APRIL 2024

Social Infrastructure Mapping

COMMUNITY HEALTH CENTRES

ARUP

Community Health Centres

Background

Arup investigated the accessibility of social infrastructure within Victoria across socio-demographic groups and transport modes. Isochrones (journey time catchments) were generated for every considered facility and used to inform what members of the population would be able to access this infrastructure under a variety of travel conditions.

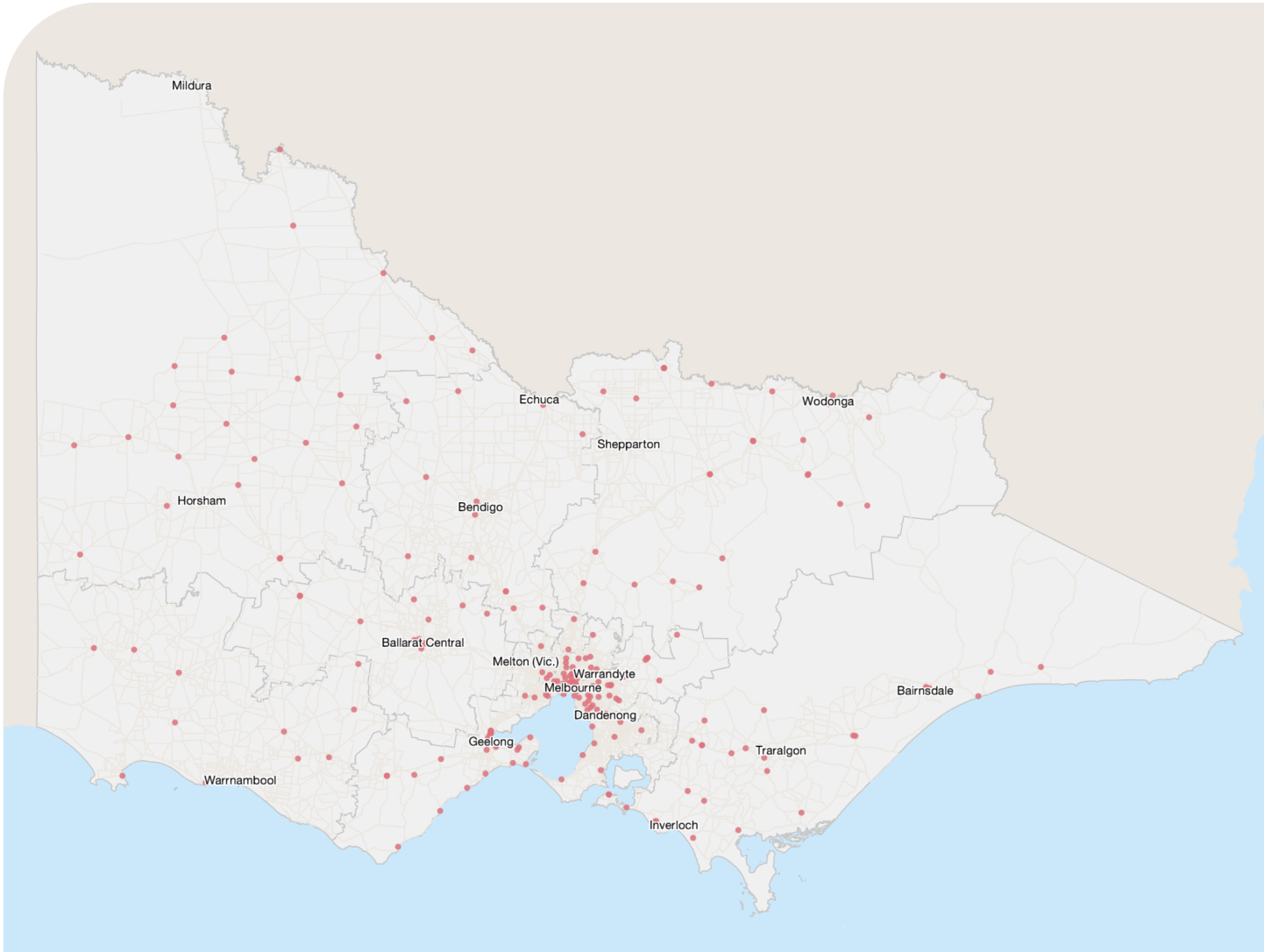
This presentation focuses on accessibility to **community health centres**. These are facilities that provide state-funded or subsidied healthcare services, focusing on people with, or at risk of, poorer health.

The conducted analysis was comprehensive, with outcomes generated for four distinct modes of transport, two time periods, and over twenty different socio-demographic groups. This presentation focuses on a subset of these outcomes corresponding with the cohorts most likely to be using community health centres. This includes:

- People with disabilities or long-term health conditions, as well as lower income levels.
- Those with health care or pension cards.
- Non-english speaking households.

