data platform using environmental data. Digital transformation will see an expansion in the City providing, analysing and using data.

<sup>31</sup> Parliament of Australia, *Broadening the Debate: Inquiry into the role and potential of the National Broadband Network*. Report of the House of Representatives Committee on Infrastructure and Communication, Parliamentary paper 211/2011; McKinsey Strategic principles for competing in the digital age 2014

## More apps to help people move around Sydney.<sup>32</sup>

However, the data the City holds covers everything from sensitive personal information held to allow delivery of personalised services to non-personal information about city operations.

### **When we talk about sharing ‘open data’ in the information marketplace, we mean non-personal and non-commercial data.**

Any open data must be both technically usable and legally open. The City of Sydney’s Information and Technology Strategic Plan identifies an approach to data governance, management, sharing and use.

### **Transparency and privacy**

Open data is a key to enhancing our transparency and accountability to our communities.

The City already releases much of the information it produces, however, currently a lot of it is in non-machine readable formats. While releasing open data and making it searchable provides huge opportunities, there are also privacy risks in doing so. For example, if we collect and release city analytics on people’s journeys around the city, will others be able to re-identify the de-identified data?

Releasing machine-readable open data could lead to moral and ethical issues as predictive analytics – making predictions based on analysing patterns using modelling, machine learning and data mining – have become more sophisticated.

The convergence of cloud computing, social media and mobile computing technologies has created data security issues worldwide.

People are increasingly willing to give up private information in exchange for faster or better services if the interactions are open and honest. However, making available real-time datasets from sensors in the built environment, mobile phone data and people’s personal or wearable devices – so called ‘Big Data’ – raises ethical challenges.

Legislation, such as the *Privacy and Personal Information Protection Act 1998*, sets out how the City and other governments must manage personal information. The Act sets our obligations regarding the collection, use, disclosure and the provision of access to personal information. It also requires the City of Sydney to take ‘reasonable steps’ to protect the personal information we hold from misuse, loss and from unauthorised access, use, modification or disclosure. What constitutes ‘reasonable steps’ is changing dramatically in the digital era.

As part of our digital transformation we must set out for our communities how it relates to their data and what it means for them now and in the future.

Internet users cannot assume that responsibility for information security rests solely with the organisations they interact with, or with government. The City is educating our communities that security is an ongoing process of collaboration.

As digital technology opens up possibilities for improvement, it also provides new opportunities for exploitation from anywhere at any time.

### **The security of sensitive information, the security of our digital infrastructure and public and international confidence in Sydney as a safe place to do business online is crucial.**

32 City worker



GovHack 2016 – City of Sydney provided datasets for participants to re-use in creative ways as part of this annual competition

### Examples of what we are already doing

- ▶ Through the implementation of the City's Information and Technology Strategic Plan, we are developing a data governance strategy and management framework that communicates the principles and governance mechanisms for the use of data at the City, including in relation to privacy.
- ▶ Development of data feeds and software that allow our information to be used in multiple platforms and for different purposes; and
- ▶ Systems that help the City manage our assets better, such as our fleet, physical infrastructure and trees.

