

# NAVIGATING ECONOMIC UNCERTAINTY IN POST-COVID CITIES

EMPLOYMENT VULNERABILITY AND RESILIENCE IN  
AUSTRALIAN CAPITAL CITIES

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## URBAN CULTURAL POLICY AND THE CHANGING DYNAMICS OF CULTURAL PRODUCTION

The Urban Cultural Policy project undertakes comparative international case study research around the changing dynamics of the creative economy, particularly the emergent relationships with a complex urban manufacturing sector. The project aims to identify lessons for Australian cities to develop new policies around cultural production and manufacturing.

<http://www.urbanculturalpolicy.com/>

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## ACKNOWLEDGEMENT OF COUNTRY

We acknowledge and pay respects to the Elders and Traditional Owners of the land on which our four Australian campuses stand.

[Information for Indigenous Australians](#)

## Contents

<b>Introduction</b>	<b>4</b>
<b>Key Findings and Recommendations for More Resilient Employment Areas and Communities</b>	<b>5</b>
<b>Vulnerable Employment Areas in Australia’s Capital Cities</b>	<b>8</b>
<b>Vulnerable Employment Communities in Greater Melbourne</b>	<b>16</b>
<b>Implications and Key Recommendations</b>	<b>25</b>
<b>Methodology</b>	<b>27</b>
<b>Methodological References</b>	<b>31</b>
<b>Appendix Data</b>	<b>31</b>

## Introduction

Australia has entered a period of reduced Covid-19 restrictions yet both the health and economic well-being of our communities remain fragile. Despite relatively low infection rates, experts claim that “[it would be a miracle](#)” if “future spikes” do not occur. We must also be prepared for the possibility of a larger, “[second wave](#)” resurgence of Covid-19 transmission as has occurred in [Europe and Asia](#).

While treasurer Josh Frydenberg optimistically estimates that by July, easing Covid-19 restrictions will result in GDP [gains of \\$9.4 billion per month](#), Australian cities have already [plunged into recession](#). According to a recent national [ABS survey](#), 72% of businesses have lost revenue due to Covid-19 and over half (55%) are relying on federal wage subsidies to stay afloat. While the official May 2020 unemployment rate was 7.1%, experts have placed the true number [as high as 20%](#) due to lost hours and those who have left the workforce.

Given the unpredictability of future outbreaks, policymakers cannot assume a smooth road to recovery. Even under the best case “V-shaped” recession scenario, some industries and communities will deal with the economic fallout of Covid-19 for years to come.

This research aims to assist policymakers in assessing the risk of employment vulnerability as the impacts of Covid-19 evolve. We map the geography of Covid vulnerable *employment areas* in all suburbs in Australia’s five largest capital cities.<sup>1</sup> We then analyse the characteristics of vulnerable *employment communities* (residence of vulnerable workers) in Greater Melbourne. We focus on Melbourne because it contains the most even spatial distribution of vulnerable employment among the capital cities. Looking at both employment areas and communities gives a more complete picture of the challenges facing Covid-vulnerable industries and workforces.

We analyse vulnerable employment based on two scenarios. The first wave scenario focusses on employment that has been immediately affected by Covid-19 social distancing and travel restrictions and the current “[service-sector](#)” recession. We include all industries where 1/3 or more firms reported [reduced worker hours](#) as of 30 March 2020 (one week after lock down). This is predominately consumer, travel, and community services: accommodation, food services, transportation, arts,

recreation, entertainment, [education](#), and non-essential [healthcare services](#). Many of these businesses are not equipped to simply reopen and rehire employees as restrictions are relaxed. Many are small businesses with a bottom-line dependant on close contact with customers. In fact, [over two-thirds](#) (69%) of businesses in Australia employ fewer than five people and [less than 40% of all jobs can be performed at home](#).

We may see an even more powerful second wave of vulnerable employment wash over other sectors. This scenario includes employment in industries with a high share of businesses reporting uptake of the Federal [JobKeeper](#) program (e.g. administrative support services, construction, manufacturing) and, therefore, are at high risk when the program expires in September. They also may be further weakened by slow local demand and investment (e.g. construction and real estate) or continued disruption of global export and supply chains (e.g. manufacturing, mining) under future Covid-19 outbreaks or protracted recession.

Unlike other recessions, the economic effects related to Covid-19 are rooted in a service-sector recession. Investing in major infrastructure projects and slashing taxes to encourage job growth and business expansion will not work. Policymakers need to focus on building a more resilient and diverse job mix and support quality future employment opportunities.

<sup>1</sup> See the Appendix for details on data and methods.

## Key Findings and Recommendations for More Resilient Employment Areas and Communities

Covid-19 restrictions highlight that many employment areas are vulnerable due to a lack of economic diversity and that vulnerable employment is concentrated in specific places.

- The most vulnerable employment areas contain large shares of service-based employment and lack a diverse employment base. They are found throughout the metropolitan areas but most concentrated in inner suburbs.
- The most resilient places are those that contain a more diversified industrial employment mix and do not rely on any single sector.

The economic burden of Covid-19 restrictions falls hardest on service workers, particularly those who manage to live in the high cost, jobs-rich inner suburbs. Spatial inequality may accelerate in the post-Covid city.

- The majority of people working in first wave vulnerable employment areas hold low

wage, part-time work with 25% working 15 hours or less each week. Positions are held disproportionately by women and young people.

- The most vulnerable employment communities are concentrated in Melbourne's inner suburbs. About 30% of vulnerable workers living in the inner suburbs work in arts, recreation, and education industries.

Although a smaller share of vulnerable workers live in the outer suburbs, these communities are home to more people that work in low-wage, part-time vulnerable employment.

- 66.7% of low and very low-income vulnerable workers live in the outer suburbs compared to 47% in the inner suburbs
- 60.5% of vulnerable workers that live in outer areas work part-time

We can address the lack of place-based economic diversity and support more equitable and resilient communities by:

- **Preserving existing inner and middle suburban industrial land.**  
Industrial land plays a [significant role](#) in small enterprise start-up, firm expansion, and job creation. Inner and middle industrial districts provide a mix of flexible industrial buildings, allowing businesses to grow and add jobs in place.
- **Developing mixed-use employment areas that incorporate light industrial production.**  
Examples include the [Commercial 3 Zone](#) in Melbourne or the [cross-subsidy mechanism](#) in San Francisco's industrial land use strategy. Covid 19 demonstrates that we need to look beyond consumer services and the discretionary spending of professionals to drive economic development.
- **Rethinking the business mix in service-based retail areas and employment communities.**  
Retail vacancy rates were growing prior to the pandemic and may accelerate as on-line retail grows. This presents an opportunity to re-purpose retail and consumption spaces for [production, arts and community uses](#).
- **Building [community infrastructure and employment hubs in the outer suburbs](#).**  
Community hubs provide flexible, multipurpose spaces that incorporate a range of community needs and services from youth, aged care, and health facilities to collaborative workspaces and settings for workforce training providers.
- **Supporting the [interdependence between manufacturing and creative industries](#).**  
Inner city areas are overly focused on cultural consumption resulting in low-road employment opportunities. In contrast, firms working across the creative industries-manufacturing interface can create accessible jobs with pathways to upskill in design-driven manufacturing and specialty services from printing to small batch food production.
- **Investing in [workforce skills building programs](#)** tied to educational recovery in key areas like "essential manufacturing" (medical supplies, recycling, food) and communications technologies. Manufacturing has proved to be an essential part of Australia's recovery from the pandemic, pivoting to develop vital medical and protective equipment in collaboration with research institutions such as [CSIRO](#). Well-funded research and training institutions must be a pillar of Australia's post-pandemic recovery.



## Vulnerable Employment Areas in Australia's Capital Cities

This section first analyses the vulnerability of employment areas in Australia. We explain the composition, spatial distribution, and demographics of vulnerable employment in Australia's five primary capital cities: Adelaide, Brisbane, Melbourne, Perth, and Sydney. The share of vulnerable employment is not concentrated in any single city, but evenly spread across the country. Similarly, while there is generally a higher concentration of first wave vulnerable employment in the city centres, middle and outer suburban communities are increasingly at risk under a second wave scenario. In vulnerable employment areas, the majority of vulnerable job holders are women, low-income, and work part-time.

Following the national review, we focus on the more specific location and character of vulnerable employment areas in the capital cities. The most vulnerable employment areas are those with a high concentration of service-based employment. The most resilient places are those that contain a more diversified industrial employment base.

