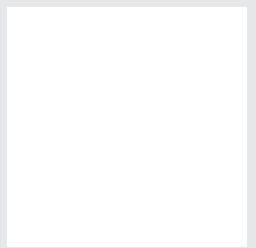
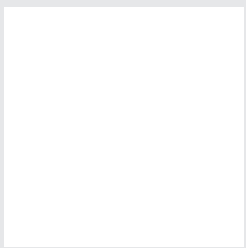
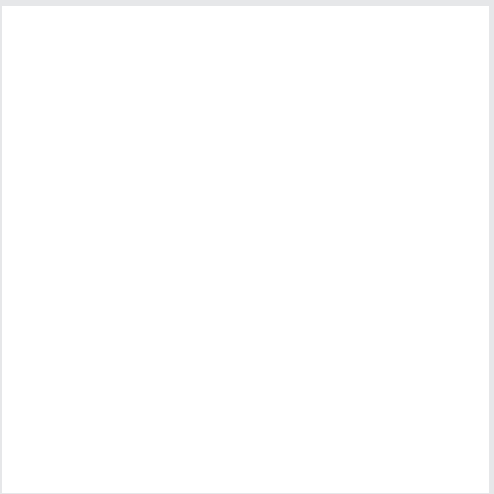


**Melbourne  
Biomedical  
Precinct.**



The Royal Children's Hospital  
+ The Murdoch Children's Research Institute

The Royal Women's Hospital

Walter & Eliza Hall Institute

Monash Institute of Pharmaceutical  
Science, Monash University + CSIRO

Royal Melbourne Hospital

Florey Institute

The University of Melbourne

Victorian Comprehensive Cancer Centre  
+ Peter MacCallum Cancer Centre

The Doherty Institute

St Vincent's Hospital Melbourne

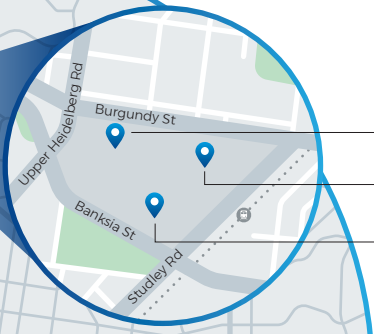


Melbourne,  
Australia



La Trobe University

Austin Health



Melbourne Brain Centre

Austin Hospital

Olivia Newton-John  
Cancer Wellness &  
Research Centre

CSL  
(Poplar Road)

Melbourne Biomedical Precinct

Swinburne  
University of  
Technology

Deakin University  
Burwood & Geelong  
Campuses



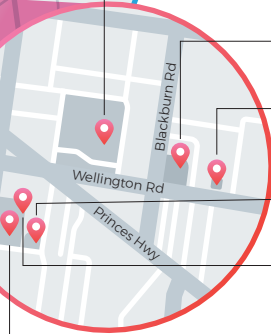
Alfred Hospital &  
St Kilda Road

Alfred Health

Cancer  
Council Victoria

Burnet Institute

Monash  
Precinct



Monash University,  
Clayton & Caulfield  
Campuses

Australian  
Synchrotron

CSIRO  
Manufacturing  
Flagship

Hudson Institute  
of Medical Research

Monash Children's  
Hospital

Monash Medical Centre

Baker IDI Heart &  
Diabetes Institute

# A Precinct approach to collaboration and innovation

Melbourne has biomedical capabilities unparalleled in Australia and amongst the world's best. We are home to an exceptional network of skilled workers, quality education providers, leading research institutes and a sophisticated health system.

There is a growing body of evidence that shows the benefit of health precincts, or clusters, to the economic and social prosperity of communities globally. Melbourne, the fastest growing city in Australia and the world's most liveable, is no exception.

*Plan Melbourne*, Victoria's key metropolitan planning strategy, highlights the precincts around Melbourne, Monash, Deakin, and La Trobe universities as clusters which offer significant opportunities for innovation as well as employment, economic and investment growth for the state.

The Melbourne Biomedical Precinct Partners are largely collocated to the north of Melbourne's CBD close to Australia's highest ranking university, the University of Melbourne.

The Precinct's location means that it is well placed to add to and benefit from the wealth of innovation happening across Melbourne and Victoria. It is this collaborative spirit across the state that will ensure that the biomedical sector remains a cornerstone of Victoria's economy.

# The Melbourne Biomedical Precinct Office

The Melbourne Biomedical Precinct Office was established by the Victorian state government in late 2016 to drive economic development in the Precinct and strengthen its position as a world leader in biomedical research, development and innovation.