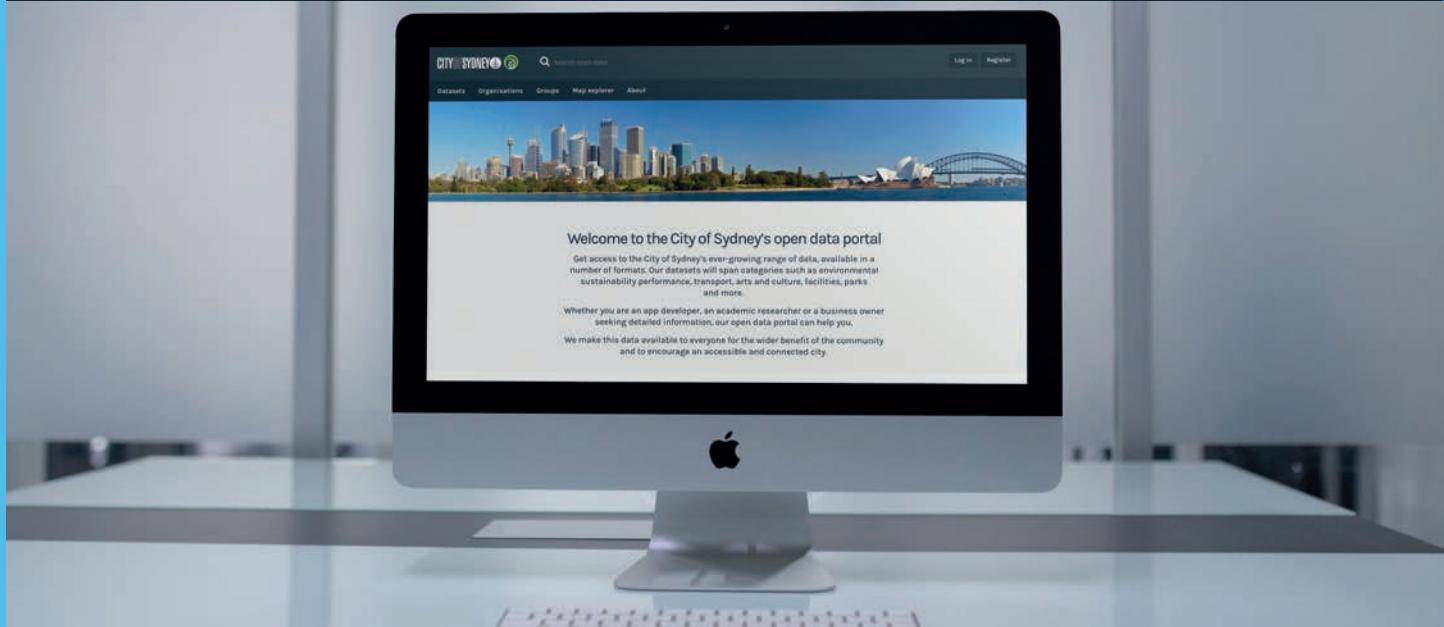
### What needs to be done?

#### **Goal: Build appropriate infrastructure and frameworks to manage open data in partnership with other local and state government agencies.**

Our first open data pilots are already underway and what we learn from them will be fed back into the ongoing development of open data initiatives.

### Ways we can achieve this goal:

- Understand what data is available and relevant to the City's current activities;
- Identify the datasets we currently have, what their value (usefulness) is and how we can make them open and accessible;
- Strengthen our capability to analyse data – and our ability to feed the insights gained from that data into improving our products and services;
- Engage with innovators and data users about how to use data better, and how to improve and maintain open data;
- Assess the economic benefit of different types of open data and use this information to both raise awareness and prioritise our open data activities;
- Understand the privacy implications of data sharing, both from a regulatory and an ethical perspective; and
- Promote digital safety in our communities.



The City of Sydney's Open Data portal

## Case study

### Open Data Pilot – the Environmental Sustainability Platform.

In November 2016, the City soft-launched its open data portal, built to standards recommended by the federal government's Digital Transformation Agency.

To pilot the platform, we have populated it with a number of environmental datasets. In Sustainable Sydney 2030, the City has set the ambitious goal of reducing carbon emissions by 70 per cent by 2030. This will require us to closely monitor our progress against goals in the energy, water and waste areas. The platform draws data from a number of external sources and combines them with the City's own comprehensive floor space and employment survey data. The application of smart analytics gives us a true and transparent picture of how we are progressing. Importantly, the platform also allows the user to visualise the data in 3D format to give a much richer picture of what the data actually means when spatially overlaid on to the City.

This project started with a well-defined problem, set clear parameters and was grounded in the principles of transparency and open source.

# 12

# Enabling action one: What does the City of Sydney and its workforce need to do?

**The City of Sydney cannot achieve many of our digital ambitions without fully embracing a digital mindset within our own organisation. We need to lead by example.**

**Cultural change within the organisation is essential for the development of people-centred digital services, systems and innovative working practices.**

As part of our research for the Digital Strategy, we surveyed our staff on what they thought about how the City of Sydney could become a more sophisticated digital organisation. They told us they saw digital leadership within the organisation as key to effecting successful change.

In order to foster a digital mindset at all levels of the organisation and bring about the kind of cultural change necessary to develop people-centred digital systems, we need top-down influencing and digitally skilled leadership from within the City of Sydney itself.