### *The Distribution of Vulnerable Employment*

Table 1 confirms what has already widely been reported: that all metropolitan areas are facing high economic risk during and subsequent to Covid-19 restrictions. First wave vulnerable industries account for about one-quarter of all employment in the capital cities. Melbourne and

Sydney contain significantly more vulnerable employment given their overall larger population and metropolitan labour markets. However, the largest metro areas do not possess significantly outsized employment shares or concentrations.

Employment concentrations range between three and seven per cent above the national average. This indicates that most first wave activity is tied to local economic activity. This makes sense given the heavy orientation of first wave industries in consumer services. In fact, accommodation, food services (cafés, restaurants, pubs), and Covid-19 impacted retail (e.g. home furnishings, apparel, department stores) account for around half of all first wave vulnerable employment in the capital cities and Australia.

Second wave industries are less concentrated in the capital cities, but this is because they encompass nearly half of the workforce in each of the metropolitan areas. Perth is more at risk than other capital cities due to its high level of employment in mining-related industries compared to the vulnerable service industry orientation in other metros.

**Table 1. Total, Share, and Concentration (LQ) of Vulnerable Employment in Five Capital Cities**

Capital Cities	First Wave Employment	Share	Location Quotient	Second Wave Employment	Share	Location Quotient
Adelaide	141,284	0.25	1.07	247,975	0.44	0.99
Brisbane	253,007	0.24	1.03	462,305	0.45	1.00
Melbourne	513,110	0.25	1.06	933,193	0.46	1.02
Perth	206,897	0.24	1.03	398,146	0.47	1.05
Sydney	537,686	0.24	1.03	951,313	0.43	0.96
Australia	2,522,385	0.24		4,768,924	0.45	

Note: Location quotient (LQ) is a common measure of industry concentration that compares Capital City employment relative to the nation. An LQ of 1.0 represents the national average and an LQ over 1.2 is a standard indicator of employment concentration or specialization.





## The Demographics of Vulnerable Employment

The employment profile of first wave vulnerable employment reflects the precarious and low-road opportunity structure in the consumer services industries (Table 2). A majority (58.7%) of people working in first wave industries are employed on a part-time basis, with 1/4 working 15 hours or less each week. Over half (54.8%) are low or very low-income earners compared to just over 1/3 (36.7%) for all employed people. Women and young people comprise the largest share of first wave vulnerable employment. Sixty per cent of jobs are held by women and over 1/3 (37.3%) of the workforce is under 30. Slightly more people in first wave industries speak a language other than English at home compared to the average. However, 30% and 28.5% of people in

accommodation and food service and non-essential health care respectively are non-English speakers. This supports previous studies in [Australia](#) and the [US](#).

Second wave vulnerable industries, which include a broader economic mix including industrial and some professional services, are closer to the Australian average. These industries provide considerably more full-time employment (57%) than first wave industries. They consist of a higher share of middle and upper-income jobs, but do not keep pace with the Australian average. Further, 41% of people are low and very low-income earners. More men (56.6%) hold second wave jobs and this workforce is more mature.

**Table 2. Vulnerable Industry Employment Demographics in Australia**

	First Wave	Second Wave	All Employment
<b>Hours Worked</b>	<b>%</b>	<b>%</b>	<b>%</b>
0-15	25.1	17.3	15.1
16-37	33.6	25.8	27.6
38+	41.3	57.0	57.3
<b>Income</b>	<b>%</b>	<b>%</b>	<b>%</b>
Very Low (\$20,799 p.a. or less)	24.7	15.8	12.7
Low (\$41,599 p.a. or less)	30.1	25.0	24.0
Middle (\$90,999 p.a. or less)	33.6	41.4	43.8
High (\$155,999 p.a. or less)	8.1	12.7	14.4
Very High (\$156,000 p.a. or more)	3.5	5.0	5.1
<b>Sex</b>	<b>%</b>	<b>%</b>	<b>%</b>
Male	39.3	56.6	52.5
Female	60.7	43.4	47.5
<b>Age</b>	<b>%</b>	<b>%</b>	<b>%</b>
15 - 29 years	37.3	30.5	25.5
30 - 44 years	28.8	32.3	33.7
45 - 59 years	25.0	28.1	30.5
60 years and over	8.9	9.1	10.2
<b>Language Spoken at Home</b>	<b>%</b>	<b>%</b>	<b>%</b>
English only	76.6	78.3	78.8
Language other than English	23.1	21.4	21.2

## The Metropolitan Geography of Vulnerable Employment Areas

Figures 1 and 2 contextualize vulnerable employment areas by classifying all suburbs based on location within 10 km distance bands from the city centre in each of the five capital cities.<sup>1</sup> As Fig. 1 shows, high and very high vulnerable employment areas exist across the entire metropolitan area in each city. Whereas the overall share of vulnerable suburbs diminishes rapidly from inner to outer bands in the smaller cities, in Melbourne vulnerable suburbs are more equally distributed within each distance band. In Sydney, the inner and outer bands have roughly the same share of vulnerable suburbs.

However, despite variation in city size, vulnerability tends to be proportionally more concentrated toward the city

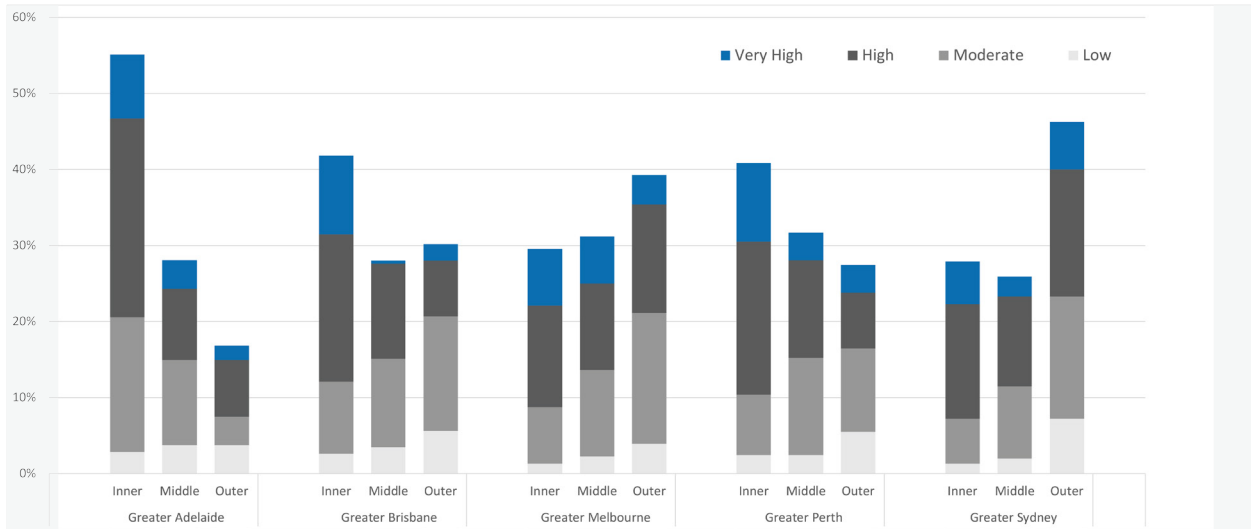
centre due to the high level of consumer service employment. In each city, the majority of suburbs in the inner 10K band are facing either very high or high vulnerability. In fact, this accounts for 70% or more of the inner band suburbs in all cities except Adelaide.

Second wave vulnerable employment is spread more broadly across the metropolitan areas and more prominent in middle and outer band suburbs due to the location of industrial districts and goods producing activities (Fig. 2). The majority of inner band suburbs remain vulnerable in each city, but the share is somewhat lower than the first wave scenario. Further, the majority of middle and outer band suburbs are beset by high and very high vulnerability in all cities except Brisbane.



