Sydney's Busted Bus Stops

SWELTERING CITIES

2024

Acknowledgment of Country

Sweltering Cities acknowledges the Traditional Owners of the land on which we work and live, including the Gadigal, Dharug, Dharawal and Kuring-gai peoples.

Sovereignty was never ceded and this land always was, and always will be Aboriginal land. The creation of urban heat islands is one of the many results of the ongoing environmental devastation of colonisation.

Always was, always will be, Aboriginal land

Table of Contents

Cover image: Sydney's "worst bus stop". Located in Erskine Park

SWELTERING CITIES

Executive Summary

Sweltering Cities collaborates with communities impacted by extreme heat to advocate for more liveable, equitable, and sustainable cities. Since 2021, we have been working with communities across Western Sydney to advocate for more and better bus shelters in our hottest suburbs.

Western Sydney has a high Urban Heat Island (UHI) effect, resulting in summer temperatures that can be 10-15° hotter than coastal or rural areas around the city. Western Sydney also bears a disproportionate burden of heat-related health impacts and houses populations with higher risk factors, including age, disability, and socio-economic status, which exacerbate the challenges of coping during heat waves.

Many residents in our hottest suburbs have no choice about catching the bus at stops lacking shelter, seating, or shade, leaving them vulnerable to sunburn and dehydration. **Catching a bus should not be a health hazard.**

To illustrate uneven bus stop infrastructure distribution and its impact on health and wellbeing, Sweltering Cities launched the Busted Bus Stops campaign. Community members and university students across Sydney mapped their local bus stops to document available amenities such as shelter, seating, and shade.

Over 2500 bus stops were mapped with 59.7% being recorded as having no infrastructure at all, There were also stark disparities in infrastructure provision between Eastern and Western Sydney:

- In the Inner West, 66% of stops have seating and shelter, or shade.
- In Penrith, where temperatures on the ground have measured over 50°C, only 30% of stops had shelter, shade and seats.
- In the North West Sydney suburb of Schofield, one of the key growth regions of the city, only 37% of stops have shelter, shade and a seat.

In order to address this infrastructure inequality across the city, we are advocating for funding from the NSW Government for bus stop shelters across Western Sydney with a goal of ensuring 75% of all stops have shelter. Stops near schools, aged care homes, hospitals, social housing and other community infrastructure should be a top priority. Community members, local government, disability advocates, community safety advocates and others should be consulted to set design minimum standards for new shelters.

We propose that the NSW Government commit $20 million in the 2024-25 Budget to fund up to 2000 new shelters and kick start this program.

Introduction

On hot days, people across Sydney wait for buses in dangerous temperatures. These bus stops frequently lack adequate shade and infrastructure to protect patrons from extreme weather, including seating and shelter.

Waiting at a bus stop without shade or shelter for extended periods exposes patrons to extreme levels of UV radiation, leaving them vulnerable to skin damage, sunburn, heat stroke, dehydration, and skin cancer. Cancer Council NSW finds that good quality shade can reduce these risks by up to 75%, emphasising the necessity of providing adequate shelter at bus stops to protect public health.

The social consequences of inadequate public transport infrastructure are also profound, contributing to feelings of isolation, disconnection, and an inability to commute safely, particularly on hot days.

These health and social consequences are heightened for vulnerable groups such as young children, the elderly, people with disabilities and chronic illnesses, and pregnant women, highlighting the urgency of addressing the gap in bus stop infrastructure provision.

In response to these challenges, Sweltering Cities launched the Busted Bus Stops Campaign to create a central map of bus stop infrastructure and unveil the comparative disadvantage across Sydney's suburbs. The data gathered from this project will be used to advocate for an ambitious increase in funding from the state government to install more shelters in the hottest suburbs of Sydney. Such measures are essential to ensure the health, safety, and well-being of all individuals who rely on public transportation in our city, especially during extreme weather conditions.

Methodology

The Busted Bus Stops Campaign was formulated through conversations with Western Sydney residents about their challenges in having to catch buses on hot days at stops without any shelter, shade, or seating. In 2021, we started gathering stories from individuals to understand how residents thought about the lack of local bus shelters in their hot suburbs. Residents reported that on hot days, a lack of shelter became a barrier to catching the bus or leaving the house, that they were concerned about students and older people who didn't drive and had no choice, and were frustrated by what they perceived as 'infrastructure inequality' across the Greater Sydney region.

In our 2022 Summer Survey (conducted over the 2021-22 summer) we found that 74.5% of people agreed with the statement "Public transport should be powered by renewable energy and accessible in hot suburbs" and 50.5% of people said they would like to see more seats and shade at their local bus stops.

In 2022 we started the process of mapping bus infrastructure as part of the Busted Bus Stops campaign. By setting up a typeform form and allowing people to add information about their local stop by identifying it with a unique identification number or address, we could build a map of the bus stops with or without shelter, shade and seats across the city. Contributors could add photos, comments and data. The process of adding stops to an ArcGIS map was guided by the methodology established by a student employed by Sydney University to support the program.