Community health centres

Reporting region Centre



Community Health Centres

Statewide accessibility over time

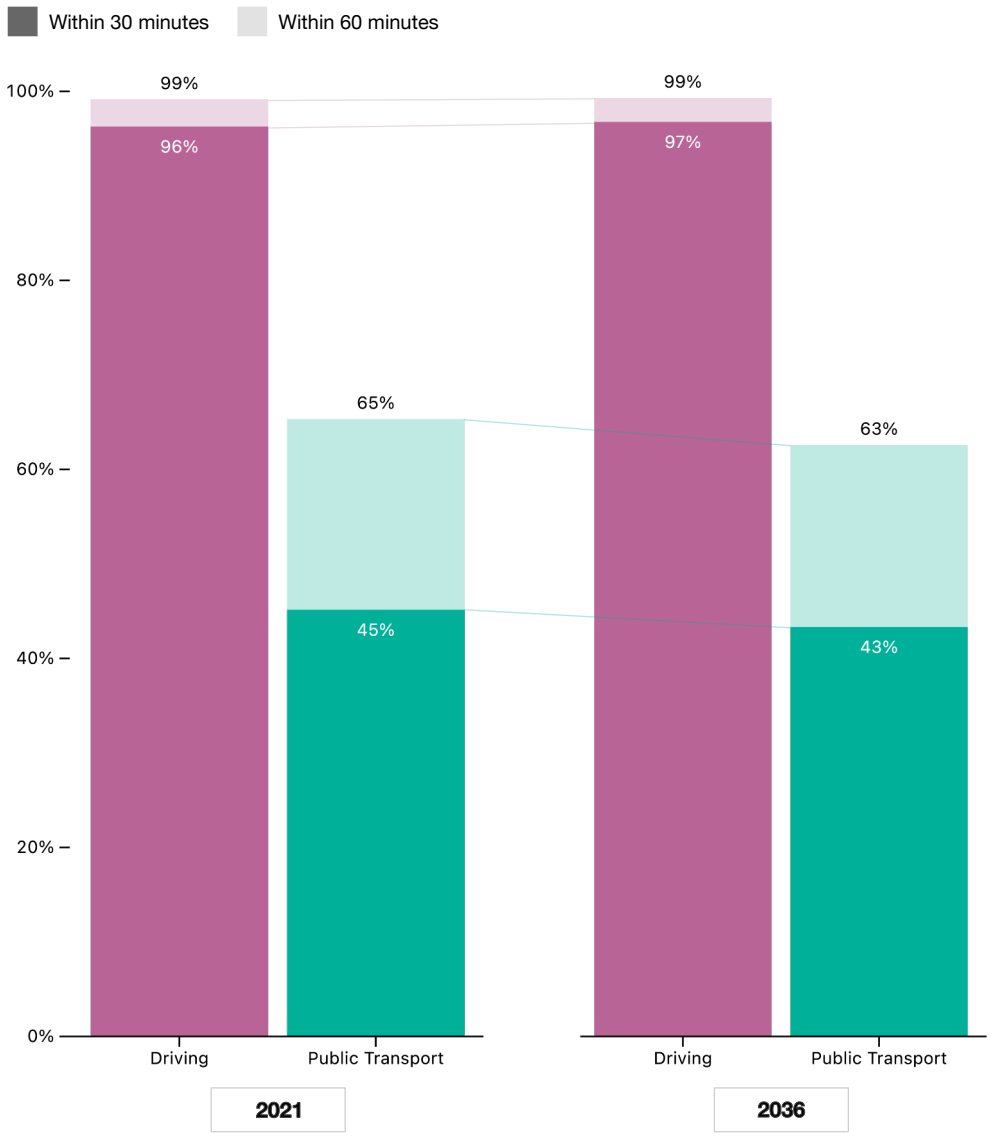
This graphic shows the proportion of people in Victoria that can access a community health centre during the morning peak (between 7am to 9am) within 30 and 60 minutes. Outcomes for both 2021 and 2036 are shown, corresponding with the distribution of people as observed within the 2021 census as well as within the Victoria In Future population projections.

If driving, almost everyone in Victoria is capable of accessing a community health centre within both 30 and 60 minutes. For public transport, this reduces to 45% and 65% of people respectively. In absolute terms, 3.5 million people cannot access a community health centre within 30 minutes via public transport (2.3 million for 60-minute journeys).

Looking forward, accessibility is expected to decrease slightly for public transport. By 2036, 63% of the population resides within a 30-minute public transport journey to a community health centre. This represents a 2% decrease from today's conditions.

Where there is change in accessibility over time, this is because more people are projected to be living closer or farther from existing facilities. This analysis has not included future changes to the provision of additional infrastructure or changes in network conditions.

Access to community health centres during the morning peak
Proportion of the statewide population



Community Health Centres

Public transport accessibility over time

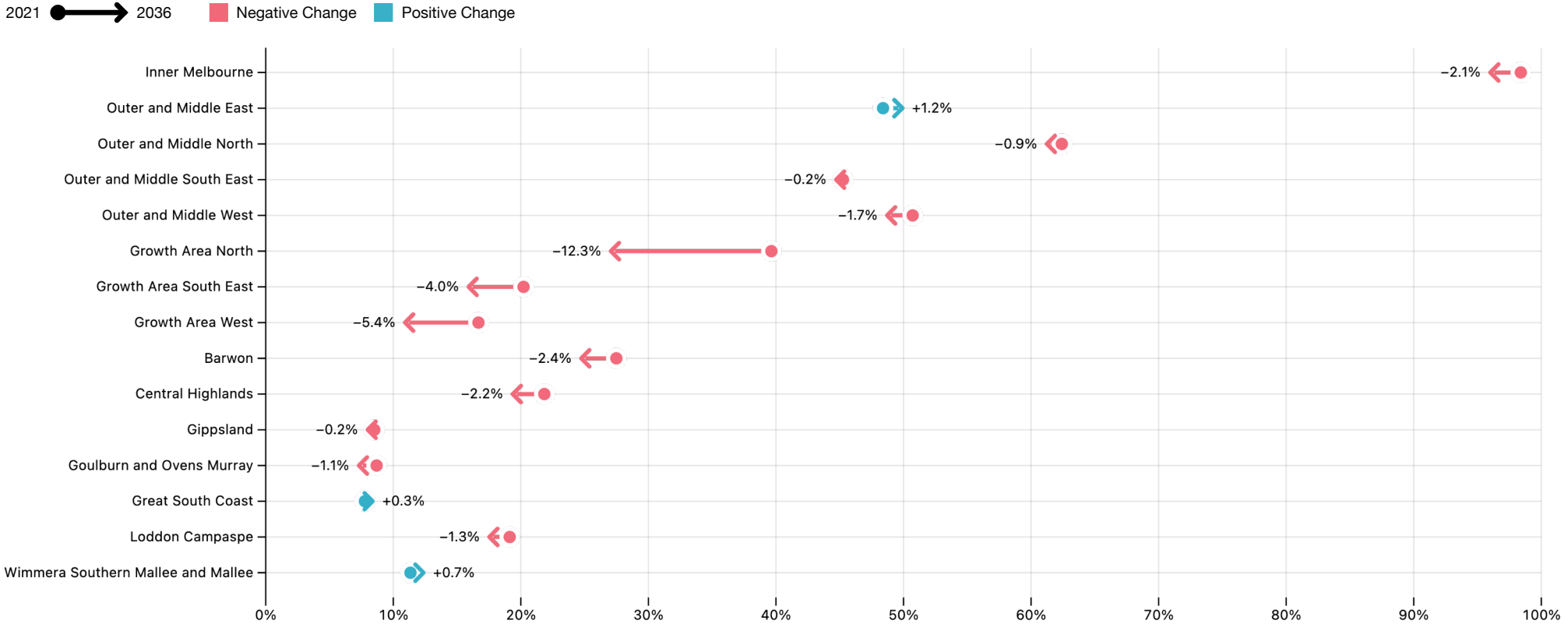
The chart below shows the change in public transport accessibility to community health centres between 2021 and 2036 across reporting regions. These values correspond with morning peak journeys within 30 minutes.