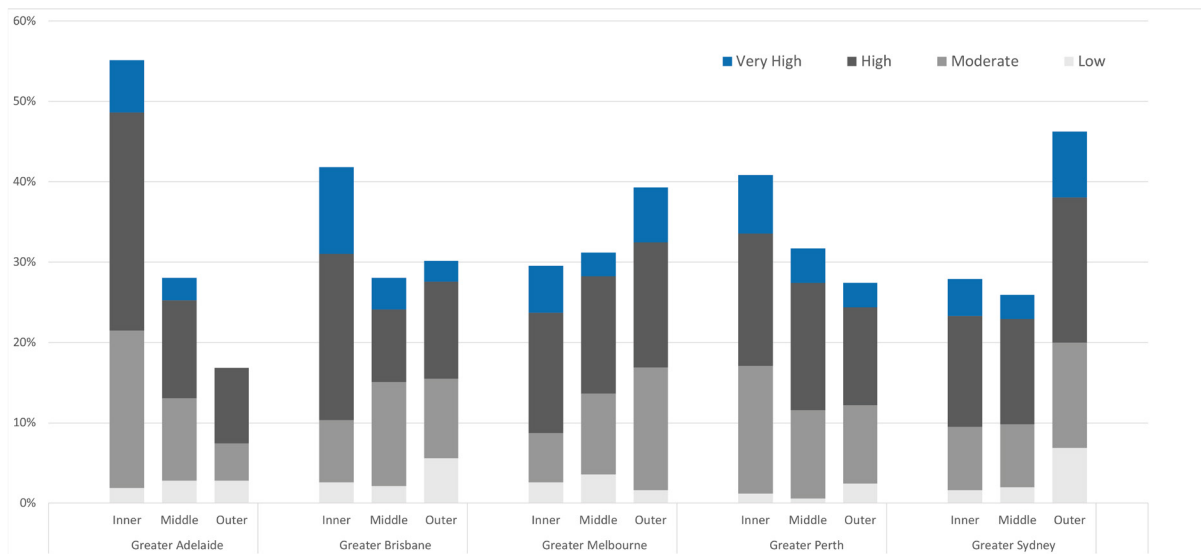
<sup>1</sup> Vulnerability is categorised using vulnerable industries employment as a proportion of total employment in all suburbs (ABS SA2 level geography). The most (least) vulnerable employment areas have a proportion more than (less than) one standard deviation from the mean. See Appendix for a detailed explanation.

**Figure 1. Proportion of First Wave Vulnerable Employment in Suburbs by Distance from the City Centre**



Note: Suburbs are based on ABS SA2 geographies and place of work employment data. "Inner" (< 10 km), "Middle" (10-19 km), and "Outer" (20+ km) denote distance from the CBD in each city.

**Figure 2. Proportion of Second Wave Vulnerable Employment in Suburbs by Distance from the City Centre**



Note: Suburbs are based on ABS SA2 geographies and place of work employment data. "Inner" (< 10 km), "Middle" (10-19 km), and "Outer" (20+ km) denote distance from the CBD in each city.

## Vulnerable Employment Areas: Industry Composition and Job Mix

Here, we dig into the type and mix of industries in the most vulnerable employment areas. As discussed above, a majority of suburbs within the inner 10km band are highly vulnerable to first wave Covid-19 restrictions. The CBDs in each city contain the highest number of vulnerable workers, but this is because they contain by far the most jobs in their metropolitan area. While all of the CBDs have certainly been hard hit and many people that work there are at risk, other employment areas are considerably more vulnerable. This is because they lack the diverse employment base of the CBD.

Amongst the most highly vulnerable suburbs in the first wave scenario, 42% of the employment base on average is classified as vulnerable. The most vulnerable suburbs contain a uniform concentration of employment and typically depend on a single employer or industry (Figs. 3-7). Many are dominated by service-based employment and are home to major shopping and entertainment centres in the middle suburbs including Maribyrnong (Highpoint Shopping Centre) and Malvern East (Chadstone Shopping Centre) in Melbourne as well as Carindale (Westfield) in Brisbane and Booragoon (Garden City) in Perth.

Others are cultural, entertainment, or recreation destinations like Paddington-Moore Park (Fox Studios, Entertainment Quarter, Paddington Markets) in Sydney or Southbank (National Gallery of Victoria, Centre for Contemporary Art) in Melbourne.

Of course, some of the most vulnerable employment areas contain airports. Adelaide, Melbourne, and Sydney airports are among the most vulnerable places. While the majority of vulnerable employment is in air travel, they

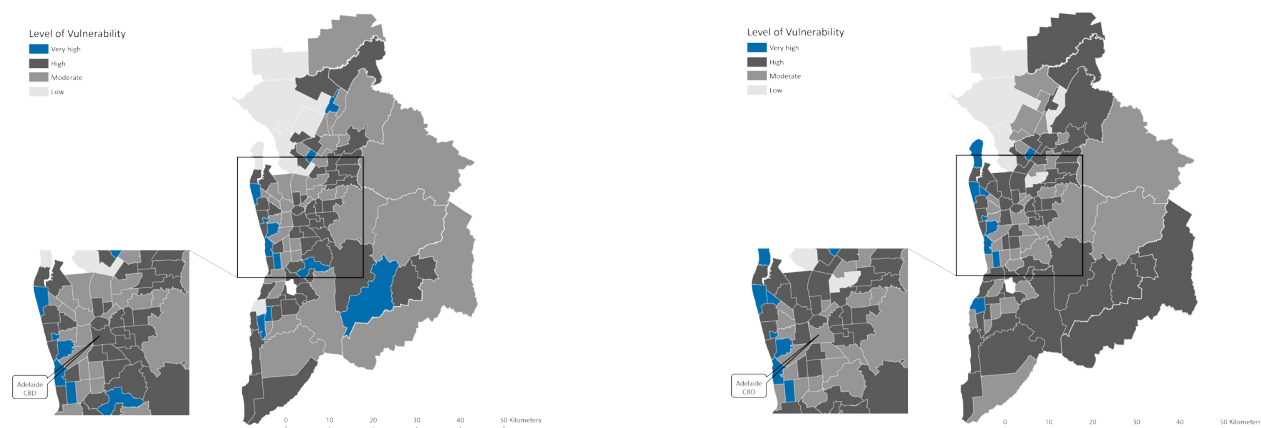
also contain sizeable proportions of accommodation, food services, and retail.

Others are sites of higher education with significant consumer and/or non-essential medical services nearby like St. Lucia (University of Queensland), Kensington (UNSW) and Newtown - Camperdown – Darlington (University of Sydney), Carlton (University of Melbourne), and Bentley - Wilson - St James (Curtin University, Perth). Although Clayton is home to Australia's largest university (Monash University, Melbourne), the area's more diversified industrial employment base softens the employment impact.

Indeed, by contrast, the most resilient (low vulnerability) places are those that contain a more diversified industrial employment base. This includes places predominately in middle and outer suburban industrial precincts. Virginia in Adelaide (market gardening, manufacturing and logistics); Pallara in Brisbane (manufacturing, logistics and warehousing); West Melbourne (manufacturing, logistics and warehousing) and Truganina (industrial, education and local-serving industries) in Melbourne; Kwinana (one of the largest eco-industrial precincts in the world) in Perth; and Yennora and Port Botany Industrial districts (manufacturing, logistics and warehousing) in Sydney.

Melbourne's last remaining major inner-city industrial zone - Port Melbourne – is also amongst the most resilient places in the first wave scenario. Port Melbourne Industrial district supports a diverse mix of production and professional services that may partly insulate it from an economic downturn. However, it also includes

**Figure 3. Greater Adelaide, First Wave (left) and Second Wave (right) Vulnerable Employment Areas**



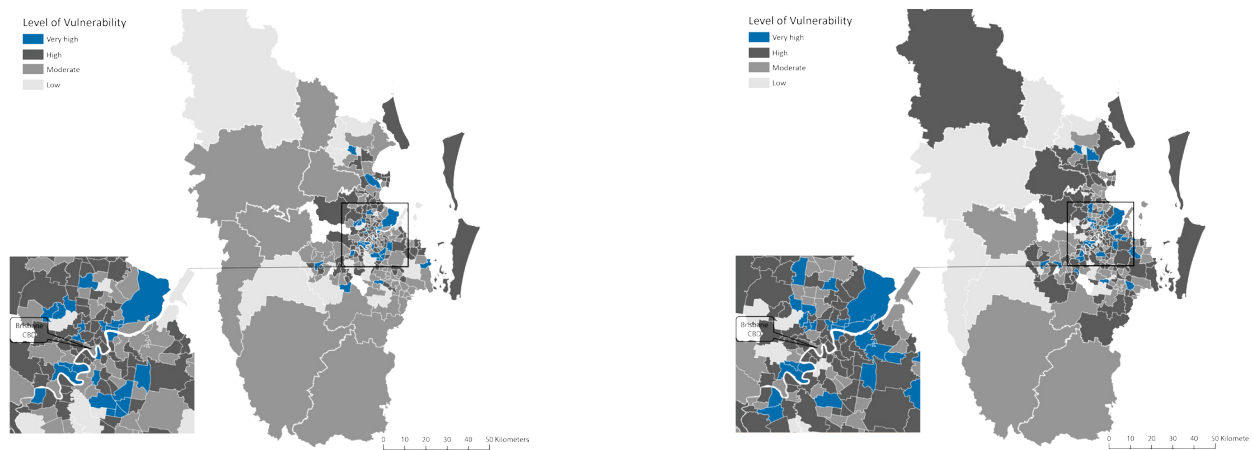
Fisherman's Bend, Australia's largest urban renewal project and the largest single rezoning of industrial land in the city. The loss of this industrial land may exacerbate vulnerable employment challenges in the future.