Its establishment is the result of key recommendations from the Premier's Jobs and Investment Panel. In its 2016 report to the Victorian Government, the Panel's message was clear in identifying the Melbourne Biomedical Precinct as offering significant potential for job creation and growth and increased investment, both locally and internationally.

The Executive Chair leads a small team of advisors and project managers, experienced in public sector and health strategy development, policy and planning. Ultimately the team's role is to drive better health and economic outcomes. It does this in the context of existing Victorian Government policies and strategies.

The Office collaborates with a range of stakeholders across three main areas:

## **Strategic planning**

The Office is developing a strategic plan to identify and prioritise actions for the state and Precinct Partners over the next 20 years to maximise the potential of the Precinct.

## **Advisory**

The Office plays an advisory role to government and agencies, the Precinct Partners and staff, as well as investors and biomedical organisations locally and globally.

## **Promotion**

The Office promotes the Precinct as a great opportunity for research collaboration, investment and employment.

# The Precinct Partners

The Melbourne Biomedical Precinct, through its 30 Precinct Partners, delivers outstanding clinical care and education, and produces world-class biomedical research.

We excel particularly in child and adolescent health, cancer, mental health and neurosciences, infectious diseases, and healthy ageing. Both individually and collectively these organisations are globally recognised for their innovation and outstanding patient outcomes.

They include the big hospitals, universities and research institutes that have fundamentally improved patient outcomes in Australia and internationally.

The organisations are largely collocated to the north of Melbourne's CBD in the geographical area extending from East Melbourne, Carlton and North Melbourne to Parkville in the north. The Precinct also has strong connections with the Arden and Macaulay urban renewal precincts.

The close proximity of the Precinct Partners has been key to building a culture of collaboration over many years (see list and map over page).

Together the Precinct Partners employ around 28,000 people, including 10,000 researchers, and contribute around A\$3.6 billion to Victoria's gross regional product.

The impact of the Precinct goes beyond geographical boundaries with collaborations and impact extending to other universities, hospitals and research organisations locally and globally.

**Together the Precinct Partners employ around**

28,000  
people

**including**

10,000  
researchers

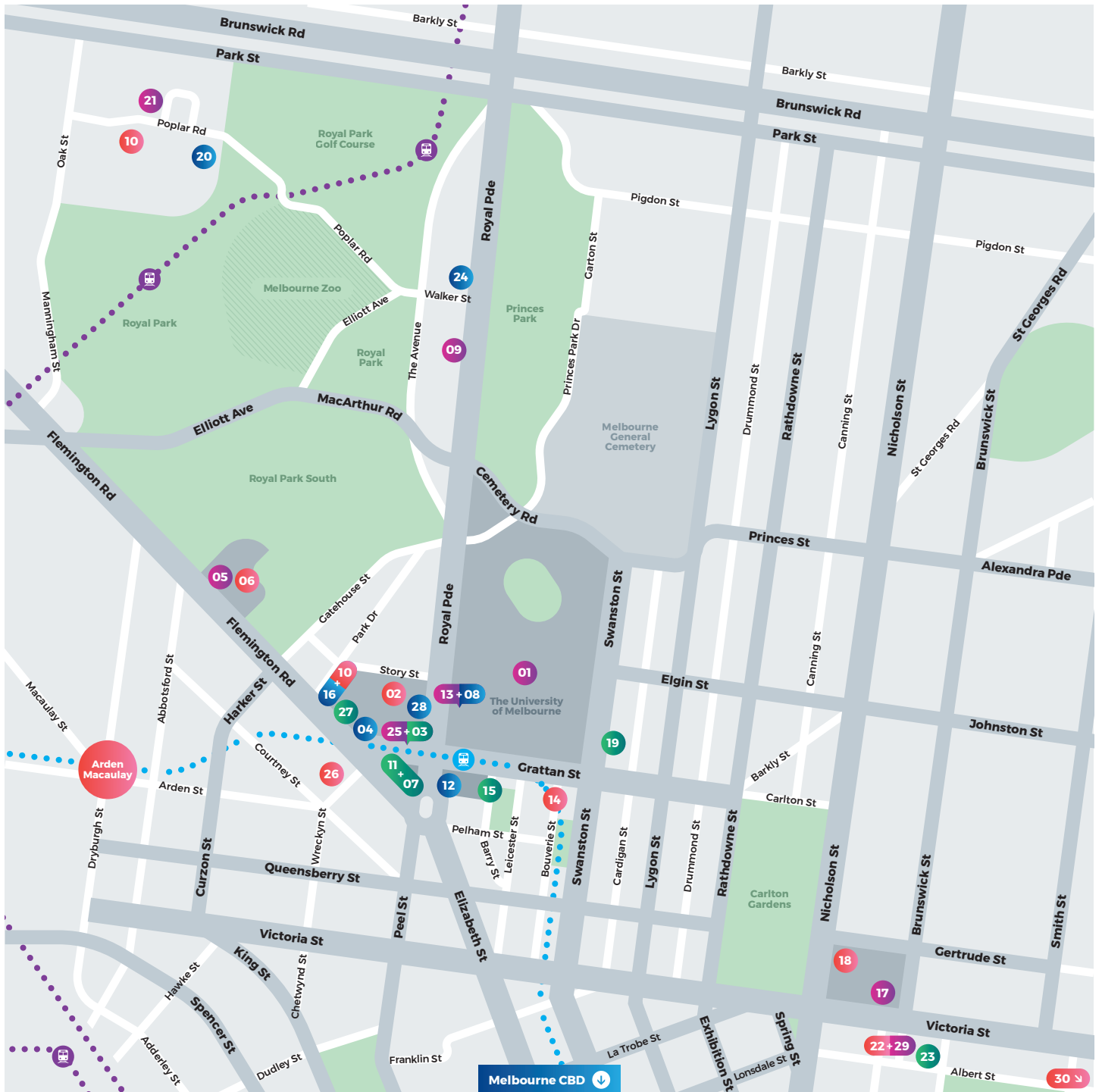
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**The precinct contributes**