The City will need to ensure both the commitment to digital change and the commitment to flexibility in the allocation of resources necessary to effect this change, is embedded at an executive and Council level.

Appropriately skilled staff need to be included in project teams to ensure the desired outcomes of this strategy are delivered through the City's day-to-day work.

The City has also identified the need to set up two working groups, comprising staff at all levels:

1. An internal champions working group to encourage and embed the digital cause and help staff within the organisation to adapt to and innovate through digital change.

2. An external stakeholder relationship working group to focus on promoting the external actions, partnerships and engagement necessary to achieve many of the aspirations of this strategy which are not fully within the City's control.

To evolve our mindset and embrace digital culture throughout the organisation, we need to embed digital outcomes into our workforce plans. Implementing this strategy should not be seen as new or separate to existing work. Rather the outcomes are integrated so they become part of how we do business and operate on a day-to-day basis.

## Building staff digital capability

The City of Sydney is partway through delivering our Sustainable Sydney 2030 plan. We need to be able to complete the goals we have set to deliver the infrastructure and services our city needs. In order to do this, our organisation will need to be agile, coordinated, lean and making the most of digital technology.

Bringing in new business systems and technology such as software and tools will only partly achieve this; we will also need to encourage a 'digital mindset' in all our staff so they maximise the benefits of flexible and mobile working, people-centred service design and using digital collaboration and communication tools.

We will need to develop the digital capability of our workforce, but at the same time acknowledge that a digital workplace will only be successful if the digital infrastructure, processes and available tools meet the needs of our staff.

**“In my role the tools are standard. They work but things could be much more efficient.”**<sup>33</sup>

There are a lot of benefits for our workforce in digital working and when we surveyed our staff most people had a clear and positive view of the potential of digital transformation for them and for the organisation.

They saw the opportunities to deliver better services with greater impact at lower cost, as well as the opportunities digital would give them to work more flexibly and collaboratively. Many staff welcomed the potential for a shift away from fixed PCs to mobile devices. Operational staff were enthusiastic about the possibility of operating from any location on the move rather than making notes in the field and then returning to the office to type them up.

Working digitally will enable a more flexible and collaborative style using digital social platforms which will help our staff to develop ideas, provide services and share their thinking quickly. A lot of our workforce thought this would be a more satisfying way of working and that digital communication could promote better collaboration and awareness in the workplace.

However, there are challenges. If new ways of digital collaborative working are not supported by the organisation and embraced by all staff, there is a higher risk of content duplication, misaligned services and processes and confusion about our strategic direction.

This is crucial to success; we won't be able to achieve people-centred service delivery if the people in our organisation are not communicating effectively with each other across teams.

We are not starting from scratch internally; there is strong momentum among our staff for digital transformation and the benefits it will bring. We have also already factored digital transformation into our Workforce Strategy (which focuses on the capabilities required to achieve our Sustainable Sydney 2030 goals), our Resourcing Strategy, and our Information and Technology Strategic Plan.

The focus over recent years has been to build the capability and leadership capacity of people within the organisation so we are less hierarchical and better at sharing new information and approaches.

Adopting a more progressive digital approach fully supported by appropriate infrastructure will help us quickly identify more existing staff with the digital skills needed for specific projects.

