

City of Melbourne

Catherine Hill



Most Liveable City #2 Melbourne



360,000
(2038)



169,961
Resident population
(2018)



949,000
Daily population
(avg. weekday)
(2018)



\$94.9b
Gross Local
Product (2017)



83,100
Residential
dwellings (2017)

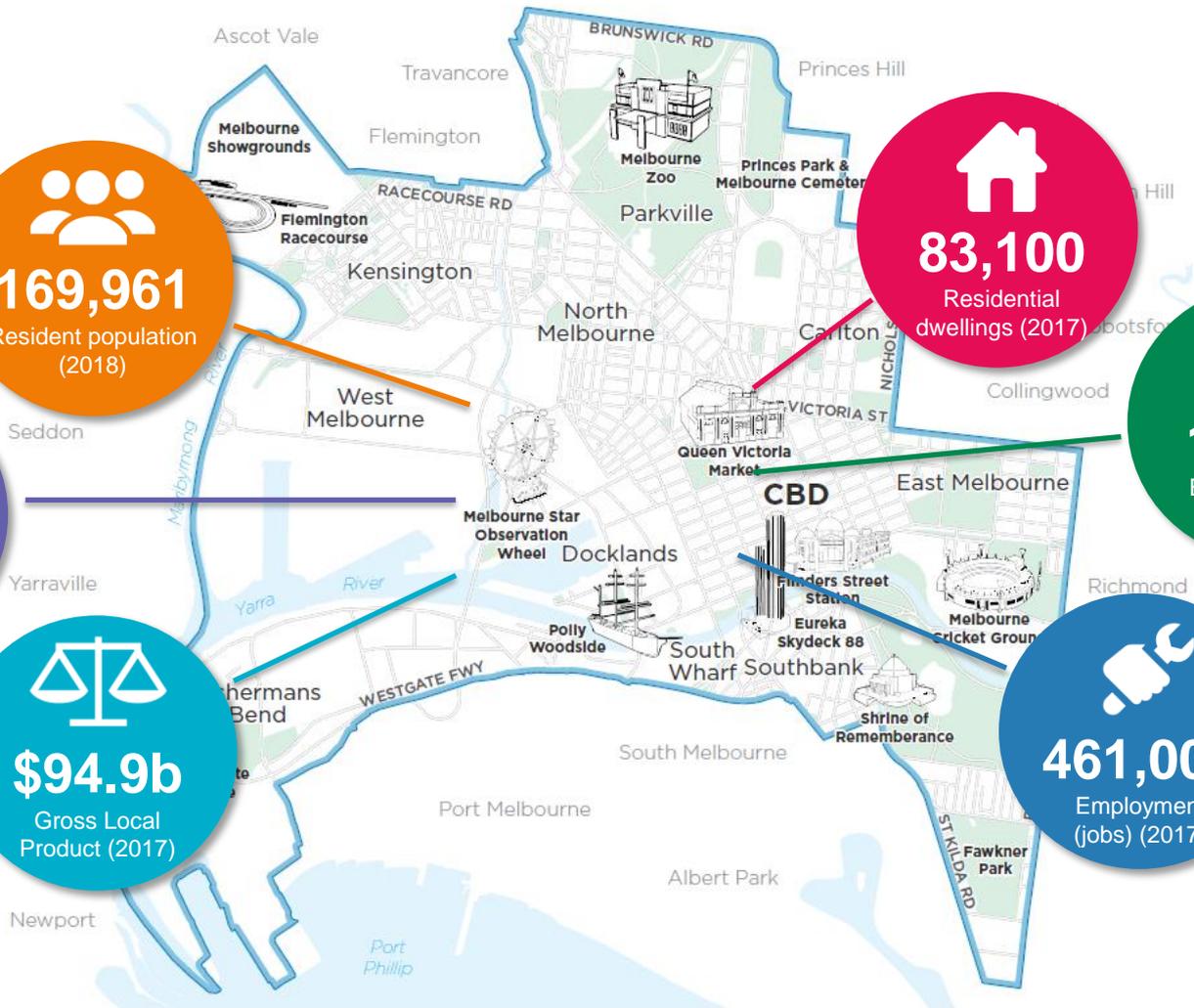


16,700
Establishments
(businesses)
(2017)



461,000
Employment
(jobs) (2017)

680,000
(2038)





Lord Mayor Sally Capp

“secure 5G mobile service for Melbourne”





City of Melbourne Program

A. Workshop Series [*understand*]

B. Vision Setting [*communicate*]

C. Enabling a 5G City [*do*]

D. 5G and IoT Testbed [*do*]

E. Insights and Use Cases [*reflect*]

A. Workshop Series

Intent - understand the value that 5G and IoT could offer the city and its people, as well as infrastructure, governance and risk needs.