A\$3.6 billion  
**to Victoria's gross regional product.**

# Melbourne Biomedical Precinct Partners

- 01 The University of Melbourne
- 02 Walter and Eliza Hall Institute
- 03 The Royal Melbourne Hospital and Melbourne Health
- 04 The Royal Women's Hospital (the Women's)
- 05 The Royal Children's Hospital
- 06 The Murdoch Children's Research Institute
- 07 The Peter MacCallum Cancer Centre
- 08 The Florey Institute of Neuroscience and Mental Health
- 09 CSIRO Parkville
- 10 CSL Ltd (Poplar Road and Bio21 Institute campuses)
- 11 Victorian Comprehensive Cancer Centre
- 12 The Doherty Institute
- 13 The Melbourne Brain Centre
- 14 Melbourne Bioinformatics
- 15 Biomedical Research Victoria
- 16 The Bio21 Molecular Science and Biotechnology Institute
- 17 St Vincent's Hospital Melbourne
- 18 St Vincent's Institute of Medical Research
- 19 Dental Health Services Victoria
- 20 Orygen
- 21 The National Ageing Research Institute
- 22 Centre for Eye Research Australia
- 23 Bionics Institute
- 24 Monash Institute of Pharmaceutical Science, Monash University (Parkville Campus)
- 25 BioGrid Australia
- 26 Australian Genome Research Facility Ltd
- 27 Francis Perry Private Hospital
- 28 Melbourne Private Hospital
- 29 Royal Victorian Eye and Ear Hospital
- 30 Baker Heart and Diabetes Institute



Melbourne CBD ↓

30 ↘

## Case studies: Collaboration in action

### **Victorian Comprehensive Cancer Centre – world-leading collaboration & facilities**

The Victorian Comprehensive Cancer Centre (VCCC) is an alliance of 10 leading cancer organisations.

The VCCC's new, purpose-built facilities were opened in July 2016 by US Vice President, Joe Biden, and the Premier of Victoria, Daniel Andrews. It includes a new home for the Peter MacCallum Cancer Centre as well as new facilities for cancer research, education and clinical services.

The facilities also link to Parkville campus partners the Royal Melbourne Hospital, University of Melbourne, Royal Women's Hospital and the Walter and Eliza Hall Institute.

These world class facilities place many of Victoria's best and brightest cancer minds side by side, expediting advances in cancer research, care and education for the benefit of people with cancer, everywhere.

*Alliance partners: The Peter MacCallum Cancer Centre, The Royal Melbourne Hospital, the Walter and Eliza Hall Institute, the Royal Women's Hospital, the Royal Children's Hospital, Western Health, St Vincent's Hospital (Melbourne), Murdoch Children's Research Institute and Austin Health (incorporating the Olivia Newton-John Cancer and Wellness Centre).*

### **New device to get people with paralysis back on their feet**

Melbourne medical researchers have created a new minimally invasive brain-machine interface, giving people with spinal cord injuries new hope to walk again with the power of thought.