Photo of Inner West Bus Stop added by a community member

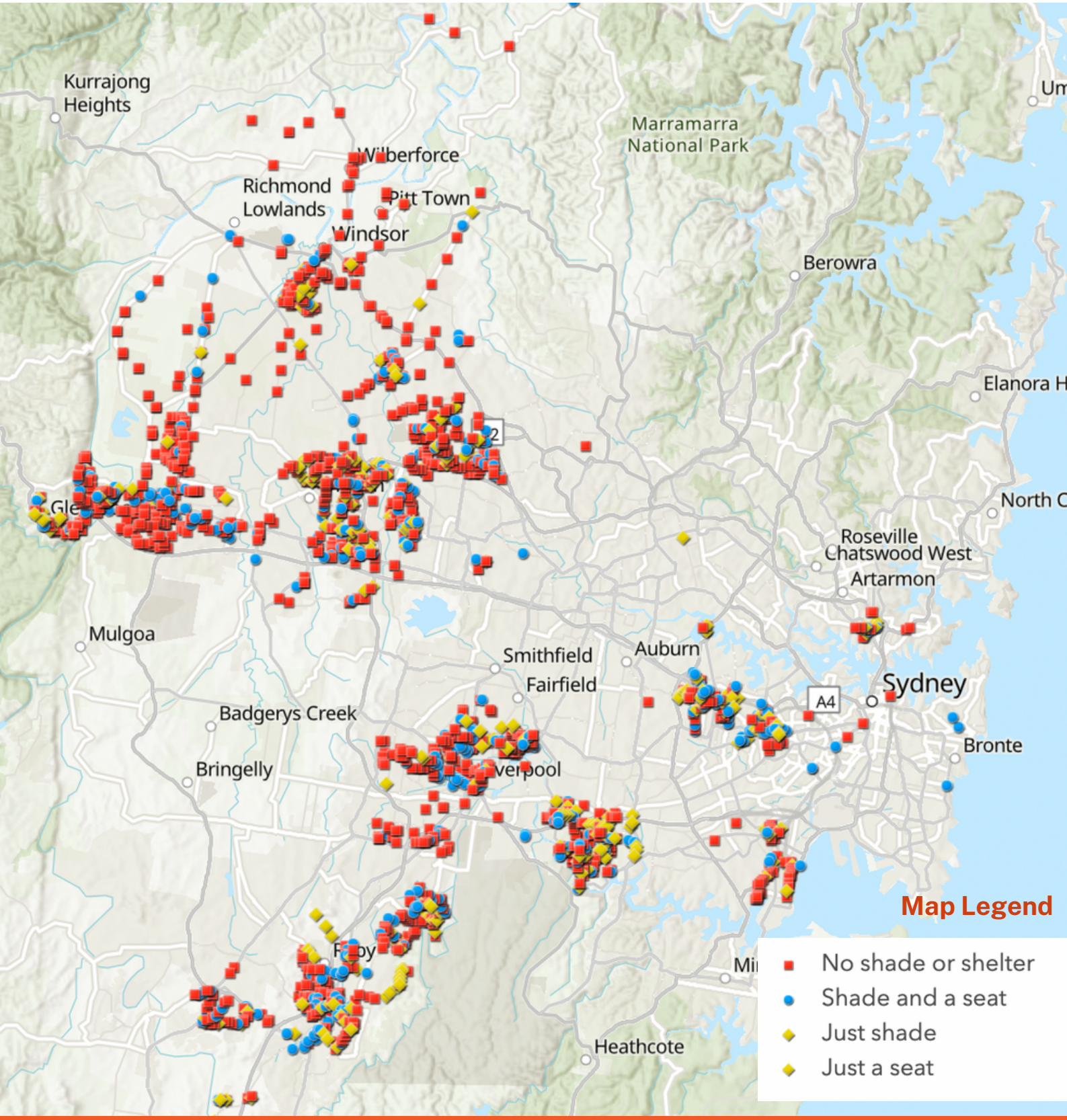
Individuals added stops across the city, and we chose to focus our research on the Penrith local government area. By mapping over 500 stops in the Penrith LGA we found that 70% did not have shelter, seats or shade.

In order to expand our data collection, we collaborated with Professor Kurt Iveson at the Sydney University School of Geosciences and a group of students to map another 2000 stops across the city using site visits and Google Maps analysis, and study the impact of absent bus stop infrastructure in Western Sydney. The students also investigated how the urban heat island effect and the social geography of Sydney might intersect with bus infrastructure.

Finally, the full results have been added to an ArcGIS map that allows people to zoom in and examine the data more closely. Case studies of specific regions with statistically significant numbers of results (over 100 stops mapped) have been added.