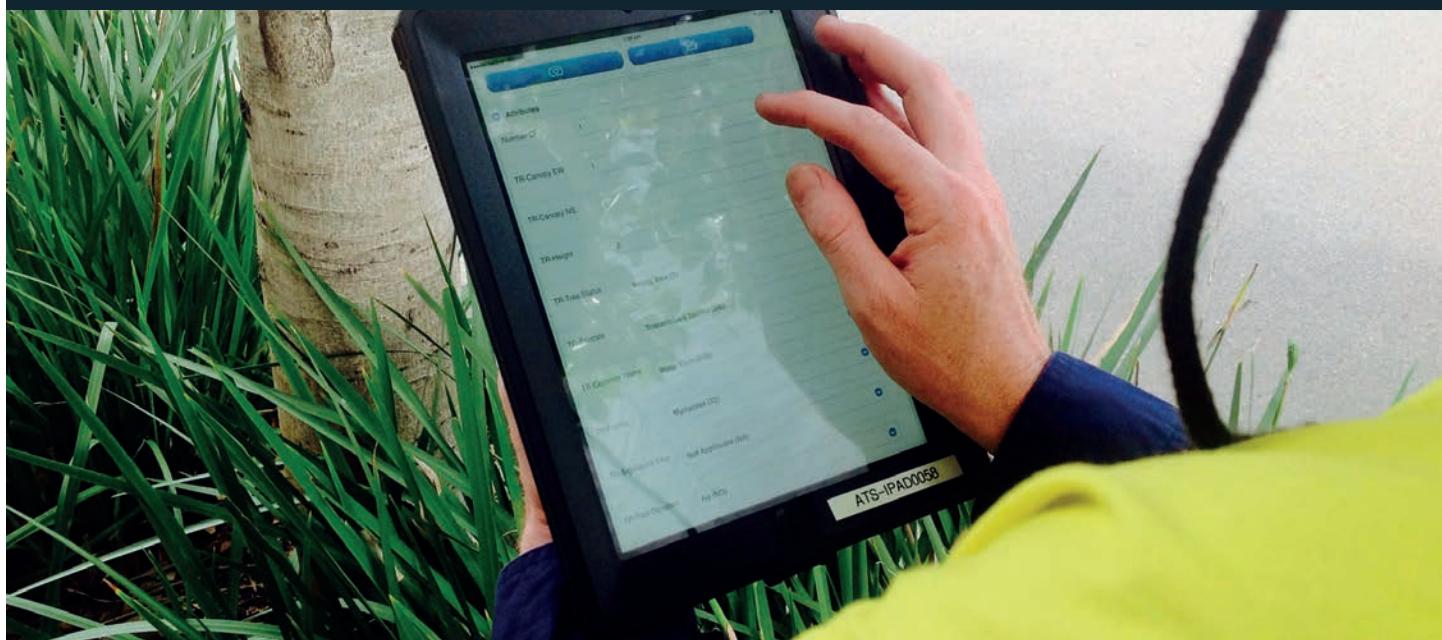
**It's vital that the City innovates to become a more sophisticated digital workplace as this will help us attract and retain the talent needed to stay competitive as an employer and be an active participant in the digital transformation of the city.**

### **What needs to be done?**

**Goal: Address our digital skills shortages, manage digital change and achieve greater productivity and improved performance with fewer or similar resources.**

This will require changes in strategic planning, governance, operational management, management support and capability, employee user experience and technology provision.

<sup>33</sup> City of Sydney staff member



Capturing data on the condition of public trees using the city of Sydney's mobile digital asset management system

### Ways we can achieve this goal:

- Understand our current employees' experiences of working at the City – including those in mobile jobs distributed across different sites and environments – and use the principles of people-centred service design to create good employee experiences in a digital environment;
- Recognise and build on the existing digital skill sets at the City;
- Work closely with members of staff who do not use technology in their day-to-day work in order to understand what skills, cultural changes and technologies are required for the transition;
- Promote awareness of the benefits of and expected behaviours associated with online collaboration;
- Try different knowledge management and collaboration tools and platforms that encourage digital teamwork – and test them as a part of our everyday business processes;
- Use what we learn within the organisation to test, tailor and personalise our external facing services;
- Facilitate workforce mobility and flexible working;
- Apply the principles of people-centred service design to processes for staff interaction with us to deliver a better and more efficient experience; and
- Develop a process to assess security implications of proposed digital infrastructure and software so that new, innovative solutions can be supported.



City of Sydney staff member testing new public access technology in the City of Sydney libraries

## Business systems integration

A digital workplace requires a high degree of IT systems integration, with increasingly complex security solutions and technology. However, there is currently an inconsistent level of capability to assess, implement and operate the information systems the City needs. The skills exist internally but they are centralised and resources are stretched.

As our employees increasingly require the flexibility to choose the most effective devices and ways to access business applications wherever they work, we must continue to equip our networks to handle simultaneous voice, video, and data communication, both in and outside the organisation's network.

Going digital will mean City staff will not only collaborate more internally but externally too and this may even lead to some staff being embedded in other stakeholders' workplaces. This means any communications platforms we adopt will need to work collaboratively with external people outside our offices.

Our staff will also increasingly need integrated access to the data controlled by the City in order to use it better in their day-to-day work – new ways of working and clearer standards need to be developed.