In a second wave scenario, more middle and outer employment areas are vulnerable (Figs. 3-7). However, just one quarter (24%) of the most vulnerable places are the low vulnerability first wave industrial precincts with high concentrations of manufacturing employment. Around 17% of second wave employment areas are classified as low vulnerability in both scenarios. This includes all of the mixed industrial districts above except Kwinana and Port Melbourne. While industrial precincts with a more mixed employment base are comparatively better off, a large

proportion of the employment base is affected despite their moderate or low risk status.

Instead, the most vulnerable employment areas continue to be dominated more by first wave service-oriented suburbs with 83 (48%) classified as very high vulnerable employment areas in the second wave across the five capital cities. Once more, although obviously more exposed, the more diverse employment suburbs fare best under a second wave scenario.

**Figure 4. Greater Brisbane, First Wave (left) and Second Wave (right) Vulnerable Employment Areas**



**Figure 5. Greater Melbourne, First Wave (left) and Second Wave (right) Vulnerable Employment Areas**

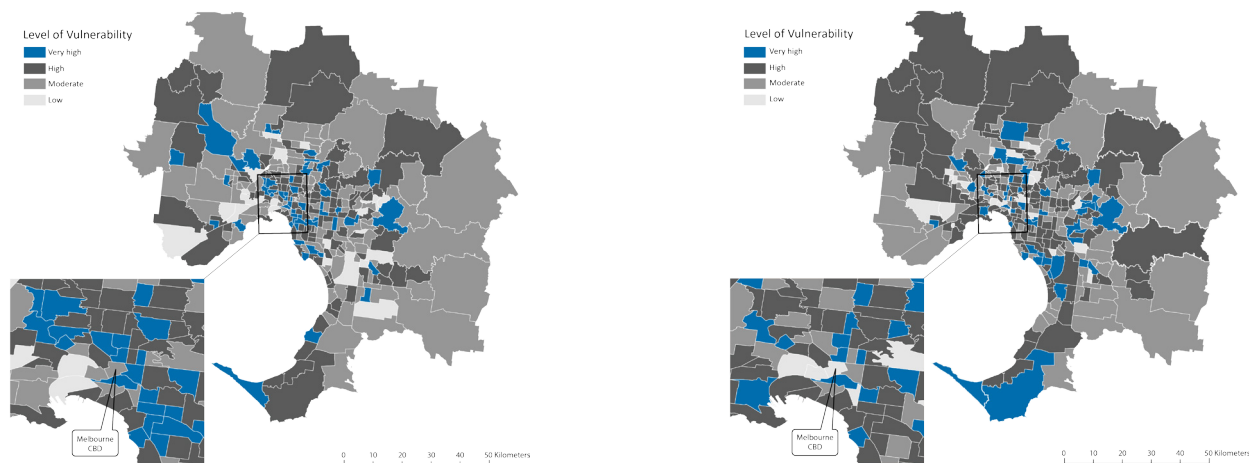


Figure 6. Greater Perth, First Wave (left) and Second Wave (right) Vulnerable Employment Areas

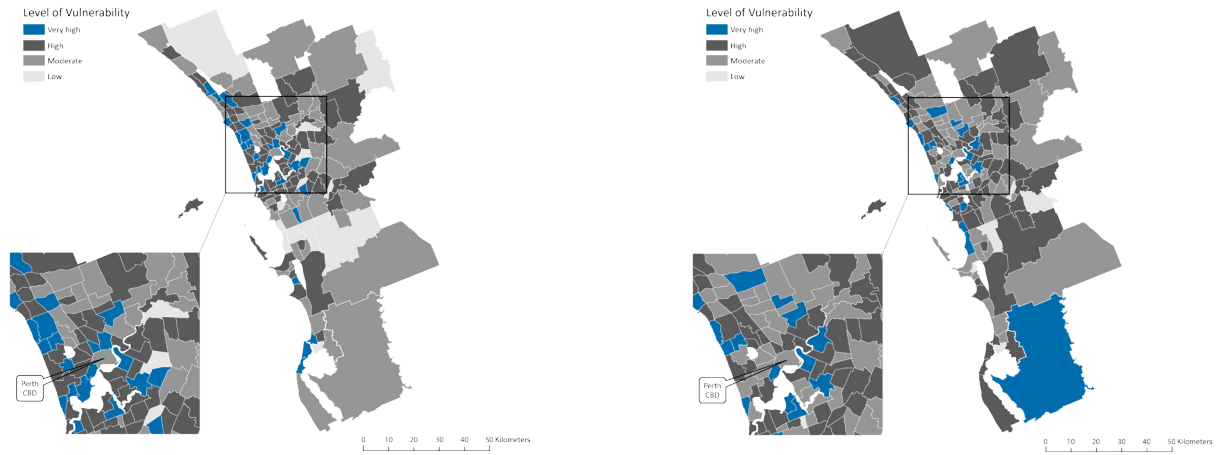
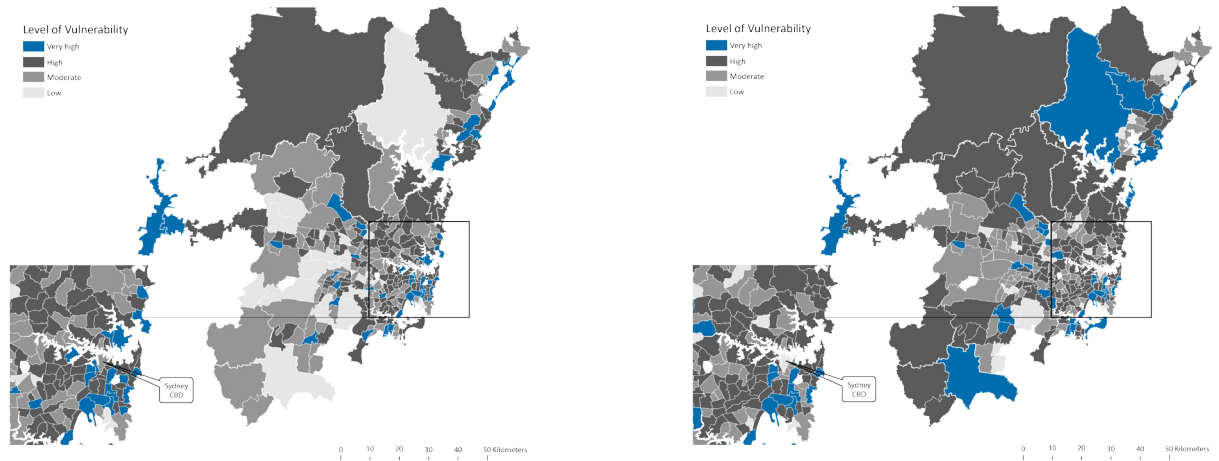


Figure 7. Greater Sydney, First Wave (left) and Second Wave (right) Vulnerable Employment Areas



## Vulnerable Employment Communities in Greater Melbourne

In this section, we analyse the characteristics of communities where a high share of vulnerable workers live. Following the approach to capital city employment areas, we analyse the geography, structure, and demographics of communities with high shares of vulnerable employment under first and second wave scenarios. These patterns are further contextualised by analysing the vulnerable workforce composition within different communities and vulnerable subindustries.

We find that the inner suburbs are home to the largest share of Covid-vulnerable workers. This could accelerate the on-going suburbanisation of disadvantage as more lower income people seek affordable housing in outer areas. This condition is compounded by the fact that low vulnerability outer communities are actually home to the highest share of the most vulnerable low-income service workers. Those working at the bottom of the economic ladder will likely struggle more in a post-Covid city and spatial inequality may further widen.