Data

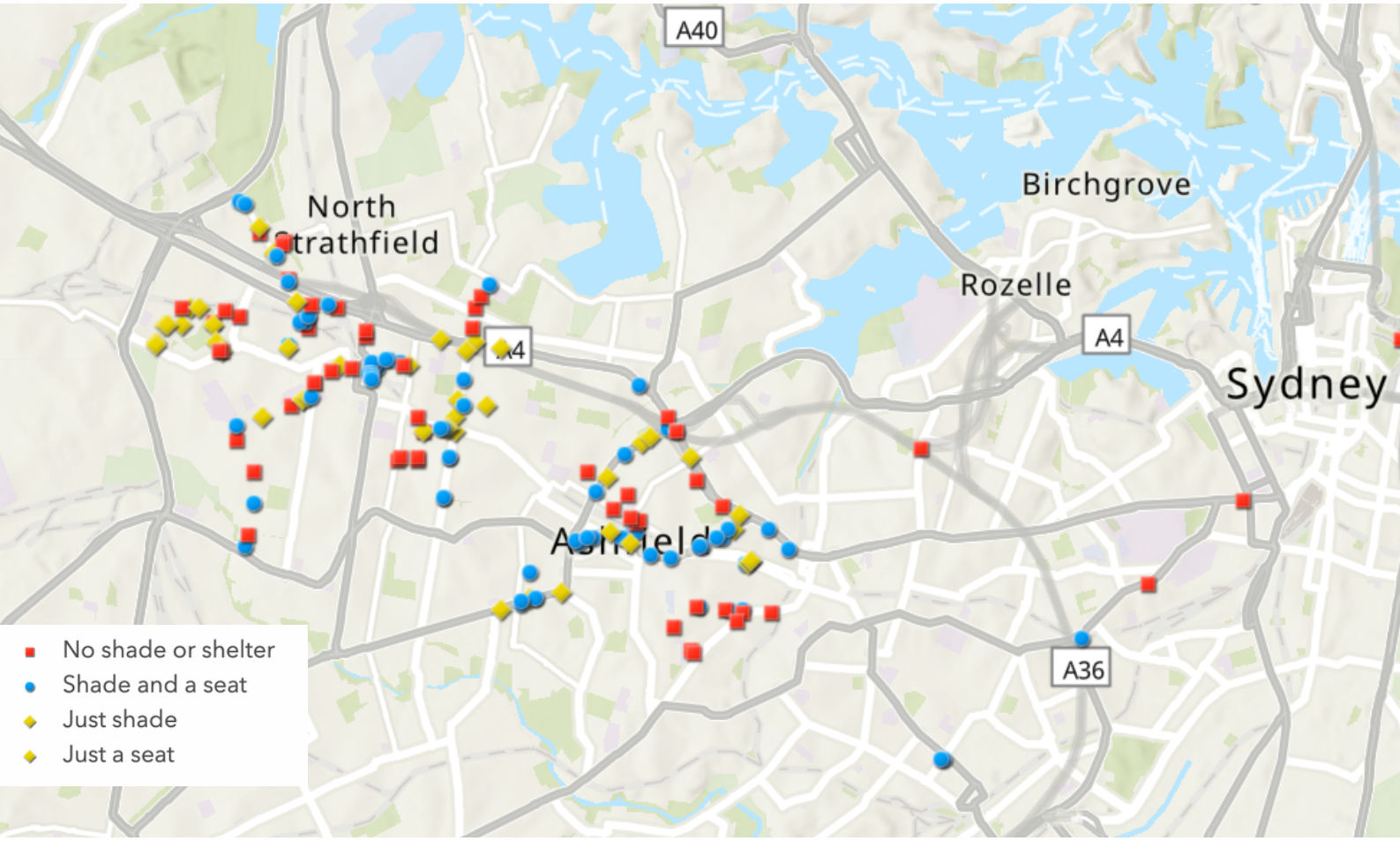
The Busted Bus Stops Campaign involved a community-led research project to map out the distribution of bus stop shelters across Sydney. Using Google Maps and site visits, community members mapped their local bus stops, recording whether it had shade and a seat, just a seat/shade, or no shade or shelter. Over 2500 bus stops were mapped during this campaign, revealing stark disparities in the provision of safe and accessible bus stop infrastructure across the city.



Case Studies

Here we provide a snapshot of the distribution of infrastructure across certain regions in Sydney:

Inner West



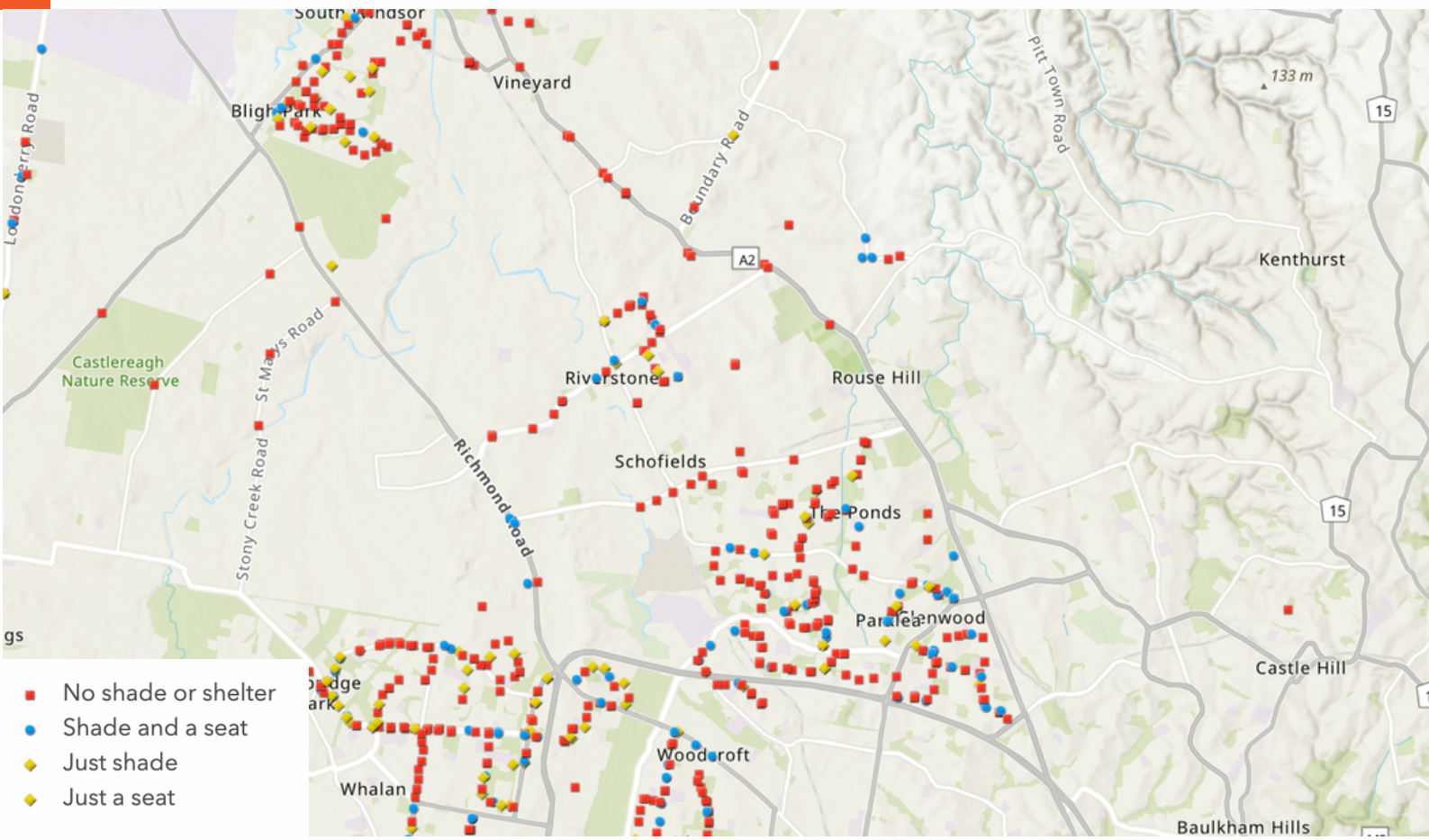
Bus stops mapped: 101
Suburbs: Strathfield, Summer Hill, and Ashfield
Results: 66% of stops had seating and shelter or shade.