The Information and Technology Strategic Plan commits the City of Sydney to using common or integrated technology platforms wherever possible, to ensure that systems seamlessly enable core business processes.

## What needs to be done?

**Goal: It is vital our services and products work – and work easily – if we are to support innovation and encourage people to go digital.**

### Ways we can achieve this goal:

- Implement the City's Information and Technology Strategic Plan.

**We need to focus on what we are trying to do, not on technology.<sup>34</sup>**

### Alternative sourcing solutions

Procurement at the City of Sydney spans sourcing strategy, supplier selection, contract management, supplier relationship management, purchasing and supplier integration.

As an influential purchaser of goods and services in Sydney, the City has a responsibility to think about how becoming more digital might influence our sourcing strategy. Early strategic involvement of procurement in project development will assist in ensuring the right outcomes are achieved.

The procurement approach at the City of Sydney will also increasingly need to reflect that digital is less about asset ownership and more about learning and service delivery.

Data analytics collected and analysed by suppliers should be tracked and delivered back to the City of Sydney for future use and for consideration in future purchasing decisions for goods and services. These opportunities can be built into the supplier performance management framework.

The City's approach to sourcing and working with suppliers in a more strategic way will also consider how small and innovative suppliers can be competitive with large, established tech suppliers for City of Sydney business.

### What needs to be done?

**Goal: Investigate how we can better involve suppliers in the development of innovative solutions and evolve our procurement to something we deliver in collaboration with an external network of supply partners.**

#### **Ways we can achieve this goal:**

- Understand what is possible and available and embed consideration of digital infrastructure potential in our procurement processes;
- Understand how our procurement approach can ensure emerging high-growth potential technology companies can more readily participate in bidding for City of Sydney contracts; and
- Research other government procurement processes in the digital era.

<sup>34</sup> City of Sydney staff member

# 13

## Enabling action two: Effectively facilitate partnerships to maximise benefits

**We need to identify the influence the City of Sydney can have in promoting the digital economy in Sydney and be an essential part of the wider metropolitan goals to retain and attract the talent and investment Sydney will need in future.**

**We need to enable effective partnerships with private companies, organisations and other levels of government to maximise the creative, social, economic and service benefits of going digital.**

### Working in partnership

The City of Sydney is not alone in seeking digital transformation. Cities around the world understand that going digital is crucial.

All levels of government are responding to this challenge. The Federal Government has created the Digital Transformation Agency to consider what a digital approach means for "simpler, clearer, faster and more humane public services"<sup>35</sup>. The NSW Government has released its Innovation Strategy to be better equipped to tackle economic, environmental and social challenges, stimulate economic activity and drive shared prosperity for the people of NSW. It is important the City works with all levels of government towards delivering an integrated digital future for the whole of Sydney.

Other local governments are responding to the digital challenge too. The City will need to share ideas and projects with other local government organisations, including those already engaged with as part of the development of this strategy and identified as important collaborators.

The City will also need to work closely with non-government organisations, academics and universities, digital and technology industry groups and, most importantly, our communities to ensure a digitally inclusive future.

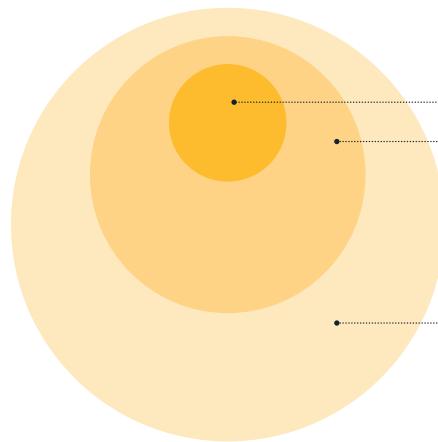
Globally we are seeing the emergence of public, private and academic boards or taskforces that help shape the digital transition of cities.

No single entity, internal or external, has all the answers and only strong partnerships will enable the City's digital vision to be realised.

**The City understands that partnerships will be critical to the delivery of public benefits associated with a digital approach.**

<sup>35</sup> Paul Shetler, Digital Transformation Office

### City government's spheres of influence



#### Control

Core business, statutory responsibilities, service provision. Council facilities and services, buildings and other assets. Direct decision-making and action is possible (and necessary).

