

ECONOMIC IMPACTS OF 9-11 MARCH HEATWAVE RESEARCH

APRIL 2025



Acknowledgement of Traditional Owners

The City of Melbourne respectfully acknowledges the Traditional Owners of the land we govern, the Wurundjeri Woi-wurrung and Bunurong Boon Wurrung peoples of the Eastern Kulin and pays respect to their Elders past, present and emerging.

We acknowledge and honour the unbroken spiritual, cultural and political connection the Wurundjeri, Bunurong, Dja Dja Wurrung, Taungurung and Wadawurrung peoples of the Eastern Kulin have to this unique place for more than 2000 generations.

We are committed to our reconciliation journey, because at its heart, reconciliation is about strengthening relationships between Aboriginal and non-Aboriginal peoples, for the benefit of all Victorians.

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Economic Impacts of 9-11 March Heatwave Research

Project Background

Extreme heat days and heatwaves have significant economic and health impacts on the city. During extreme heat events we can experience increases in heat-related illness, power outages, and disruption to transport services and outdoor events. These impacts both directly and indirectly impact businesses in the City of Melbourne.

In January 2014, Melbourne experienced an extreme heatwave event that was Victoria's hottest four-day period on record. Research into the business impacts of this heatwave showed:

- An estimated loss in revenue of \$37 million across the businesses in the City of Melbourne municipality.
- The average revenue decline over the heatwave period was 9.7% with the *Retail Trade* sector experiencing an estimated decline of 21.9% in revenue.
- Six out of 10 businesses in Melbourne expect the increase in heatwaves to negatively affect their businesses in future.

The 2014 research has provided essential evidence and justification for an increased focus on heatwave preparedness in the City of Melbourne. This includes appointing Chief Heat Officers and delivery of Heat Safe City initiatives such as Cool Kits and Heat Smart Sessions.

Since 2014, the municipality has changed substantially. There is a change in the pattern of visitation in the city with more people coming into Melbourne for shopping and events as opposed to work. Economic impacts of heatwaves today, are likely to be quite different from what we experienced in 2014.

In March 2024, City of Melbourne experienced a heatwave that is an example of the kind of event Melbourne is expected to experience more frequently in the future due to climate change. This heatwave coincided with the Moomba festival. As a result of extreme temperatures, the traditional Moomba parade was cancelled which is likely to have impacted businesses. Quantifying the impacts of such events when they happen is vital to predicting the future financial and operational effects increased heatwaves may have on Melbourne.

Research and Business Engagement

This project explored the economic impacts of this heatwave through the analysis of operational data and a business survey.

The purpose of this research was to:

- Establish a clear and accurate understanding of the financial and operational impact of the March 2024 heatwave on businesses operating within the City of Melbourne.
- Develop insights on the future impacts of extreme heat on economic activity for Melbourne that will inform project decision-making around heat risk reduction projects and engaging with businesses on preparing for the impacts of climate change.

This project included:

- Analysis of pedestrian counts and spend data (operational data).
- Survey with businesses.

ASDF Research was commissioned by City of Melbourne to undertake an analysis of the economic impact of the 9-11 March 2024 heatwave using the following data points:

Data point	Source	Analysis notes
Pedestrian counts	City of Melbourne pedestrian counting system:	Extracted data for 2019 and 2023 Moomba festival dates and 2024 heatwave dates.
Spend data	City of Melbourne	
Moomba festival data	Moomba festival	2018-2024
Business survey	Online survey conducted by ASDF Research using a database of business emails provided by City of Melbourne.	Survey in field from 5 July to 12 August 2024, receiving 67 responses.

Table 1 Data points analysed

Operational Data

Pedestrian Counts

Pedestrian counts from 33 sensors were used in this study. Three years of data were extracted for the assessment: the year of the heatwave (2024), the year prior (2023) and pre-COVID (2019). This was to estimate what pedestrian counts would have likely been in 2024 if there had not been a heatwave.

Table 2 shows the change in pedestrian counts across the CBD, Southbank, Docklands and Carlton for the three-day heatwave.

	Saturday		Sunday		Monday	
	Day	Night	Day	Night	Day	Night
CBD	-31%	-18%	-37%	-15%	-18%	-2%
Southbank	-51%	-12%	-59%	4%	-25%	1%
Docklands	-42%	24%	-50%	21%	-7%	26%
Carlton	-26%	-14%	-27%	2%	-27%	-17%

Table 2 Potential percentage change in pedestrian traffic due to the March 2024 heatwave

Spend Data

Spend data across five business sectors were analysed: commercial, dining, entertainment, retail and tourism. Data was extracted for four neighbourhoods (CBD, Southbank, Docklands and Carlton) and three years of data were analysed: the year of the heatwave (2024), the year prior (2023) and pre-COVID (2019). This was to estimate what spending would have likely been in 2024 if there had not been a heatwave. All data was adjusted for inflation.

Comparing the data across the three years indicates a \$7million loss to the economy is likely over 3 days (Saturday to Monday) during a heatwave of this type in the City of Melbourne. This is higher in the CBD (\$6.3 million) than other areas of the city (\$700,000 or less).

Business Survey

Concern about the impacts of heatwaves

- 75% of businesses were very or fairly concerned about the impact of heatwaves on the operational and financial performance of their business. Concern was stronger amongst food businesses (44% very, compared to 18% retail).
- 42% of businesses believe that an increase in the frequency or severity of heatwaves in Melbourne will have a significant impact on their business.
- 84% of businesses had experienced an impact from the 2024 March heatwave. The most common being decrease in revenue (63%) and additional operating costs (54%).

Key impacts of the 2024 heatwave

- 61% of businesses reported a negative impact due to the cost of utilities.
- 66% of businesses reported a negative impact on their staff, mostly level of comfort (54%) and/or morale (49%).

Financial impacts

- 67% of businesses had experienced a decrease in overall profitability during the March 2024 heatwave.
- \$6.4million estimated loss amongst food businesses during the March 2024 heatwave.
- \$6.8 million estimated loss amongst retail businesses during the March 2024 heatwave.

Planning for heatwaves

- 40% average decrease in profitability during the March 2024 heatwave (50% for retail and 36% for food).
- 57% of businesses want Council to assist with infrastructure upgrades to make the city cooler and safer
- 52% of businesses want Council to provide grants to help their business adapt.
- 31% of businesses want Council to provide advice, tips and/or workplace safety information. Most want this through an email newsletter.

How data and feedback will be used

Heat safe city projects

The insights gained through this research will provide ideas and opportunities for programs and projects that build business resilience to heatwaves. It will inform the prioritisation of heat safe city projects for next and future summers.

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