"This one is brand spanking new at Rozelle light rail and new WestConnex road interchange. I made the right decision on Tuesday not to stand here in the pouring rain"

A bus stop on Orpington St Ashfield

Case Studies

North West



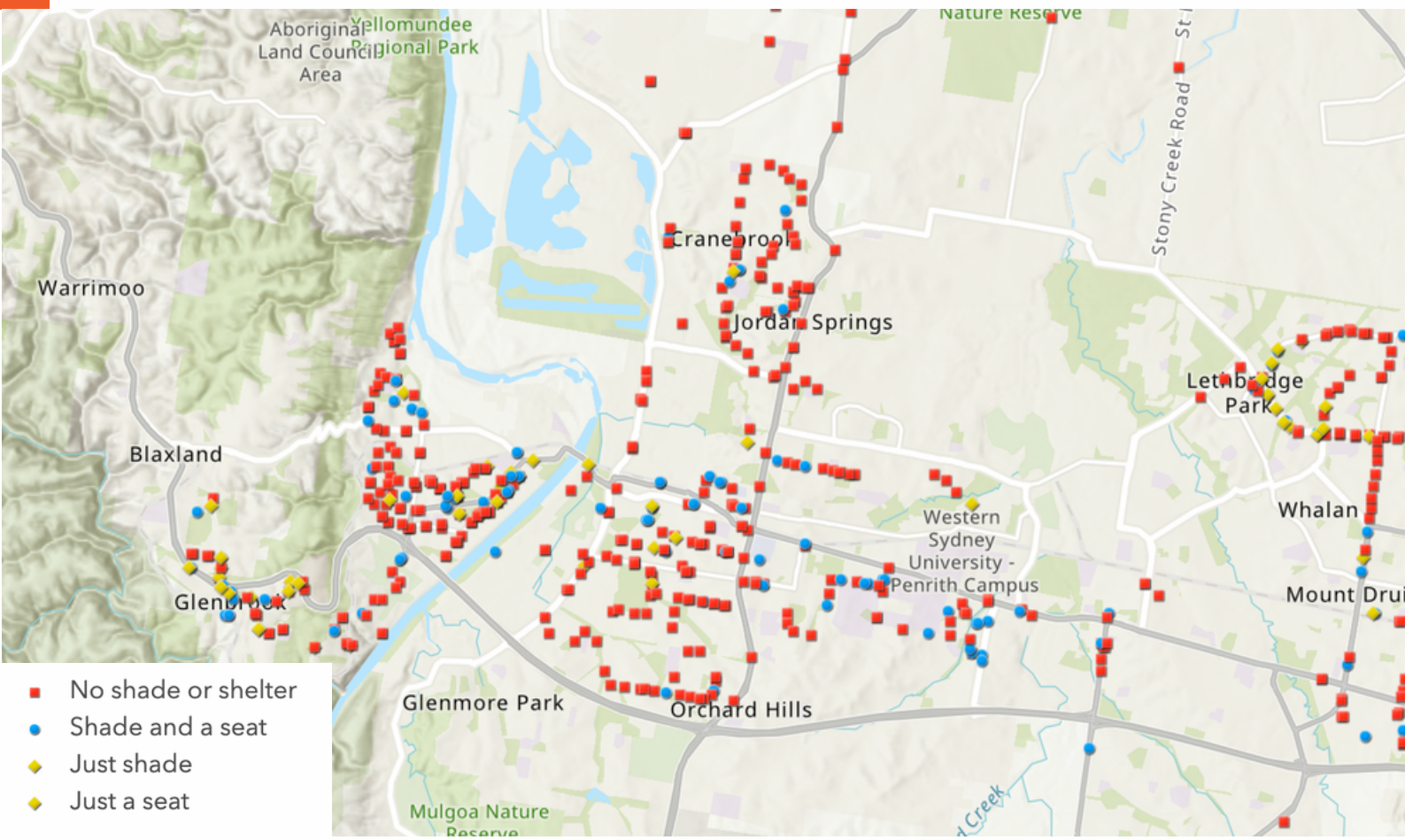
Bus stops mapped: 105
Suburbs: Schofields, The Ponds, Riverstone, and Stanhope Gardens
Results: 37% of stops had shelter, seating or shade

One of the fastest growing districts in Sydney. The population of Schofields is expected to increase by 105% between 2024-2041

A bus stop on Stanhope Parkway, Stanhope Gardens

Case Studies

Penrith



A bus stop in front on Macquarie Av, Penrith showing the importance of tree shade

Bus stops mapped: 596
Suburbs: Penrith, South Penrith, Jamisontown, Jordan Springs
Results: only 33% of stops had shelter, seating, or shade.