## The Geography of Vulnerable Employment Communities

### First Wave

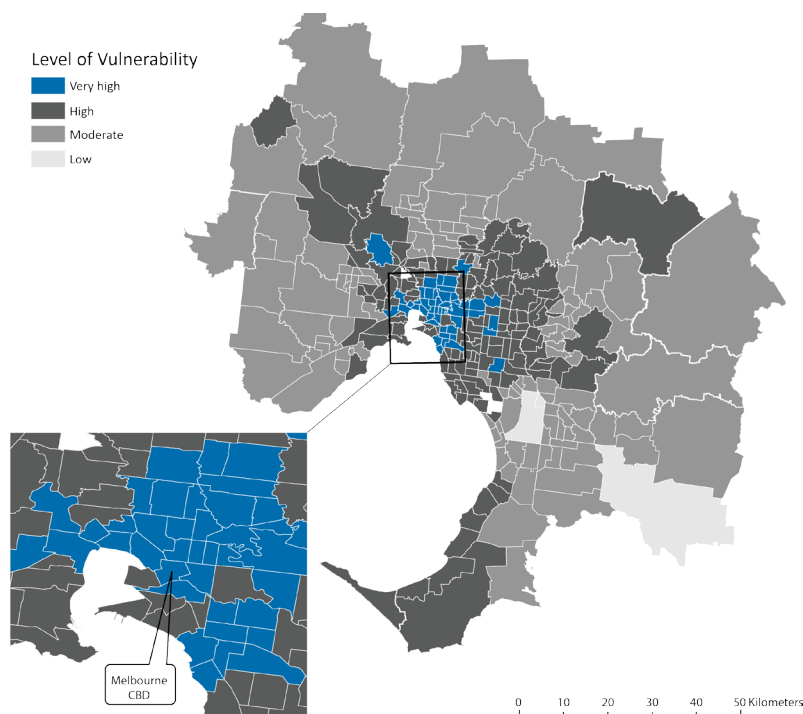
The most vulnerable first wave employment communities are in Melbourne's high-rent inner suburbs and levels of vulnerability clearly diminish moving outward from the city centre (Fig. 8). The share of vulnerable workers in the very high vulnerability communities averages 32.2% of employed residents and higher in many of the central suburbs (Table 3).

Given that a large proportion of vulnerable work is in lower-paid, lower-skilled occupations, at first glance, this appears to contrast with the well documented trend towards the [suburbanisation of disadvantage in Australian cities](#). However, this does not necessarily reflect a reversal of the geography of disadvantage or show that the outer suburbs are more resilient. Rather, it implies that some people working in service-based employment manage to live close to their jobs despite the high median rents in the inner suburbs. This puts additional pressure on those living in high cost housing markets and could actually exacerbate existing patterns of inequality. It also suggests that the vulnerable employment mix is likely comprised of more than low-wage service employment.

Geographies of disadvantage are confirmed when we breakdown the composition of vulnerable employment by industry and level of vulnerability. As Table 4 shows, the proportion of typically lower wage service jobs (accommodation and food services, retail and personal services) are actually higher in the low vulnerability suburbs found in the outer areas than in the very high vulnerability inner suburban communities. These sectors comprise 68.6% of vulnerable employment in low vulnerability areas compared to 53.5% in the most vulnerable communities.

Vulnerable inner communities, by contrast, are home to a higher share of people that work in the arts, entertainment, and education (29.6% combined). This share is considerably higher than that of low and moderate risk communities (16.7% and 18.3% respectively). As a result, while the inner suburbs are immediately vulnerable, the stronger employment mix in these communities may offset future challenges. However, protracted business closure and suppressed demand for arts and entertainment activities could actually [alter consumption patterns](#) for years.

**Figure 8. First Wave Vulnerable Employment Communities, Greater Melbourne**



Source: ABS (2016) Census data, by place of residence at the SA2 level for Greater Melbourne (GCCSA).

**Table 3. Most and Least First Wave Vulnerable Employment Communities in Greater Melbourne**

Most Vulnerable	Total	Share (%)	Least vulnerable	Total	Share (%)
Parkville	1,532	43.8	Koo Wee Rup	527	14.9
Melbourne	6,735	42.5	Doveton	590	15.4
Carlton	2,555	39.3	Dandenong	1,768	16.5
North Melbourne	3,518	35.4	Bunyip - Garfield	711	17.0
Carlton North - Princes Hill	1,767	35.0	Hampton Park - Lynbrook	1,811	17.1
Brunswick	5,236	34.7	Wandin - Seville	698	17.4
Fitzroy	1,863	34.4	Cranbourne West	1,280	17.6
Brunswick East	2,253	33.9	Cranbourne	1,577	18.2
Fitzroy North	2,378	33.8	Pearcedale - Tooradin	715	18.3
Collingwood	1,521	32.3	Yarra Valley	1,827	18.3

Note: ABS (2016) Census data, by place of residence at the SA2 level. Percentage shares represent vulnerable industries employment as a proportion of total employment in an SA2.

**Table 4. First Wave Vulnerable Employment Communities by Industry of Employment and Level of Vulnerability**

	Accommodation & Food Services %	Arts & Entertainment %	Education %	Medical & Other Health Care Services %	Retail, Personal & Other Services %	Transport & Tourism %
<b>Low</b>	33.3	8.4	8.3	11.6	35.3	3.2
<b>Moderate</b>	27.4	8.3	10.0	13.1	36.3	4.9
<b>High</b>	24.4	9.9	14.1	15.9	31.1	4.6
<b>Very High</b>	28.6	11.8	17.8	13.3	24.9	3.6
<b>Total</b>	26.3	9.8	13.6	14.5	31.3	4.5

Note: ABS (2016) Census data, by place of residence at the SA2 level for Greater Melbourne (GCCSA). Percentage shares represent the composition of vulnerable industries employment for each SA2 grouping (see methodology for industry aggregation).

## The Geography of Vulnerable Employment Communities

### Second Wave

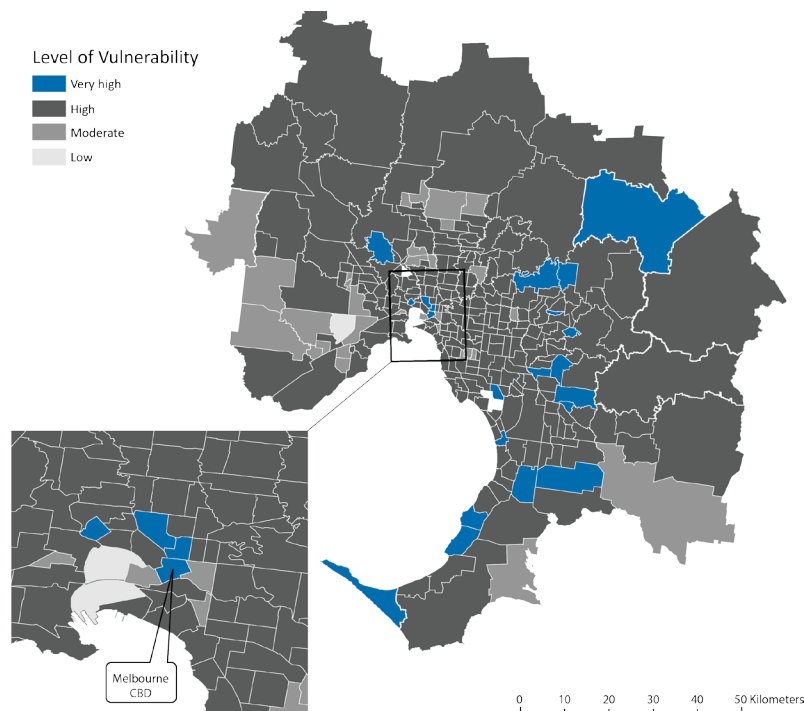
Second wave vulnerable employment communities are less concentrated, but widely spread across the entire metropolitan area (Fig. 9). Under this more entrenched scenario, no community escapes unscathed. Among the highest vulnerability communities are inner suburbs like Melbourne city centre and Parkville, near the University of Melbourne, but they are also found in the outer eastern suburbs including those on the Mornington Peninsula. There is also little variation between the share of most and least vulnerable employment communities by industry (Table 5). While the share of vulnerable workers living in the most vulnerable communities ranges between 50% and 60%, the average share for Greater Melbourne overall is 46%. Truginina in Melbourne's West is the only employment community in the second wave scenario deemed "low" vulnerability (std dev <-1), and even there over one-third of residents work in vulnerable industries.

The composition of second wave vulnerable industry employment helps explain the geographic spread effect under this scenario. High inner city vulnerable employment

communities are driven by first wave industries like retail, accommodation, and food services. In fact, these lower-income service jobs still comprise a third of employment in the most vulnerable second wave employment communities.

Conversely, the increasing vulnerability of outer areas is more likely driven by Building and Development (26.6%) and Manufacturing and Wholesale (20.2%) industries with larger shares of the workforce residing in middle and outer suburbs (Table 6). Nonetheless, distinctions between the very high and low vulnerability communities are less significant.

Figure 9. Second Wave Vulnerable Employment Communities, Greater Melbourne



Source: ABS (2016) Census data, by place of residence at the SA2 level for Greater Melbourne (GCCSA).