August to
October 2018

Workshop 1

What can 5G do for the city and its people?

Who

- Startups
- Education institutions
- Research institutions
- Community groups
- Innovation labs
- Arts and Sport

Workshop 2

What are the infrastructure, governance and risk needs?

Who

- Network providers
- Hardware providers
- Tech companies
- Government

Workshop 3

What is Council's role, responsibility and plan?

Who

- Engineering
- City Design
- Urban Strategy
- Tech Services
- Smart City Office

Gathered Research and Insights

- Understand basics of 5G technology
- Understand legislation
- Reviewed existing trials and experiments in 5G

A. Workshop Series - Two Key Areas of Recommendations

City of Melbourne's Role in enabling a 5G City

It is important that we are an **active stakeholder** in the 5G network rollout to ensure that our city remains a leader in urban technology innovation.

Active participation with network partners will ensure that we influence a preferable future in which we explore and mitigate the potential unintended consequences that this technology could enable.

Accelerated Approach to 5G and IoT enabled Testbeds

To be seen as a leader we need to respond to the rapid speed of 5G development with **immediate action**.

Unprecedented complexity and challenges of 5G create a great opportunity to start exploring and testing to increase the likelihood of an ideal and preferred future so that 5G doesn't happen **to** us, it happens **with** us.

A. Workshop Series - Principles to design, develop, deliver and participate in the 5G and IoT enabled testbed(s)

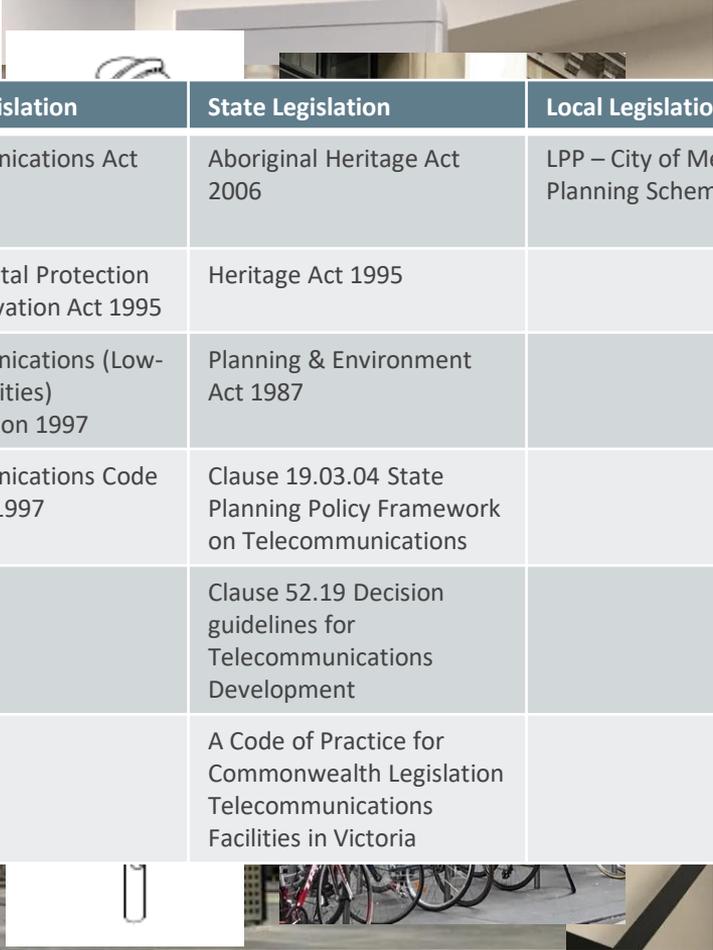
- We build strong relationships connected by one vision with a common goal.
- We welcome everyone and encourage diversity and inclusivity in every aspect of our endeavours.
- We share knowledge, space and resources with the community and each other.
- We work openly and collaboratively creating an environment of trust where data is shared safely.
- We focus on creating human experiences, connecting people to each other and to place.
- We encourage problem solving around social issues for public good as well as the development of bold new ideas.
- We aim for quality insights, outputs and value. Our successes are measured and celebrated.
- We play to our strengths and recognise the value that we can create together.
- We don't know what we don't know and we're open to discovery, learning and iterating.