The largest differences are seen in the growth areas, particularly the *Growth Area North* region which sees a 12% reduction in public transport accessibility between 2021 and 2036. This occurs because a greater portion of the population is expected to be living in areas that do not currently have community health facilities or good public transport service provision to those facilities.

It is worth noting that this analysis has not included future changes to the provision of additional infrastructure or changes in network conditions. Differences arise solely from changes in the underlying assumed distribution of residents.

Change in community health centre accessibility between 2021 and 2036

For morning peak public transport journeys within 30 minutes



Community Health Centres

Driving accessibility by region

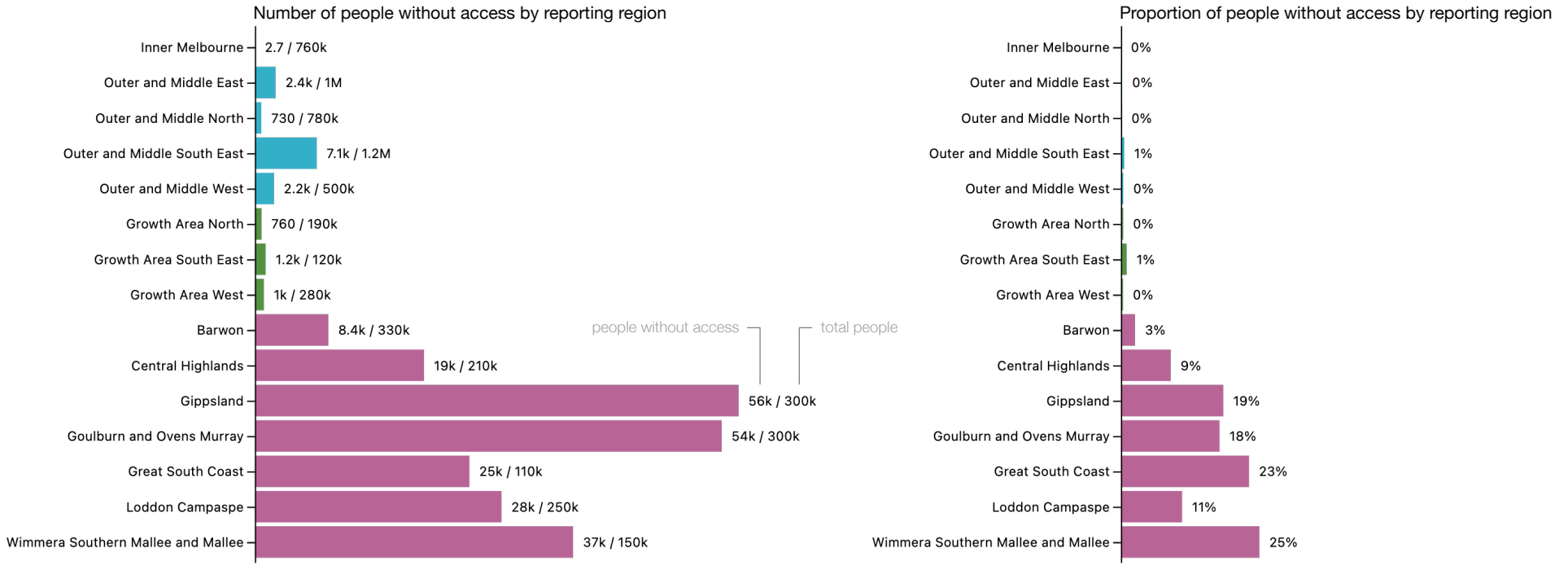
The charts below show driving access to community health centres within 30 minutes. The figure on the left shows the total number of people without access under these conditions by reporting region, whilst the figure on the right shows this same statistic as a proportion of each region's population.

People's ability to reach community health centres via car is good across the metropolitan Melbourne area. There are very few people in this part of Victoria that cannot access a facility within 30 minutes.

Driving accessibility to community health centres becomes more varied across regional areas. 56,000 people cannot access a centre within 30 minutes in *Gippsland*, followed by 54,000 in the *Goulburn and Ovens Murray* region. These represent the largest absolute gaps in driving access within Victoria.