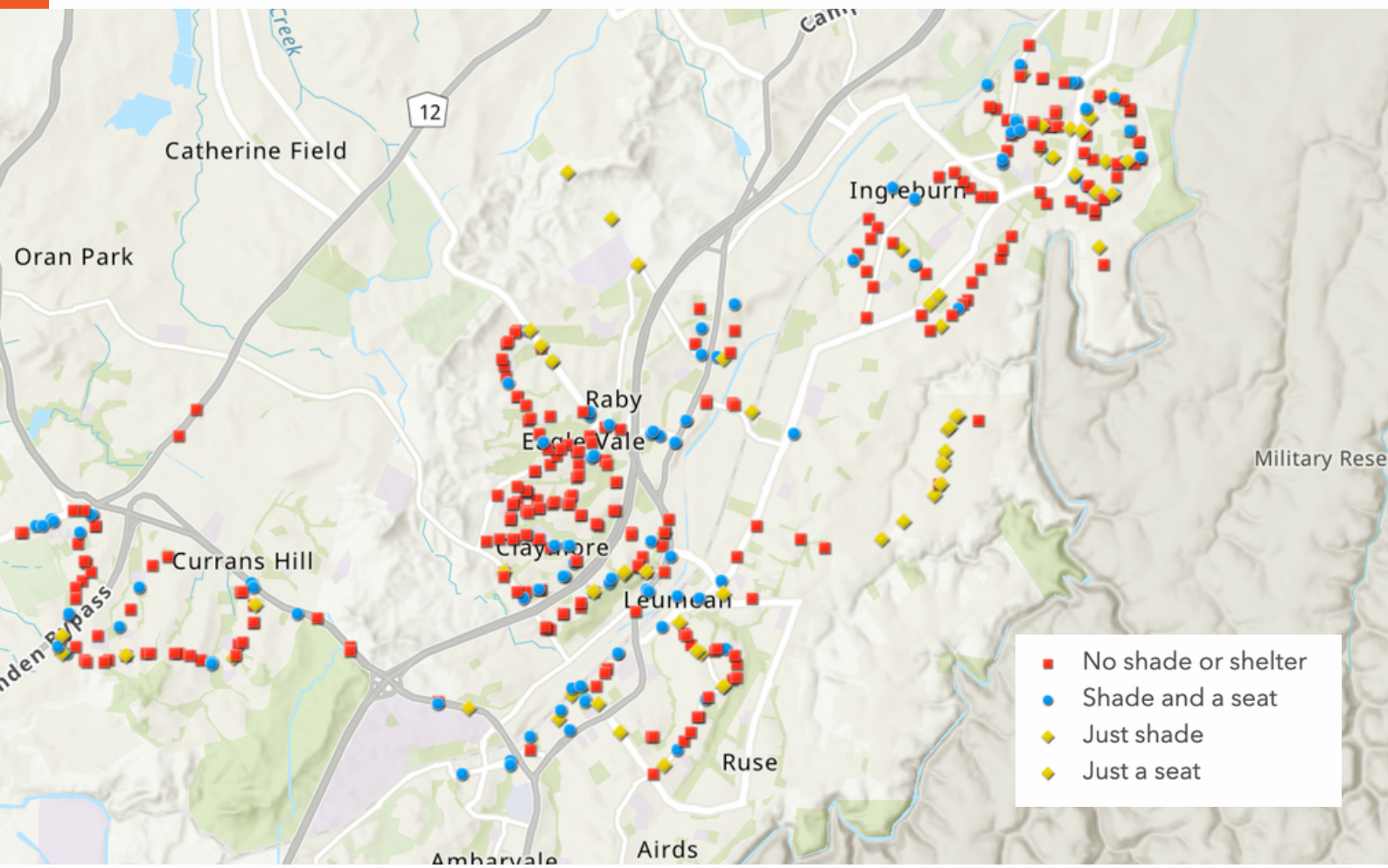
Penrith was the **"hottest place on Earth"** in January 2020 when it reached 48.9°C.
The 2020 Benchmarking Summer Heat Across Penrith report measured temperatures of over 50° on the ground in nearby suburbs.

Read more about our Penrith data here

SWELTERING CITIES

Case Studies

South West



A bus stop on Macquarie Av, Campbelltown

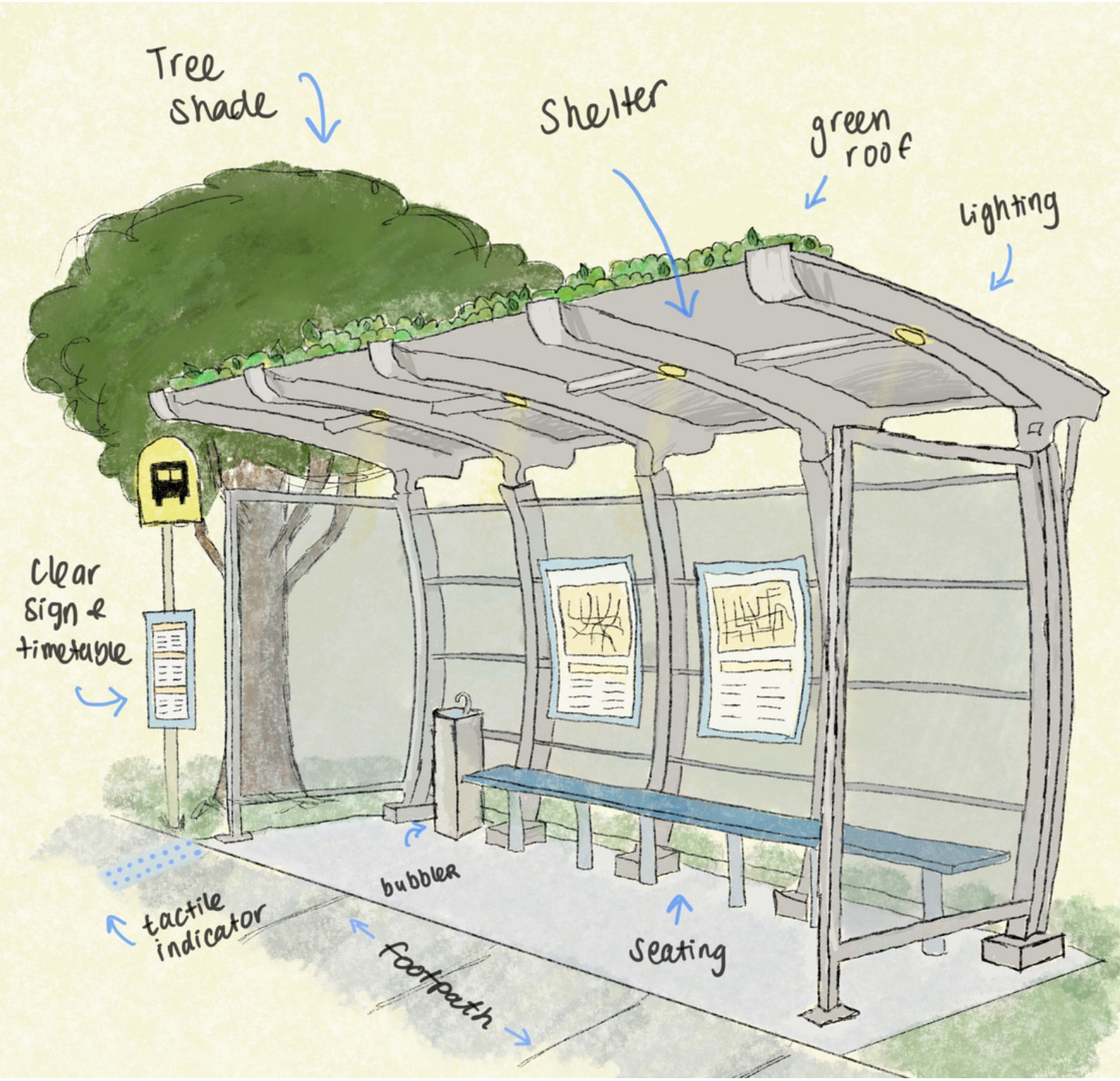
Bus stops mapped: 265
Suburbs: Eagle Vale, Campbelltown, Ingleburn, and Raby
Results: Only 40% of stops had shelter, seating, or shade