The brain machine interface consists of a stent-based electrode (stentrode), which is implanted within a blood vessel next to the brain, and records the type of neural activity that has been shown in pre-clinical trials to move limbs through an exoskeleton or to control bionic limbs.

The development of the stentrode brought together leaders in medical research from The Royal Melbourne Hospital, The University of Melbourne and the Florey Institute of Neuroscience and Mental Health.

In total 39 academic scientists from a broad range of disciplines were involved in its development.

The new device is the size of a small paperclip. Pre-clinical trial results published in Nature Biotechnology in February 2016 showed that the device was capable of recording high-quality signals emitted from the brain's motor cortex, without the need for open brain surgery.

With this new device, it is hoped to return function and mobility to patients with complete paralysis by recording brain activity and converting the acquired signals into electrical commands, which in turn would lead to movement of the limbs through a mobility assist device like an exoskeleton. In essence this a bionic spinal cord.

It is anticipated that the stentrode device will be implanted in the first in-human trial at the Royal Melbourne Hospital.





## **Alliance results demonstrate the success of genomic medicine**

Research continues to improve our understanding of how changes in a person's genes influence their health, the course of a disease and its response to treatment.

While genomic sequencing now enables quicker and cheaper analysis of large amounts of genetic information, there remain challenges to delivering this in patient care.

The Melbourne Genomics Health Alliance brings together 10 of Australia's leading health, research and education organisations to effectively integrate genomics into healthcare by identifying when and how genomics is used for greatest benefit. The Alliance is a seamless, multidisciplinary effort, which supports health professionals to incorporate sequencing into their practice. Patients can have their genome sequenced by medical scientists; clinicians interpret this information into better care and treatments.

In 2016, the Alliance's Demonstration Project, which provided genomic sequencing to 315 patients with one of five medical conditions, found that when doctors provide genomic sequencing to patients within the healthcare system:

- at least six times more patients receive a diagnosis
- patients receive care tailored to their individual genetic make-up
- patients can have fewer tests because genomic data can be stored and analysed again and again (one in 10 undiagnosed patients received a result this way, a number expected to increase as we learn more about the genome from researchers)

Importantly, the study provides evidence that, for certain medical conditions one genomic test can replace a multitude of other investigations – resulting in more efficient healthcare spending.

*Alliance partners: Royal Melbourne Hospital, Royal Children's Hospital, University of Melbourne, Walter and Eliza Hall Institute, Murdoch Children's Research Institute, CSIRO, Australian Genome Research Facility, Peter MacCallum Cancer Centre, Austin Health and Monash Health.*



# Development in the Precinct

The Melbourne Biomedical Precinct is built on a spirit of collaboration that has united the Precinct Partners for more than 150 years. Together they have established a reputation as Australia's – and one of the world's – leading biomedical precincts across clinical care, research and education.

There has been in excess of \$3 billion invested in infrastructure across the Precinct over the last decade to ensure that we have world class facilities for patients and researchers. This includes:

- The new Royal Women's Hospital in the heart of the Precinct
- The new, purpose built Royal Children's Hospital including Murdoch Children's Research Institute
- The state of the art Victorian Comprehensive Cancer Centre for cancer research, treatment, care and education
- Expansion of the Walter and Eliza Hall Institute, Australia's oldest medical research institute
- A dedicated Melbourne Brain Centre, home to Australia's largest brain research collaboration
- A contemporary new building to house the University of Melbourne's Faculty of Medicine Dentistry and Health Sciences
- Establishment of the Doherty Institute for Infection and Immunity
- The Bio21 partnership and multi-disciplinary research centre to translate biological discoveries into biotech outcomes
- BioCurate – a joint venture between Monash University and the University of Melbourne, supported by the State – to boost successful translation and commercialisation of research

The Victorian Government is also delivering the city-shaping Metro Tunnel project. Five new rail stations will be built as part of the project, including a new Parkville Station in the heart of the Precinct giving easy access for students, staff, visitors and patients.



# Melbourne Biomedical Precinct.



## **Investing in and working with the Melbourne Biomedical Precinct**

The Melbourne Biomedical Precinct represents an outstanding opportunity for investment, employment and learning. We want to partner with people who share our vision to create better health outcomes for people all around the world, at every stage in their lives and tackle the big health challenges facing our world. If you are interested please contact us.

## **Melbourne Biomedical Precinct.**

### **Contact us**

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