People without driving access to community health centres during the morning peak within 30 minutes

Inner Metropolitan Growth Regional



Community Health Centres

Driving accessibility by region

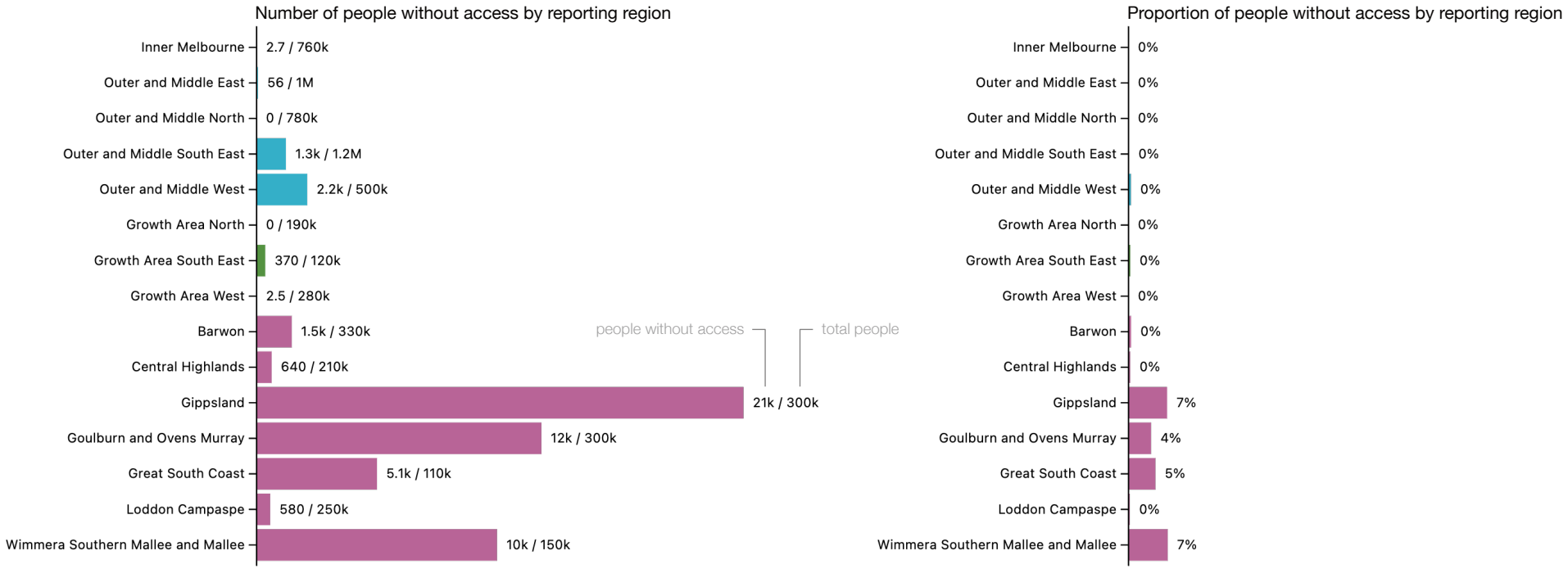
The charts below show driving access to community health centres within 60 minutes. The figure on the left shows the total number of people without access under these conditions by reporting region, whilst the figure on the right shows this same statistic as a proportion of each region's population.

People's ability to reach community health centres via car is good across the metropolitan Melbourne area. There are very few people in this part of Victoria that cannot access a facility within 60 minutes.

Driving accessibility to community health centres becomes more varied across regional areas. 21,000 people cannot access a centre within 60 minutes in *Gippsland*, followed by 12,000 in the *Goulburn and Ovens Murray* region. These represent the largest absolute gaps in driving access within Victoria.

People without driving access to community health centres during the morning peak within 60 minutes

Inner Metropolitan Growth Regional



Community Health Centres

Public transport accessibility by region

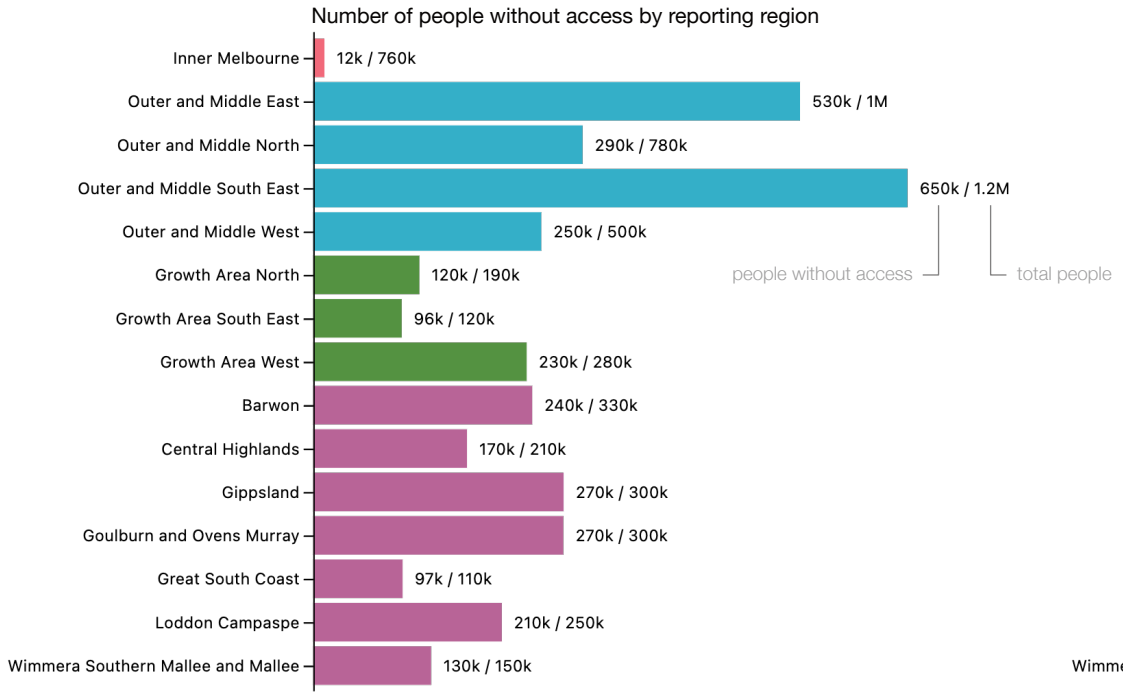
The charts below show public transport access to community health centres via public transport within 30 minutes. The figure on the left shows the total number of people without access under these conditions by reporting region, whilst the figure on the right shows this same statistic as a proportion of each region's population.