**Table 5. Most and Least Second Wave Vulnerable Employment Communities in Greater Melbourne**

Most Vulnerable	Total	Share (%)	Least vulnerable	Total	Share (%)
Point Nepean	3,713	55.0	Truganina	3,655	36.0
Narre Warren North	2,123	54.1	Tarneit	5,794	37.3
Parkville	1,860	53.1	Point Cook - South	2,722	39.6
Melbourne	8,325	52.5	Craigieburn - West	2,362	39.7
Lysterfield	1,931	52.1	Wyndham Vale	4,135	39.8
Cranbourne South	2,347	52.1	Docklands	2,354	39.9
Langwarrin	6,552	51.7	Werribee - East	3,249	40.9
Mount Martha	4,403	51.3	Melton South	3,981	41.4
Chirnside Park	2,576	51.1	Fawkner	2,017	41.6
Dingley Village	2,617	51.0	Wollert	1,743	41.7

Note: ABS (2016) Census data, by place of residence at the SA2 level. Percentage shares represent vulnerable industries employment as a proportion of total employment in an SA2.

**Table 6. Second Wave Vulnerable Employment Communities by Industry of Employment and Level of Vulnerability**

	Accommodation & Food Services %	Arts & Entertainment %	Education %	Medical & Other Health Care Services %	Retail, Personal & Other Services %	Transport & Tourism %	Building & Development* %	Manufacturing & Wholesale %	Mining* %
<b>Low</b>	18.4	4.6	6.3	5.8	13.7	3.1	19.2	28.6	0.4
<b>Moderate</b>	15.6	4.9	6.8	6.6	16.2	3.0	22.1	24.4	0.5
<b>High</b>	13.6	5.3	7.4	7.9	16.8	2.4	23.4	22.6	0.5
<b>Very High</b>	17.2	4.9	6.1	6.9	16.2	1.5	26.6	20.2	0.4
<b>Total</b>	14.0	5.2	7.3	7.7	16.7	2.4	23.5	22.6	0.5

Note: ABS (2016) Census data, by place of residence at the SA2 level for Greater Melbourne (GCCSA). Percentage shares represent the composition of vulnerable industries employment for each SA2 grouping (see methodology for industry aggregation).

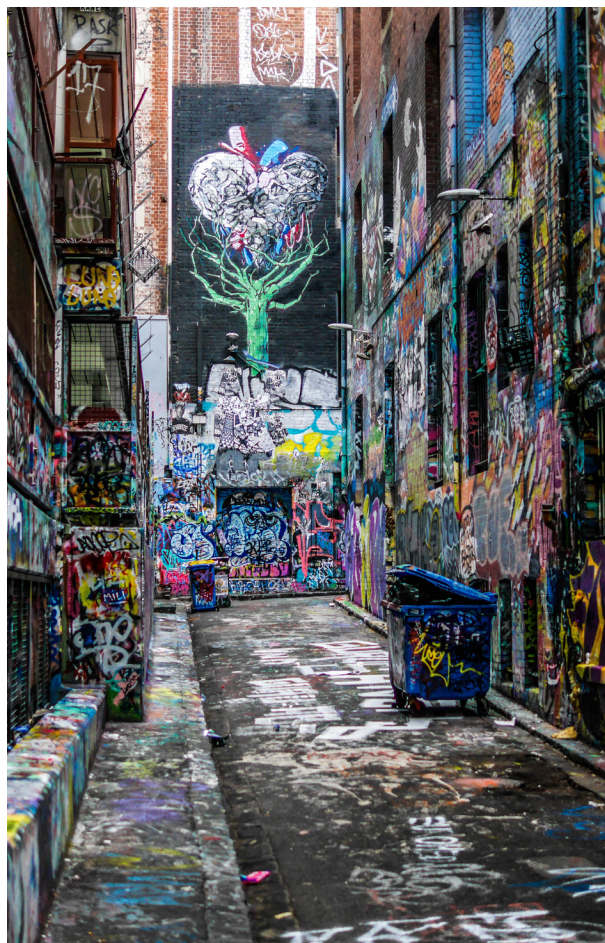
## ***Vulnerable Employment Demographics by Geography***

Studying the demographics of vulnerable employment by geography underscores the important differences in vulnerability across the metropolitan area. As Figure 8 above shows, the level of first wave vulnerability diminishes markedly with distance from the city centre. However, as inferred above based on industry, the inner areas are actually home to fewer lower income and part-time workers and more high-income earners (Table 7). In fact, the highly vulnerable inner areas house 47% low and very low-income workers compared to 66.3% in the outer suburbs. They also are home to around 16% high and very high-income earners compared to just 3.4% in outer areas.

Similarly, although a majority of workers hold part-time employment across all areas, the share is highest in the low vulnerability outer areas (Table 7). The distribution of at-risk workers by age and sex across suburbs with different levels of vulnerability is fairly consistent. Females and those under the age of 30 are over-represented in highly vulnerable employment communities in the inner suburbs, but even more so in low vulnerability communities. As such, the suburbs we label as “low” vulnerability are likely at higher risk than they would be otherwise.

Second wave employment reverses these conditions (Table 8). Over half the workforce is full time and there is a considerably higher share of middle-income work, but the most secure employment is in the low vulnerability areas. Similarly, men comprise the majority of the workforce, but the share of female employment is highest in the most at risk communities. Finally, the workforce is more mature overall, but the shares of young people are highest in the very vulnerable inner suburbs.

Taken together, this means that the post-Covid economic recovery period will likely see on-going pressure on low-income people, particularly younger workers and women, living in the higher rent inner suburbs as unemployment and lost hours force them to seek cheaper housing in the middle and outer areas.



**Table 7. First Wave Vulnerable Employment Community Demographics by Level of Vulnerability**

	Low	Moderate	High	Very High
<b>Hours Worked</b>				
0 - 15 hours	26.5	26.6	26.1	21.7
16 - 37 hours	34.0	32.9	32.5	32.6
38 hours and over	39.5	40.5	41.4	45.7
<b>Income</b>				
Very Low (\$20,799 p.a. or less)	29.3	28	25.6	20.2
Low (\$41,599 p.a. or less)	37.0	31.2	26.5	26.8
Middle (\$90,999 p.a. or less)	30.3	33.8	33.9	37.0
High (\$155,999 p.a. or less)	2.9	5.5	9.5	10.6
Very High (\$156,000 p.a. or more)	0.5	1.4	4.6	5.3
<b>Sex</b>				
Male	40.9	38.3	41.6	44.4
Female	59.1	61.7	58.4	55.6
<b>Age</b>				
15 - 29 years	43.3	39.3	35.6	41.9
30 - 44 years	29.4	31.4	28.6	32.9
45 - 59 years	20.9	22.8	26.4	18.4
60 years and over	6.4	6.6	9.3	6.8

Note: ABS (2016) Census data, by place of residence at the SA2 level.

**Table 8. Second Wave Vulnerable Employment Community Demographics by Level of Vulnerability**

	Low	Moderate	High	Very High
<b>Hours Worked</b>				
0 - 15 hours	12.0	15.8	17.2	18.9
16 - 37 hours	25.3	25.7	25.6	26.9
38 hours and over	62.8	58.5	57.2	54.2
<b>Income</b>				
Very Low (\$20,799 p.a. or less)	11.5	15.6	16.2	18.7
Low (\$41,599 p.a. or less)	23.8	25.3	24	25.5
Middle (\$90,999 p.a. or less)	53.9	44.7	42.5	40.6
High (\$155,999 p.a. or less)	9.8	11.3	12.4	11.4
Very High (\$156,000 p.a. or more)	1.0	3.1	4.9	3.8
<b>Sex</b>				
Male	60.2	57.9	56.3	55.8
Female	39.8	42.1	43.7	44.2
<b>Age</b>				
15 - 29 years	27.8	30.6	30.5	33.9
30 - 44 years	53.5	39.7	33.3	28.9
45 - 59 years	15.8	23.6	27.6	27.7
60 years and over	2.9	6.1	8.6	9.6

Note: ABS (2016) Census data, by place of residence at the SA2 level.

## ***Vulnerable Employment Demographics by Industry***

As discussed above, the first wave vulnerable sectors in Australia are defined by a high proportion of low wage, part-time employment. Here we examine the demographics of vulnerable employment by subindustry. This reinforces the story behind the spatially divergent character of vulnerable employment communities.