"No shelter or seats. Exposed to heat and harsh weather so no practical to wait for long periods of time for the bus and that inconvenience coupled with the fact that we have only one or two bus lines that pass through this road at long intervals with hours wait in between each bus, the bus stops are not used very often by locals."

High population growth from 2021-2021 forecasted in Camden (83%) and Campbelltown (31%) LGAs.

What makes a good bus stop?

From lighting for safety, clear signs, accessibility features, bubblers, tree shade, shelter, and seating, this is one visualisation of what Sweltering Cities' vision of a good bus stop looks like:



Bus stop sketch composed by Bipasha Chakraborty

What makes a good bus stop?

When designing a bus stop, community consultation is essential to ensure the needs and preferences of local residents are taken into account. Feedback about bus stop amenities, design elements, and accessibility features should be gathered from residents, experts, and civil society representatives to promote inclusivity and collaboration in the decision-making of public infrastructure.

Here are some examples of bus stops where community engagement has been overlooked:

Bus stop in Doonside with only a metal seat that reaches scorching temperatures in the heat, inhibiting any use

Bus stop in Plumpton where passengers need to wait behind the shelter for shade. Some stops designed by advertisers appear to prioritise advertisement placement over passenger comfort and safety.

Left: The Climate Adapted People Shelter project, exemplified by the stop in front of Nepean Hospital, engaged residents to create innovative, heat-resistant bus shelters. This initiative was led by the University of Technology Sydney, in partnership with local councils and community organisations, to prioritise user comfort and safety at bus stops. By integrating community input, the project aimed to establish a blueprint for future bus stop designs, enhancing urban liveability and resilience to rising temperatures.

Read more about the project here

Community Stories

Helen, Minchinbury

Helen has lived in Western Sydney all her life. Helen and her husband face challenges with two nearby bus stops that lack shelter and seats. Due to her bad knee, Helen can't stand for very long and must carefully time her waits for the bus, especially if it is delayed. Helen shared her concern for her elderly mother, who does not drive and has to endure long waits at a stop without shelter or seating, sometimes up to an hour if the bus does not show.

Read more about Helen's story here.

Mia, Gladesville

"Bus stops are poorly maintained, inhospitable, and do not have any shade for most of the day", Mia shares. Even for sheltered bus stops, sometimes the buses are so late that she needs to keep ducking into the nearby Woolies to seek some relief from the inescapable heat. Mia wishes that all bus stops had live-updates about when the bus was going to arrive, so that people could retreat from the heat. "Some stops in the city already have this but I can't think of any in Western Sydney."

Worst Bus Stop Competition

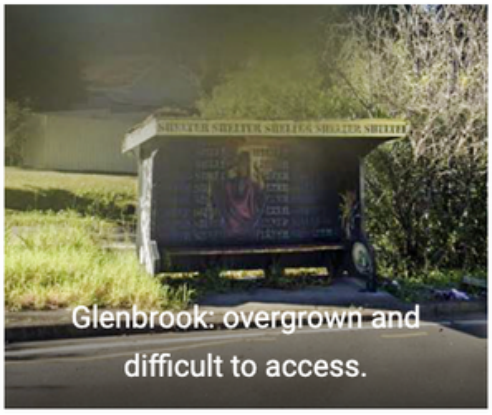
In 2023 Sweltering Cities ran a competition to find Western Sydney's worst bus stop. Nine bus stops were nominated for the competition, including one without shelter in Fairfield West where we measured the road surface temperature next to the stop at 63.5°C.

Bus stops that are completely exposed to the heat, have no footpaths, have wires hanging down, or are next to snake habitats are hotspots for health and safety risks. Western Sydney– the hottest region in the city–deserves safer and more accessible bus stops.


Schofields: no shelter, shade or sign.


Cranebrook: just a pole in the dirt.