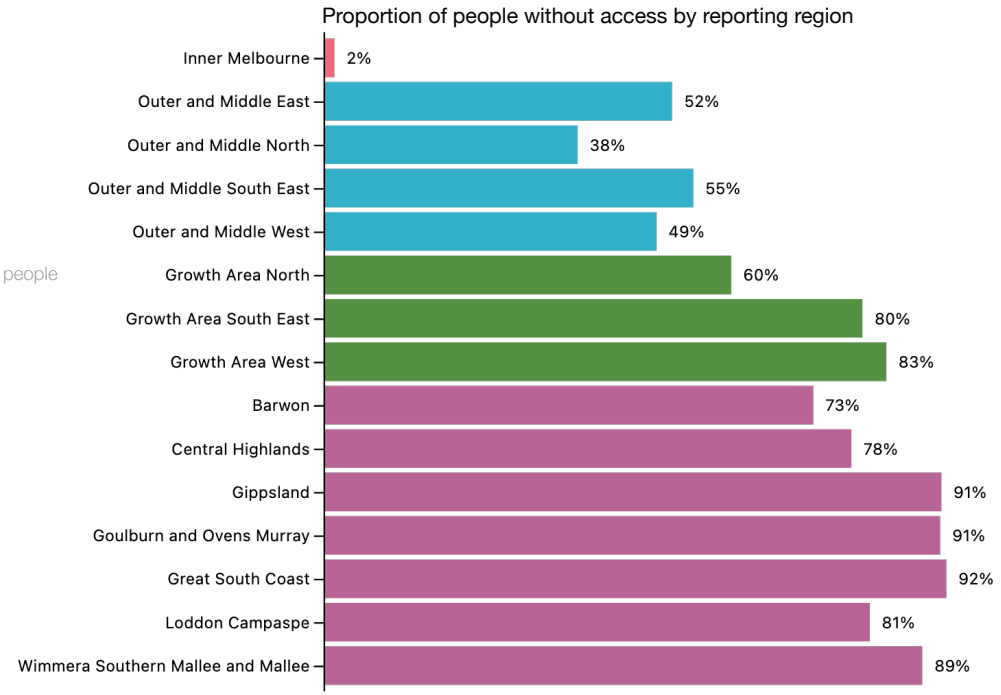
Almost everyone in *Inner Melbourne* has good access to community health centres via public transport. 98% of the population within this part of Victoria can reach a facility within 30 minutes during the morning peak period.

In contrast, more than half (and up to 92% in some cases) of the population in growth and regional areas cannot access commmunity health centres under these circumstances. In absolute terms, the *Outer and Middle South East* region holds the most people without access at approximately 650,000.

People without public transport access access to community health centres during the morning peak within 30 minutes

Inner Metropolitan Growth Regional





Community Health Centres

Public transport accessibility by region

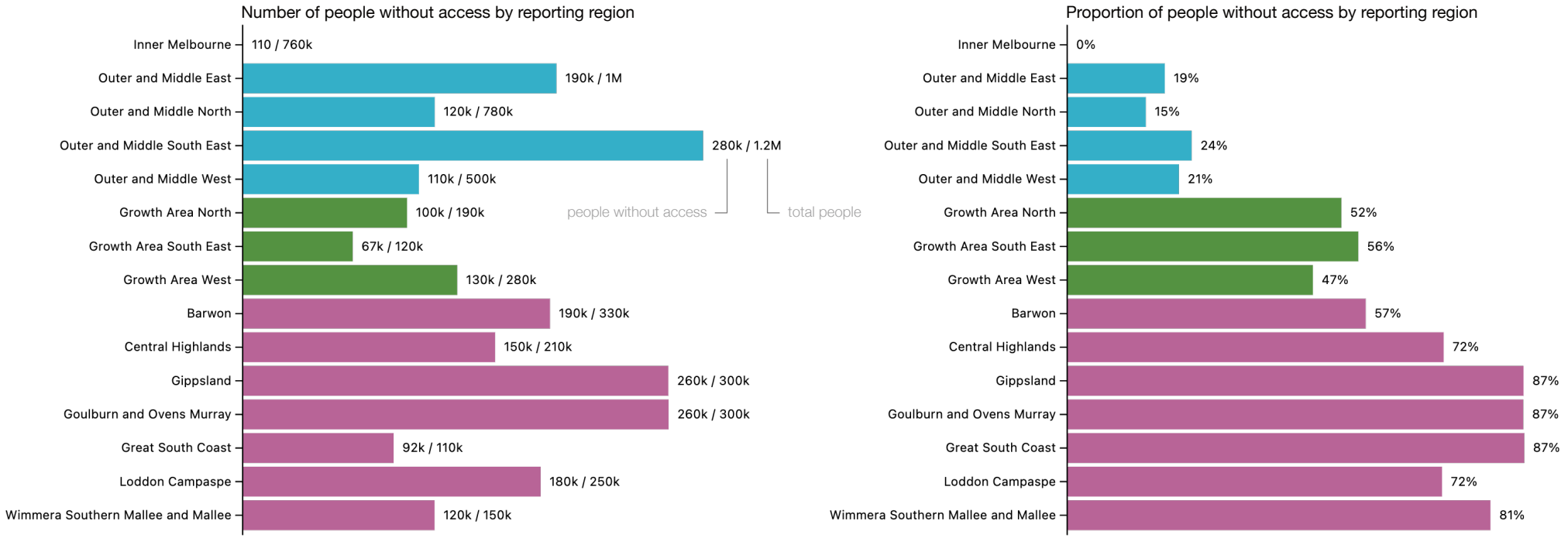
The charts below show public transport access to community health centres via public transport within 60 minutes. The figure on the left shows the total number of people without access under these conditions by reporting region, whilst the figure on the right shows this same statistic as a proportion of each region's population.