Wages in first wave vulnerable industry work vary, but are predominately low or very low income. Nearly three quarters of jobs in accommodation and food services (72.7%) and around half in retail and arts and entertainment (58.5% and 49.1%, respectively) are low or very low income (Table 9). Yet, even in education and medical services, where most workers are middle income earners (42.5% and 40.7% respectively), over one-third of jobs pay below the median. In concert with low wage employment, jobs in each of these subsectors are predominately part-time. This includes two-thirds of workers in accommodation and food services and over half of workers in retail, arts and recreation, education, and medical services.

A large share of first wave vulnerable industry jobs are held by young people. Accommodation and food services (57.8%), arts and entertainment (40.3%), and retail and personal services (38.7%) are amongst the highest

employers of people under 30. There is also a clearly gendered division of labour in some industries. Women hold the majority of vulnerable jobs in non-essential medical and healthcare employment (72.9%), retail and personal services (64.6%), education (59.1%), and accommodation and food service (51%).

Unlike these service-oriented industries, second wave jobs in manufacturing and wholesale and building and development are male dominated and tend to employ an older workforce. They are also relatively high-paying sectors. In each, around half of workers earn median incomes with over a fifth falling into the high and very high-income bracket (Table 9). In addition, around three quarters of workers are employed full-time.

However, there are still roughly a quarter of workers in production-based industries on low-to-very low income and part-time hours. In other words, while the prolonged effects of Covid-19 may have a cascading effect on a wider swath of the workforce, the communities with a high proportion of the most precarious workers will likely feel the effects throughout.



Table 9. Vulnerable Community Employment Demographics in Greater Melbourne (First and Second Wave)

	Accommodation & Food Services %	Arts & Entertainment %	Education %	Medical & Other Health Care Services %	Retail, Personal & Other Services %	Transport & Tourism %	Building & Development* %	Manufacturing & Wholesale %	Mining* %
<b>Hours Worked</b>									
0 - 15 hours	33.1	27.1	25.2	18.1	24.1	8.3	8.1	7.6	9.1
16 - 37 hours	33.5	27.9	30.4	40.2	32.0	24.3	18.5	17.0	10.7
38 hours and over	33.4	45.0	44.3	41.8	43.9	67.4	73.3	75.4	80.2
<b>Income</b>									
Very Low (\$20,799 p.a. or less)	41.3	25.4	16.0	11.0	25.1	4.0	6.1	6.2	2.2
Low (\$41,599 p.a. or less)	31.4	23.8	19.2	24.7	33.4	17.7	19.7	20.4	5.4
Middle (\$90,999 p.a. or less)	24.5	37.7	42.5	40.7	33.4	50.6	52.2	51.8	32.6
High (\$155,999 p.a. or less)	2.0	9.6	17.7	13.2	5.9	19.9	16.5	16.1	28.9
Very High (\$156,000 p.a. or more)	0.8	3.7	4.6	10.4	2.2	7.9	5.5	5.6	31.0
<b>Sex</b>									
Male	49.1	53.4	40.9	27.1	35.4	56.7	78.5	68.7	75.3
Female	50.9	46.6	59.1	72.9	64.6	43.3	21.5	31.3	24.7
<b>Age</b>									
15 - 29 years	57.8	40.3	22.5	20.3	38.7	19.9	27.4	17.2	13.1
30 - 44 years	24.2	31.9	36.5	34.6	29.1	40.4	37.6	36.7	42.7
45 - 59 years	14.2	20.5	29.9	32.6	24.1	31.9	26.9	36.1	34.4
60 years and over	3.8	7.3	11.1	12.5	8.1	7.8	8.1	10.0	9.7

Note: ABS (2016) Census data, by place of residence. \* indicates 2nd wave only. See methodology for industry aggregation and ABS demographic definitions.



## Implications and Key Recommendations

Analysing the industries and employment vulnerable under Covid-19 restrictions and potential recessionary conditions underscores the dependence of urban economies on precarious, low-road service jobs. Moreover, these jobs tend to be highly concentrated in specific places. The more resilient, low vulnerability employment areas contain a more diverse job and industry mix.

The inner suburbs of Greater Melbourne are home to the largest share of Covid-vulnerable workers, but most low-wage, part-time workers live in the outer suburbs. Spatial inequality may further widen in the post-Covid city if more lower income people are forced from inner city areas. In turn, highly vulnerable employment communities are likely to experience more entrenched problems under either first or second wave scenarios including business closure and higher commercial vacancy rates. This may lead to higher unemployment and more people in need of income and rental assistance as well as social support services, putting additional pressures on local councils and state governments.

We can address the lack of place-based economic diversity and support a more equitable and resilient metropolitan economy by:

### **Preserving existing inner and middle suburban industrial land.**

Industrial land plays a [significant role](#) in small enterprise start-up, firm expansion, and job creation. Inner and middle industrial districts provide a mix of flexible industrial buildings, allowing businesses to grow and add jobs in place. Manufacturing businesses and their spatial requirements range from [micro-enterprises](#) subletting pods within older factories to “[emerging place-based manufacturers](#)” with intentions to expand close to their end markets (e.g. food production). Despite a general contraction in manufacturing in recent decades, SME manufacturers across cities in [Australia](#), [North America](#), and [the U.K.](#) have cited a lack of affordable and suitable production space as the biggest constraint on their business.

### **Developing mixed-use employment areas that incorporate light industrial production rather than consumption.**

Examples include the [Commercial 3 Zone](#) in Melbourne

or the [cross-subsidy mechanism](#) in San Francisco’s industrial land use strategy. Covid-19 demonstrates that we need to look beyond consumer services and the discretionary spending of professionals to drive economic development. We also need to consider industrial lands, which accommodate a mix of production, distribution, and repair services. This includes small manufacturing and [essential backstreet businesses](#), like waste management, transport depots, and auto mechanics.

### **Rethinking the business mix in service-based retail areas and employment communities.**

Retail vacancy rates were growing prior to the pandemic and may accelerate as on-line retail grows. This presents an opportunity to re-purpose retail and consumption spaces for [production, arts and community uses](#).

### **Building [community infrastructure and employment hubs in the outer suburbs](#).**

Community hubs provide flexible, multipurpose spaces that incorporate a range of community needs and services from youth, aged care, and health facilities to collaborative work spaces and settings for workforce training providers.

### **Supporting the [interdependence between manufacturing and creative industries](#).**

Inner city areas are overly focused cultural consumption resulting in low-road employment opportunities. In contrast, firms working across the creative industries-manufacturing interface can create accessible jobs with pathways to upskill. These jobs include making design-driven consumer products (e.g. furniture, clothing, jewellery), customised services (e.g. specialty printing, architectural fittings, event installations), and small batch food products.

### **Investing in [workforce skills building programs](#)**

tied to educational recovery in key areas like “essential manufacturing” (medical devices and supplies, pharmaceuticals, waste and recycling, food products) and communications technologies. Manufacturing has proved an essential part of Australia’s recovery from the pandemic, pivoting to develop vital medical and protective equipment in collaboration with universities and research institutions such as the [CSIRO](#). Well-funded research and training institutions must be a pillar of Australia’s post-pandemic recovery.



## Methodology

### **Data and definitions**

This report defines, quantifies and maps the geography of vulnerable industry employment (VIE) in response to the COVID-19 pandemic. We use place of work and residence data from the Australian *Census of Population and Housing* (Australian Bureau of Statistics, 2016a) at the suburban (SA2) level. The ABS intends SA2 level geographies to represent a “community that interacts together socially and economically.” We use custom industry classifications for VIE based on the Australia and New Zealand Standard Industry Classification (ANZSIC), divided into first and second wave impacts.

“First wave” vulnerable industry employment encompasses work that is immediately vulnerable to Covid 19 social distancing, travel restrictions, and other government actions. This includes industries where more than one third of firms reported reduced working hours to the ABS as of 30 March 2020 (one week after lock down) (ABS, 2020a; Coates et al., 2020). As the ABS only releases current unemployment and JobKeeper data at the Division Level, we supplemented this with more specialised 3-digit level industries likely to be strongly affected by the shutdown (e.g. 661 Motor Vehicle and Transport Equipment Rental and 601 Libraries and Archives). We also removed specialised industries within the ABS’s high-level aggregates that are unlikely to be impacted (e.g. specific retail subsectors, like 41 Food Retailing and 43 Non-Store Retailing).

“Second wave” vulnerable industry employment includes work we anticipate will be most affected longer term either by a Covid 19 driven recession or continued lock-down. This classification incorporates all first wave industries along with industries with a high share (40% or more) reporting reliance on the JobKeeper scheme to continue employing staff (ABS, 2020b). JobKeeper payments are designed to assist businesses that have experienced a significant fall in turnover keep employees on the payroll (Australian Tax Office, 2020). High uptake of the JobKeeper program may temporarily suppress unemployment claims for some industries (e.g. manufacturing, building and development), but this is unlikely to continue under a more protracted recession. Like first wave industries, we refined high-level ABS industry aggregates using 3-digit ANZSIC codes. For ease of reporting, industries were aggregated based on the goods and services they produce, as well as the reasons for susceptibility to COVID-19 (Table A1).