Fairfield West: dangerously hot from the baking hot road.


Glenbrook: overgrown and difficult to access.


Minchinbury: nowhere in sight to escape the heat.


Erskine Park: nowhere to stand safely from traffic, heat or snakes.


Casula: loose telegraph wires hanging down.


Ingleburn: uneven grass patch, no shade.


Plumpton: people have to stand at the back for shade.

Worst Bus Stop Competition

After receiving almost 500 votes, this stop in Erskine Park was declared the winner of our worst bus stop competition. The lack of shade, shelter, seating, and footpath, proximity to a busy road with trucks speeding by, and snakes in the grass created the perfect busted bus stop.

We collected community comments from our bus stop mapping. Here are the comments from some of Sydney's worst bust stops:

- *Spending any time here at all would wound me deeply.*
- *This bus stop bakes all day long. I almost never see anyone use that stop in summer.*
- *Yuck, very exposed, no shade, I wouldn't want to be here alone.*
- *I'd almost be worried about snakes here. No shade, hot and gross. No accessibility, just grass, though at least the curb is rolled.*
- *Another fine example of "a telegraph pole can be a bus stop, as a treat". No shade, no shelter, no footpath even. No way would a wheelchair or pram get here easily.*

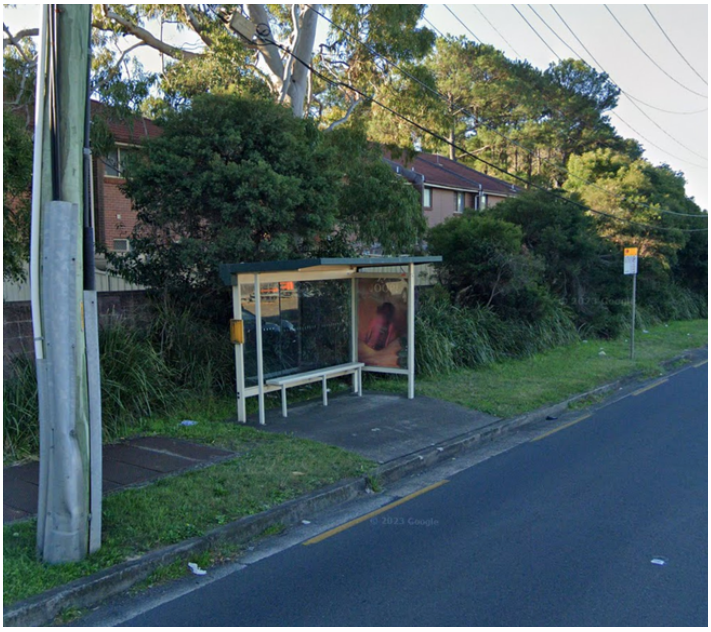
Busted Bus Stops: Photos

Bus stops without a footpath or other accessibility features are misleadingly described as wheelchair accessible on Google. Both of these stops have a small wheelchair symbol representing accessibility on the Google Maps web browser version of the software.

East St, Lidcombe

Old Bathurst Rd, Emu Heights

Signs are an inexpensive but crucial component of bus stop infrastructure, yet many stops across Sydney lack this basic feature.



Hume Hwy, Canley Vale

Schofields Rd, Schofields

Busted Bus Stops: Photos

Rosenthal Street, Doonside

Robinson St, Minchinbury

Temporary seating provided by residents at bus stops, highlighting a clear need for infrastructure improvement

Picnic Point

Bus stops servicing Our Lady of the Rosary Primary School (above) and St Clair High School (below)

"*Buz Plz Stop*" graffiti on bus stop pole, indicating discontent at visibility of signage or bus service reliability.

Lack of shade, shelter, or seating at bus stops servicing schools. Young children are 'most at risk' to heatwave health impacts (Climate Council, 2018)

Policy Solutions

Sweltering Cities proposes an allocation of **$20 million in the 2024-25 state budget to address the uneven distribution of bus stop infrastructure in Sydney.** This funding, specifically aimed at local governments in Western Sydney, can help protect residents from the heat health risks associated with waiting at bus stops without shade, shelter, or seating. It is evident that **local governments in this region do not have the funding to install new stops at the scale needed**. In an ABC article in 2023, a Penrith Council spokesperson stated that they install four new shelters per year, while Blacktown Council, one of the fastest growing LGAs in NSW, has told a Sweltering Cities supporter that they fund one bus shelter per ward per year.

This $20 million in funding will create up to **2000 new stops and help to bring Western Sydney's bus stop infrastructure to similar levels as the Inner West and other well-serviced regions.** To achieve this, funding should be especially directed towards bus stops servicing key community hubs such as libraries, social housing, aged care facilities, schools, community centres, and shopping centres.

It is imperative that the burden of addressing these infrastructure gaps does not solely rely on council budgets at the expense of other essential services. Thus, as an investment in the health, safety, and sustainability of Western Sydney, the state government should ambitiously increase its funding for bus stop infrastructure, especially as the region's population continues to grow.

Ground temperature reading (41.6°C) at a bus stop in Blacktown

The standards for accessible bus shelters should be developed in collaboration with community members, experts in transport, urban planning, and health, and civil society representatives, such as disability and women's safety advocacy groups.

Additionally, research commissioned by the government should focus on understanding the feasibility of public transport access across Western Sydney, particularly during the scorching summer months where temperatures can reach up to 50°. Many residents have shared their personal stories of enduring extreme heat while waiting for buses, highlighting the urgent need for improved infrastructure and access to public transportation in the region.

Climate and Accessibility

Transport Emissions

Transportation is Australia's third largest contribution to greenhouse gas emissions. **60% of this emission comes from passenger and light commercial vehicles.** The Department of Climate Change, Energy, Environment and Water predicts that if these emissions are left unabated, transportation will become Australia's largest source of emissions by 2030.