Almost everyone in *Inner Melbourne* has good access to community health centres via public transport. Almost 100% of the population within this part of Victoria can reach a facility within 60 minutes during the morning peak period.

In contrast, more than half (and up to 87% in some cases) of the population in growth and regional areas cannot access commmunity health centres under these circumstances. In absolute terms, the *Outer and Middle South East* region holds the most people without access at approximately 280,000.

People without public transport access to community health centres during the morning peak within 60 minutes

Inner Metropolitan Growth Regional



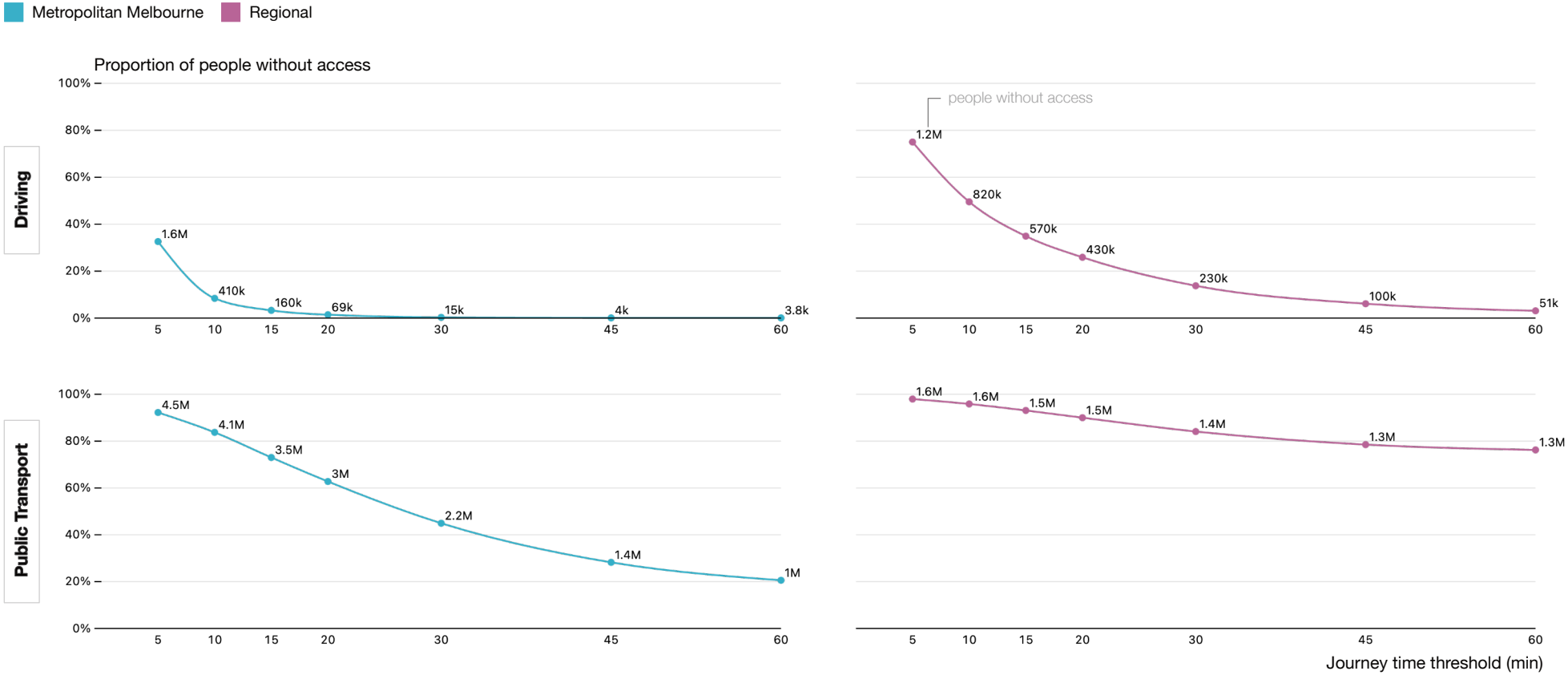
Community Health Centres

Accessibility across journey times

The charts below show the proportion of people without access to community health centres via driving or public transport in the morning peak within various journey time thresholds.

Results have been split between reporting regions within metropolitan Melbourne (inner, middle, outer and growth) and regional areas. Labels show the absolute number of people without access.

People without access to community health centres during the morning peak across journey times