We opted to use employment data grouped by industry rather than occupation, as other studies have done (Coates et al., 2020). While there are some occupations within industries that could continue to work under social distancing in principle (e.g. restaurant managers, architects, travel agents, tertiary teachers), these occupations are still likely to experience job losses and

reduced hours as industries are impacted by Covid 19 restrictions and recession.

In addition, we opted not to rely on current unemployment data for three reasons. Firstly, data reporting lags actual unemployment and therefore likely underrepresents the total. Secondly, unemployment data is also incomplete because it does not count discouraged workers (individuals who have been searching for work unsuccessfully for over 4 weeks) and those forced to stop looking for work due to carer responsibilities. Thirdly, the ABS report current unemployment data as high-level aggregates for industry and geography. This not only masks differences in levels of vulnerability between industry subsectors and between geographical areas with different labour markets.

While Census data does not reflect current unemployment patterns, it offers far greater industry, demographic and geographic granularity. Given this report aims to distinguish geographies and demographics of vulnerability within Australian capital cities, the Census was deemed the most appropriate dataset.

**Table A1. First and Second\* Wave Vulnerable Industries**

	ANZSIC Code	ANZSIC Title	Rationale
Accommodation and Food Services	H	Accommodation and Food Services	Accommodation and food services have been severely restricted by stay-at-home orders and government-enforced shutdown. Food services have been restricted to take-away and delivery. Businesses may experience lower consumer demand if a protracted recession occurs.
Arts and Entertainment	551	Motion Picture and Video Activities (particularly 5513 Motion Picture Exhibition)	Arts, culture and entertainment industries have largely been deemed “non-essential” and have closed due to social distancing.
	601	Libraries and Archives	
	R	Arts and Recreation Services	
Education	81	Tertiary Education	Tertiary institutions have been severely restricted by social distancing and bans on incoming international flights. A reduction in international students is likely to cause significant financial stress.
	82	Adult, Community and Other Education	Adult education and community centres have largely been deemed “non-essential” and have closed due to social distancing
Medical and Other Health Care Services	85	Medical and Other Health Care Services	Some medical and health care services have experienced reduced hours due to social distancing and restrictions on elective operations. (Gradual easing of elective operations from April 28).
Retail, Personal and Other Services	42	Other Store-Based Retailing	Most store-based retail and personal services have largely been deemed non-essential services during lockdown, causing closures or reduced opening hours. Businesses may experience lower consumer demand if a protracted recession occurs.
	95	Personal and Other Services	
Transport and Tourism	472	Rail Passenger Transport	Transport and tourism services have been severely restricted by government orders discouraging/ banning non-essential travel. Businesses may experience lower consumer demand if a protracted recession occurs.
	49	Air and Space Transport	
	50	Other Transport	
	661	Motor Vehicle and Transport Equipment Rental and Hiring	
	722	Travel Agency and Tour Arrangement Services	
Building and Development*	E (-31)	Construction (less Heavy Construction)	While government stimulus will support heavy construction through infrastructure spending and JobKeeper payments will dampen early unemployment, it is likely that building and development activities will slow during a protracted recession
	67	Property Operators and Real Estate Services	
	692	Architectural, Engineering and Technical Services	
Manufacturing and Wholesale*	C	Manufacturing	While JobKeeper payments may dampen early unemployment, it is likely that manufacturing will be adversely affected by disruptions to global supply chains and restrictions on overseas markets
	F (-36 and 372)	Wholesale Trade (less Grocery and Pharmaceuticals)	It is likely that wholesale trade will experience adverse knock-on effects related to reduced manufacturing and consumer demand
Mining*	B	Mining	It is likely that mining will be adversely affected by lower energy prices and a global economic slow-down

\*Vulnerable industries in the second wave only

## Analysis

In the first stage of our analysis, we examined vulnerability at the national level and across capital cities (defined using Greater Capital City Statistical Areas) using place of work employment data. We used location quotients to measure the concentration of first and second wave vulnerable employment in the capital cities compared to the national level.

We then examined the level of first and second wave vulnerability within capital cities by suburb (SA2s) based on location in “Inner” (<10km), “Middle” (10-19km) and “Outer” (20+km) bands denoted by distance from the CBD each capital city.

We also group suburbs by level of vulnerability. Vulnerability was categorised using vulnerable industries employment as a proportion of total employment in an SA2. Four categories were designated using the number of standard deviations from the mean: “Low” ( $SD < -1$ ), “Moderate” ( $-1 \leq SD \leq 0$ ), “High” ( $0 < SD \leq 1$ ), and “Very High” ( $SD > 1$ ).<sup>1</sup> This method enabled us to distinguish between inner, middle and outer urban geographies with very different labour markets and social structures.

We supplemented this with a demographic analysis of vulnerable industries employment at the national level. This presents a snapshot of the type of work – by income level and hours worked – and breakdown of workers – by age and sex – in vulnerable industries. Income brackets (Table A2) are based on total personal income (ABS, 2017a) and are an approximation of Australia’s income tax brackets.

Hours worked (ABS, 2016b) groupings reflect different levels of job security. Workers in the 0-15 hours and 16-37 hours ranges are likely to be casual and part-time workers with less job security. Workers in the 38 hours and above category are likely to be full-time workers with greater job security (although casual contracts with full time hours are now commonplace).

Age groupings were chosen to reflect different career stages and associated levels of job security. Workers in the 15-29 years category are expected to be the most vulnerable in part-time or casual roles with less job security. In addition, workers that are 60 years and over may also be adversely impacted as they are in the “high risk” health category.

The ABS use a male-female binary for reporting sex (ABS, 2017b). We disaggregated data by sex to assess whether vulnerable jobholders were predominately woman, as found in previous studies in [Australia](#) and the [US](#).

**Table A2. Demographic Groupings**

<b>Income</b>
Very Low (\$20,799 p.a. or less)
Low (\$41,599 p.a. or less)
Middle (\$90,999 p.a. or less)
High (\$155,999 p.a. or less)
Very High (\$156,000 p.a. or more)
<b>Hours Worked</b>
0 – 15 hours
16 – 37 hours
38 hours and over
<b>Age</b>
15 – 29 years
30 – 44 years
45 – 59 years
60 and over years
<b>Sex</b>
Male
Female

<sup>1</sup> We excluded SA2s in Australia in the bottom 5% based on total employment as these created outliers that skewed the dataset. In the place of work dataset, outliers were generally national parks or residential areas with no or very little employment. In the place of residence dataset, outliers were generally national parks, airports or industrial areas with no or very few residences.

The second part of the analysis involves a more comprehensive examination of the geography and demographics of vulnerable employment in Greater Melbourne. First, we map vulnerable industries employment as a proportion of total employment in an SA2, using the above standard deviations thresholds.<sup>1</sup> We did this for place of work to show vulnerable employment areas and place of residence to show vulnerable employment communities that are likely to be impacted by weak local consumption due to job losses and reduced hours.

Beyond simply mapping geographies of vulnerable employment, we also explore the industry breakdown of

vulnerable suburbs by place of residence. This presents a finer grain picture of the industries driving vulnerability in at-risk suburbs. We supplement this with the demographic breakdown of these specific industries to show the characteristics of work and workers at a more granular level. Finally, we examine the demographic breakdown of suburbs, categorised according to their level of vulnerability.

Taken together, this allows us to infer details of the demographics of workers by industry and geography. For instance, the approximate mix of high- and low-income workers in core vulnerable industries residing in inner areas.

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<sup>1</sup> Since Greater Melbourne SA2 data is a subset of our Australian dataset, the mean, standard deviation and excluded outliers are based on Australia and are not specific to Greater Melbourne. This is useful for comparisons between Greater Melbourne, Australia and other capital cities and ensured consistency between the analysis of Greater Melbourne in the first and second part of the report.

## Methodological References

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ABS (2016b) Hours Worked  
<https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2901.0Chapter34702016>

ABS (2017a) Income  
[https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2900.0~2016~Main%20Features~INCP%20Total%20Personal%20Income%20\(weekly\)~10059](https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2900.0~2016~Main%20Features~INCP%20Total%20Personal%20Income%20(weekly)~10059)

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## Appendix Data

[Research data](#) available here.

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