The Federal Government's primary strategy for curbing transport emissions is supporting the shift to electric vehicles. However, solely relying on electric vehicles will not provide Australians with cheaper and sustainable transport options.

State Strategy Supporting Public Transport

The NSW Future Transport Strategy outlines a vision for unified, multimodal transport management. An outcome within the strategy is the commitment to connect the whole lives of customers through **safer journeys, equitable access, improved connective, and multimodal mobility**. The goals can be achieved through greater public and active transport funding, including funding for bus stop shelters across Sydney's hottest suburbs.

The Climate Council (2023) emphasises the necessity of a transformative modal shift by 2030, with 49% of trips ideally being made via public transport, compared to the current 14% of trips. **Greater investment in public and active transport infrastructure and services will promote this shift, achieving equivalent mobility to private vehicle use, while also reducing air pollution and road congestion.**

Future Transport Strategy to connect customers' whole lives

Corazzo & Favaretto's 2019 study on bus stop accessibility finds that a "**a bus stop and its surroundings can become the weakest link in the journey chain if they provide users with negative meanings (too distant, uncomfortable, unsafe, etc.).** Therefore, investing in quality bus stop shelters is crucial for safety, accessibility, and positive user experiences.

Climate change, Inequality and Accessibility

Western Sydney bears the brunt of higher temperatures, increased heat-health impacts, and fewer bus shelters.

The Funding Infrastructure of Tomorrow (2022) report demonstrated that areas of greater entrenched community disadvantage receive lower infrastructure provision. Our analysis of Sydney's bus stops demonstrates how this is true for even the simplest pieces of infrastructure: bus shelters.

Western Sydney also experiences higher levels of socioeconomic disadvantage, indicated by the Socio-Economic Indexes for Areas (SEIFA) which takes into account employment/unemployment trends, income levels, educational attainment levels, occupational trends, and access to transport/other services. Of the areas we highlighted in case studies, the highest SEIFA score corresponds with the highest proportion of bus stops with shelter and seats. A higher score denotes a higher advantage: Inner West - 1057, Blacktown (North West Region) - 987, Campbelltown (South West Region) - 948, Penrith- 991.

Western Sydney also grapples with rising temperatures due to the Urban Heat Island effect, exacerbated by the lack of green space and excessive concrete. Historically, the region has experienced an average of 8.6 days of extreme heat (temperatures exceeding 35°C) but this could skyrocket to 46 days per year by 2090 under a high emissions scenario (The Australia Institute, 2022).

Longer, hotter summers pose a devastating challenge for vulnerable populations in Western Sydney, including low socioeconomic households and people with disabilities. Census data reveals a higher proportion of people needing assistance in their daily lives due to disability in Western Sydney, in comparison to other regions in Sydney. In addition, socioeconomic disadvantage makes it difficult to afford cooling measures, whether it be turning on the air conditioning or travelling in a cool private vehicle.

As one of Australia's fastest growing urban areas, Western Sydney urgently requires investment in safer, accessible, and sustainable bus stop infrastructure to protect the health and wellbeing of its residents. Without this investment in public transport infrastructure, we will not be able to achieve the liveable, sustainable and equitable communities that we should be aspiring to for all residents.

References

Bowring, D. (2023, February 2). Sydney's worst bus stops top Sweltering Cities heatwave danger list. ABC News. https://www.abc.net.au/news/2023-02-03/sweltering-cities-sydneys-worst-bus-stops-heat/101908144

Climate Council. (2018, January 25). Keep cool this back to school. Climate Council. https://www.climatecouncil.org.au/back-to-school-heat/

Climate Council. (2023). Shifting Gear: The Path to Cleaner Transport . https://www.climatecouncil.org.au/resources/shifting-gear-the-path-to-cleaner-transport/

Corazza, M., & Favaretto, N. (2019). A Methodology to Evaluate Accessibility to Bus Stops as a Contribution to Improve Sustainability in Urban Mobility. Sustainability, 11(3), 803. https://doi.org/10.3390/su11030803

Department of Climate Change, Energy, Environment and Water. (2022). Reducing transport emissions. Australian Government: DCCEEW. https://www.dcceew.gov.au/energy/transport

Lefebvre, M., Zerbib, F., & McGrath, L. (2022). Funding the Infrastructure of Tomorrow . In The Mckell Institute. https://mckellinstitute.org.au/research/reports/funding-the-infrastructure-of-tomorrow/

Melville-Rea , H., & Verschuer, R. (2022). HeatWatch: Extreme Heat in Western Sydney. In The Australia Institute . https://australiainstitute.org.au/report/heatwatch-extreme-heat-in-western-sydney-2022/

Pfautsch, S., Wujeska-Klause, A., & Rouillard, S. (2020). Benchmarking Summer Heat Across Penrith, New South Wales. https://doi.org/10.26183/44va-ck37

Transport for NSW. (2022). Future Transport Strategy. In NSW Government . https://www.future.transport.nsw.gov.au/

Acknowledgments and Thanks

Thank you to every person who added a bus stop to the map, voted in the worst bus stop competition, or sent us a photo on social media of their terrible local bus stops. This work is made possible by the hundreds of community members who add their voice to this campaign.

Professor Kurt Iveson at the University of Sydney School of Geosciences has been a vital and ongoing supporter of this work. Thank you to all the Geosciences students who contributed to the data gathering and analysis. Additional thanks to Associate Professor Tony Loughland at UNSW for his support and contributions. We would also like to thank and acknowledge all of the organisations who supported this project by sharing our communications materials and asked people to map their local bus shelters.

The brilliant Kim Vernon and Dani Villafaña were both instrumental in the data gathering, analysis and writing for this project from the beginning.

Sanaa Shah was the primary author of this report, supported by Emma Bacon, Vittoria Albanese and Sophie Emder.