Community Health Centres

Accessibility within regions

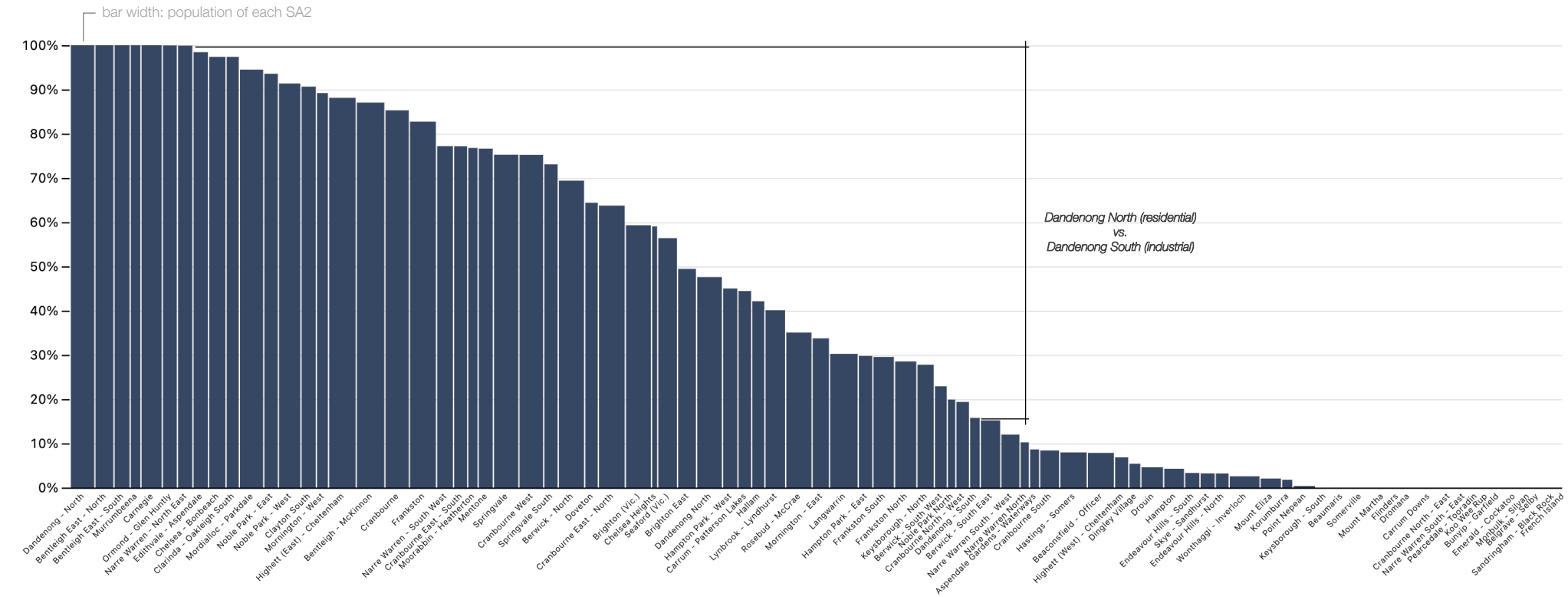
The chart below shows 30-minute accessibility to community health centres via public transport during the morning peak for each individual Statistical Area 2 (SA2) within the *Outer and Middle South East* region.

SA2s are statistical boundaries defined by the Australian Bureau of Statistics for the purposes of analysis, similar in both concept and size to suburbs.

As demonstrated within the figure, public transport accessibility to community health centres can vary significantly even within a single region. The *Dandenong North* SA2 has universal accessibility under these conditions whilst the neighbouring *Dandenong South* SA2 only has 15% access. Despite sitting next to each other, these areas have very different land use characteristics, access to public transport and proximity to centres, resulting in very different accessibility outcomes.

Public transport access to community health centres during the morning peak within 30 minutes

Proportion of people with access within each SA2 inside the *Outer and Middle South East*



Community Health Centres

Spatial variations in accessibility

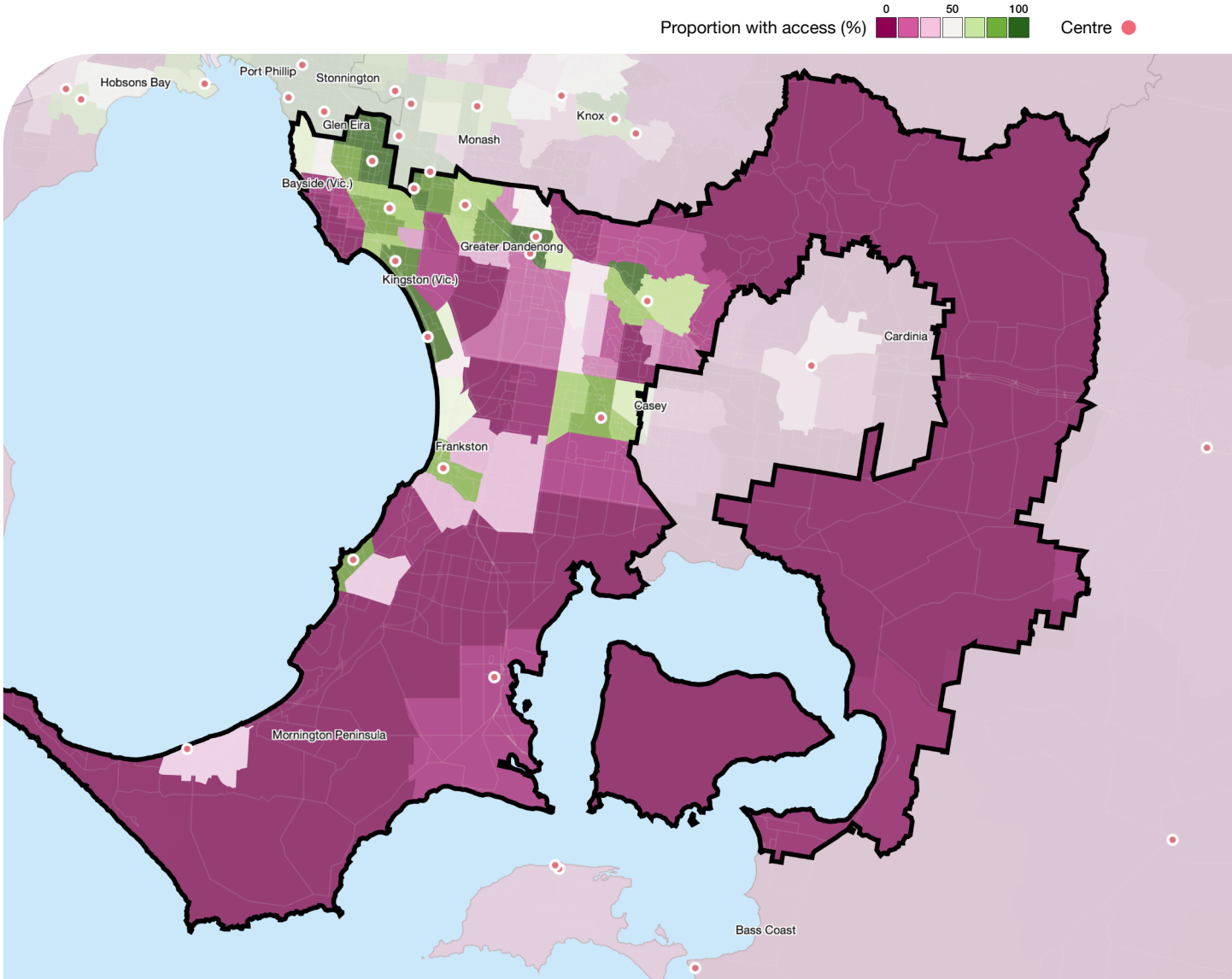
The map shows the proportion of people with access to community health centres within 30 minutes via public transport during the morning peak for each SA2 within the *Outer and Middle South-East* region. This is the same data as shown in the previous page but presented spatially. Purple areas are associated with low levels of public transport accessibility, whilst green areas have high levels of accessibility.