#### Influence

Areas of partial or shared responsibility or influence. Advocacy, lobbying, education and communication are possible. Action may be possible in collaboration with other organisations/levels of government.

#### Concern

Wide range of issues of importance to the community. Awareness/understanding important. Incorporated into strategic vision (e.g. Sustainable Sydney 2030). Possible educative, advocacy, lobbying roles of government.

### The City's role in a digital future

While there are limits to what the City of Sydney alone can control or even influence, we are concerned with the full range of digital challenges that affect the city and its communities (see the City's decision-making diagram above).

#### What should the City of Sydney control?

- Our own internal governance structure;
- Integrating digital actions consistent with the directions of this strategy into existing and new program and project plans;
- Activities associated with City data collection, management, use and release;
- Workplace redesign;
- Delivery of digital services;
- Participation in Sydney's digital ecosystem; and
- Development of the City's contribution to the information marketplace.

#### What should the City of Sydney influence?

- Advocating for Sydney's new digital economies;
- Encouraging the adoption of digital skills, aiding capacity and enabling a suitable built environment;
- The delivery of and access to digital infrastructure across the city;
- Upskilling the community and celebrating good work towards digital inclusion;
- Helping people to understand the privacy issues associated with government data;
- Better public-private collaboration; and
- Promoting higher education which contributes to digital innovation (STEM).



Chris Derksema (City of Sydney), Elizabeth Lee (100 Resilient Cities), Lord Mayor Clover Moore, Nicola Thomson (100 Resilient Cities)

## Key partnerships

In order to influence the identified priority areas the City will need a better understanding of the digital ecosystem of greater Sydney and our role as a participant to better connect and facilitate digital initiatives.

This will better enable other City strategies, including the City of Sydney Community Strategic Plan (2009), the Tech Startups Action Plan (2015) and Economic Development Strategy (2013) to be placed in the broader digital Sydney context. It will help the City to exert the necessary influences to ensure maximum success and impact.

The City will need to identify key stakeholders to work with in order to achieve a successful digital transformation. A relationship plan will be developed for each of these groups.

### Government

The City needs to work with all levels of government – Federal, NSW and other local governments – to share ideas and experiences, particularly solutions to open data, service redesign and delivering digital infrastructure. The City is keen to develop joined-up services with other government providers. The City also believes there is a need for an Australian city innovation network to promote better collaboration.

### Industry advocacy groups

The City will need to work closely with the digital and technology industry to identify tangible solutions to the challenges digital transformation presents for the city.

### Academia and research

The City needs to work with the education institutions and the academic community to share research and ideas for innovation.

### Non-government organisations focused on digital inclusion

The City will need to identify key non-government organisations and work with them to look at how the City might help them improve their capacity and skills and how they might contribute to realising the City's digital inclusion ambitions.

### Private companies and business groups

The City will need to work with both large multinational technology companies and local innovators and startups to find solutions and to look at how best to promote Sydney's technology sectors. The City will also need to work closely with groups representing businesses in the city.

# 14

# Monitoring progress

Achieving the goals of this strategy will require a process of continuous organisational learning for the City of Sydney and this will require a commitment to testing, iterating, improving and monitoring progress.

This strategy is a cross-cutting strategy that outlines how a digital approach can be incorporated into much of the work the City is already doing, piloting or planning in the future as we continue to deliver Sustainable Sydney 2030. The intention is for specific actions of the digital strategy and required resourcing to be integrated into those project plans.

The digital environment is dynamic and projects and priorities will change. Identified projects may not be required. New priorities will emerge.

The City will need to develop implementation plans for the priorities outlined in this strategy and monitor progress through the individual projects and activities.

A review of this strategy will be undertaken after three years.

# 15

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### City of Sydney Documents

*A City for All – Towards a socially just and resilient Sydney – Social Sustainability Policy and Discussion Paper*

City of Sydney Information and Technology Strategic Plan

City of Sydney Wellbeing Survey 2015

City of Sydney Workforce Strategy

*Creative City: Cultural Policy and Action Plan 2014 – 2024*

Technology Startups Action Plan

Economic Development Strategy – Sydney's economy: global city, local action

Interim Customer Service Strategy: Building customer service capability

*Sustainable Sydney 2030: Community Strategic Plan*

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