

BRADFIELD CITY CENTRE

An ecosystem of culture, creativity and innovation in Western Sydney



THE CHALLENGE

The Bradfield City Centre site is in Western Sydney, where urban heat impacts are particularly pronounced when compared to other areas of Sydney. Hot days are expected to continue increasing each year across the greater Sydney region, with western Sydney experiencing the most significant temperature changes. Recent analyses have indicated that the hottest parts of western Sydney (which includes the Bradfield site) can expect to endure up to 46 days per year over 35°C by 2090, which is 8-10°C hotter than eastern Sydney.

This is an opportunity to explore innovations that will ensure the development is climate resilient and invest in design solutions that will help to cool Bradfield City Centre.

ABOUT THE DEVELOPMENT PROJECT

The Bradfield City Centre Master Plan guides the Bradfield City Centre project, which will unlock 114 hectares of greenfield mixed-use development. The Master Plan includes provisions for 10,000 new homes, transport, road and service infrastructure, open space, and parkland, and the potential to generate more than 20,000 jobs.

The development is managed by the Bradfield Development Authority (BDA) and climate resilience is one of the key objectives of the Master Plan. This involves approaching design with a focus on landscape and place, which will include innovative green corridors that connect the entire city, an average of 40% tree canopy cover, buildings featuring greenery to address urban heat and more.

HOW THE COOL SUBURBS ASSESSMENT HELPED

Teams across Sustainability, Master Planning, Design and Delivery used the recommendations in Phase 1 of the Cool Suburbs Assessment when formulating the Master Plan for best practice guidance, specifically incorporating measures in planning that would effectively reduce urban heat. This included the integration of green cover on buildings, minimising energy use and heat output from electricity systems, promoting passive cooling features such as natural ventilation, creating extensive canopy in public spaces and prioritising water retention in the landscape through porous materials. The first two landmark buildings in Bradfield City Centre have been designed and constructed in line with the tool's guidance and scientific rationale.

Cool Suburbs

Assessment

Cool Suburbs Credits and First Building response

The First Building exemplifies best practice in heat sensitive architectural design. It incorporates a 1,260 square metre green roof that plays a significant role in passive cooling by reducing energy loads required to maintain optimum levels of thermal comfort in and around the building.

CB3: Site irrigation

Water retention and reuse is enabled within the building envelope through water features and passive irrigation.

CB4: Passive design

The central spine of the building can be opened to allow cooling breezes to flow from one end to the other, adding to the passive cooling effect and providing fresh air to occupants.

CB5: Cool roofs, green roofs and green walls

The extensive green roof overhang offers significant shade areas, solar heat loads on the glass are reduced through the facades and there's lush vegetation on the roof.



The updated Cool Suburbs Assessment will be referenced by BDA and their delivery partners as a benchmarking standard to identify focus areas for guidelines, practice notes and risk management processes, including climate risk. This will ensure that the Master Plan vision will be realised up to the project completion by 2056.

Achieving ongoing certification as part of the tool has been included in the BDA Sustainability and Resilience Strategy as a stretch target. This has enabled cross-team visibility and recognition around the value of the tool.

LEARN MORE ABOUT THE

DEVELOPMENT PROJECT

[Bradfield City Master Plan](#)

[Bradfield City Centre First Building](#)

"The scientific explanations and practical guidance across the different areas of urban design and heat resilience were all highly relevant to our work, at both Master Plan strategy and project delivery levels. We will further leverage the tool in the ongoing development of the City Centre to help mitigate urban heat."

Victoria Brown; Resilience Manager,
Bradfield Development Authority



Bradfield Development
Authority