VISION —
CONNECTIVITY
WITHOUT THE CLUTTER

C. Enabling a 5G City

- ❖ Engage an independent 5G expert
- ❖ Determine which telecommunication carriers purchased 5G spectrum across your city area
- ❖ Understand 5G infrastructure requirements
- ❖ Review legislation and update?
- ❖ What are other cities in your country doing?
- ❖ Assets in the urban realm for small cell placement; existing assets, new assets



Federal Legislation	State Legislation	Local Legislation
Telecommunications Act 1997	Aboriginal Heritage Act 2006	LPP – City of Melbourne Planning Scheme
Environmental Protection and Conservation Act 1995	Heritage Act 1995	
Telecommunications (Low-impact Facilities) Determination 1997	Planning & Environment Act 1987	
Telecommunications Code of Practice 1997	Clause 19.03.04 State Planning Policy Framework on Telecommunications	
	Clause 52.19 Decision guidelines for Telecommunications Development	
	A Code of Practice for Commonwealth Legislation Telecommunications Facilities in Victoria	

Communicate



D. 5G and IoT Testbed

Invited Partners in through “Expression of Interest” process into a 5G and IoT Testbed to solve the following challenges in collaboration



Governance

Define the framework of rules, relationships, systems and processes for an emerging technology testbed.



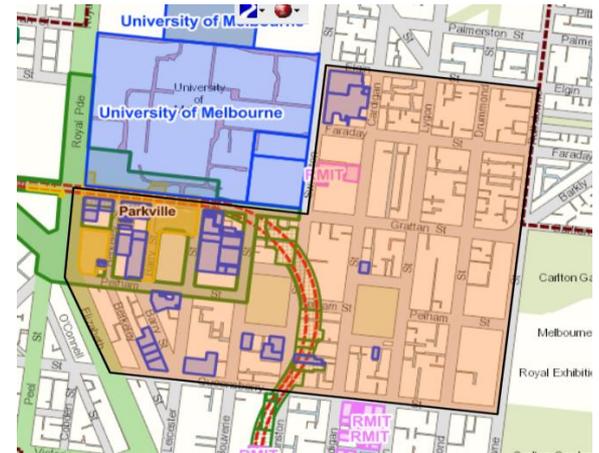
Data Collection, Sharing and Storage

To establish data collection, sharing and storage protocols that allow us and relevant stakeholders to share existing and new data sets in the testbed.



Infrastructure Placement and Design

To design 5G and IoT infrastructure that minimises impact on the public realm, meets our design standards and creates an ideal future that is beneficial to all stakeholders.



D. 5G and IoT Testbed

Where are we now:

Governance



Collaboration Agreement
co-designed

Data Collection, Sharing and Storage



Data Sharing Policy co-designed
Data Sharing Procedure co-designed

Infrastructure Placement and Design



Pitch day; 12 pitches not all 26
Partners pitched

Five pitches selected to be
activated in the Testbed as Pilots



E. Emerging Insights



Each Telco carrier is at different levels of 5G maturity



Important to keep challenges open as possible



We don't know what we don't know



Most 5G use cases presented can be solved using 4G



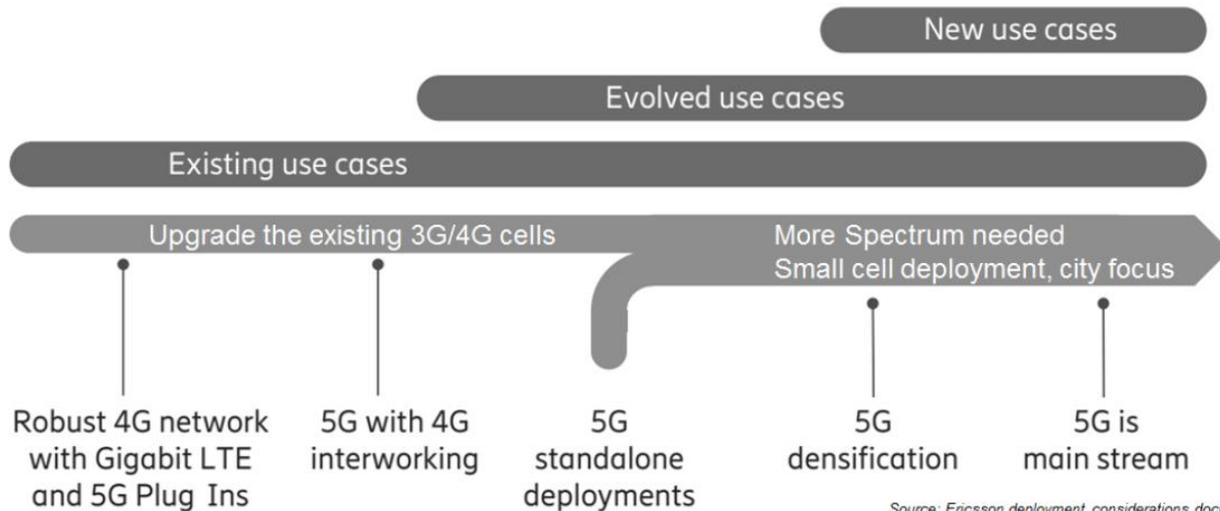
Connectivity is only as powerful as what it is connected to



Significant investment is required to purchase spectrum and deploy the network in a financially stressed telecom industry

E. Use Cases

Timeline to Full 5G Coverage—a 10 Year Journey



Source: Ericsson deployment considerations document 2018

E. Emerging Use Cases

Urban Citizens

Entertainment

movies on the move

Virtual reality /

Augmented Reality

powering educational services like we haven't seen before

Remote Surgery

allowing robot controlled surgical equipment

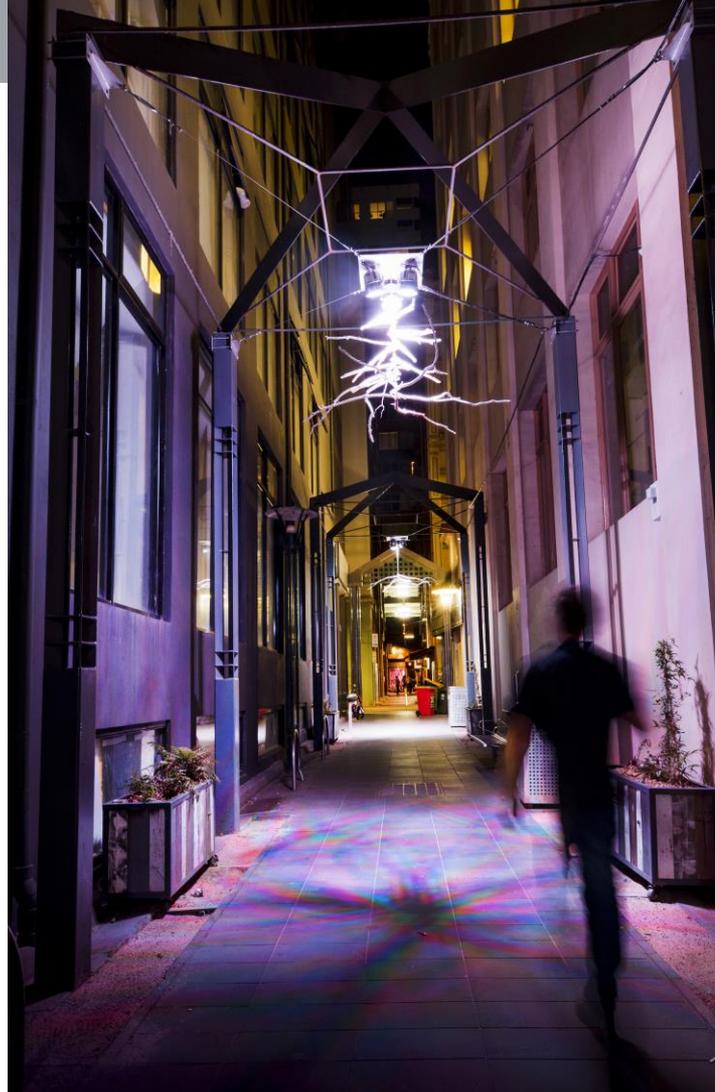
Life in a City

Enhanced Road Safety

traffic management – using CCTV to alert drivers

Live action experience

view the game but watch the play from alternative angles, rent your VR glasses for the evening





WHAT NEXT?

What type of Melbourne will you create?



What are you doing May 11-17 2020?



CITY OF MELBOURNE