High public transport accessibility is well-correlated with both the Pakenham and Frankston train lines. More remote areas are generally associated with low accessibility, however it is worth noting that these are also correspondingly less densely populated.

SA2s are statistical boundaries defined by the Australian Bureau of Statistics for the purposes of analysis, similar in both concept and size to suburbs.

Access to community health centres via public transport within 30 minutes

Proportion of people with access within each SA2 for the *Outer and Middle South-East*



Community Health Centres

Spatial variations in accessibility

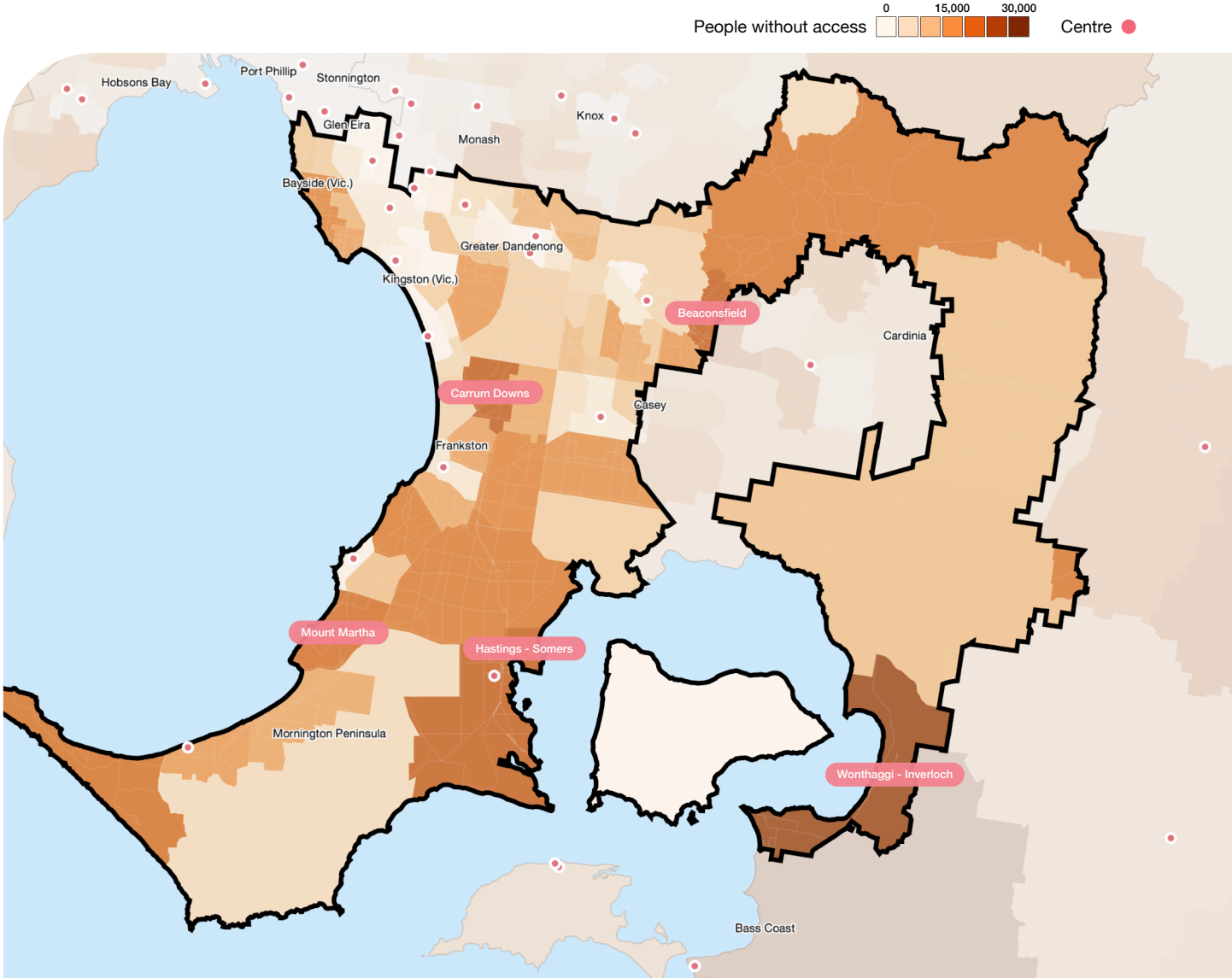
In contrast to the previous page, the map to the right shows the **absolute number** of people without access to community health centres via public transport during the morning peak within 30 minutes for each SA2 in the *Outer and Middle South-East* region.

The five SA2s with the most people without access have been highlighted on the map with red labels. The *Wonthaggi - Inverloch* area occupies the maximum position, with approximately 26,000 residents unable to access a community health centre under the specified travel conditions.

SA2s are statistical boundaries defined by the Australian Bureau of Statistics for the purposes of analysis, similar in both concept and size to suburbs.

People without access to community health centres via public transport within 30 minutes

Total people without access within each SA2 for the *Outer and Middle South-East*

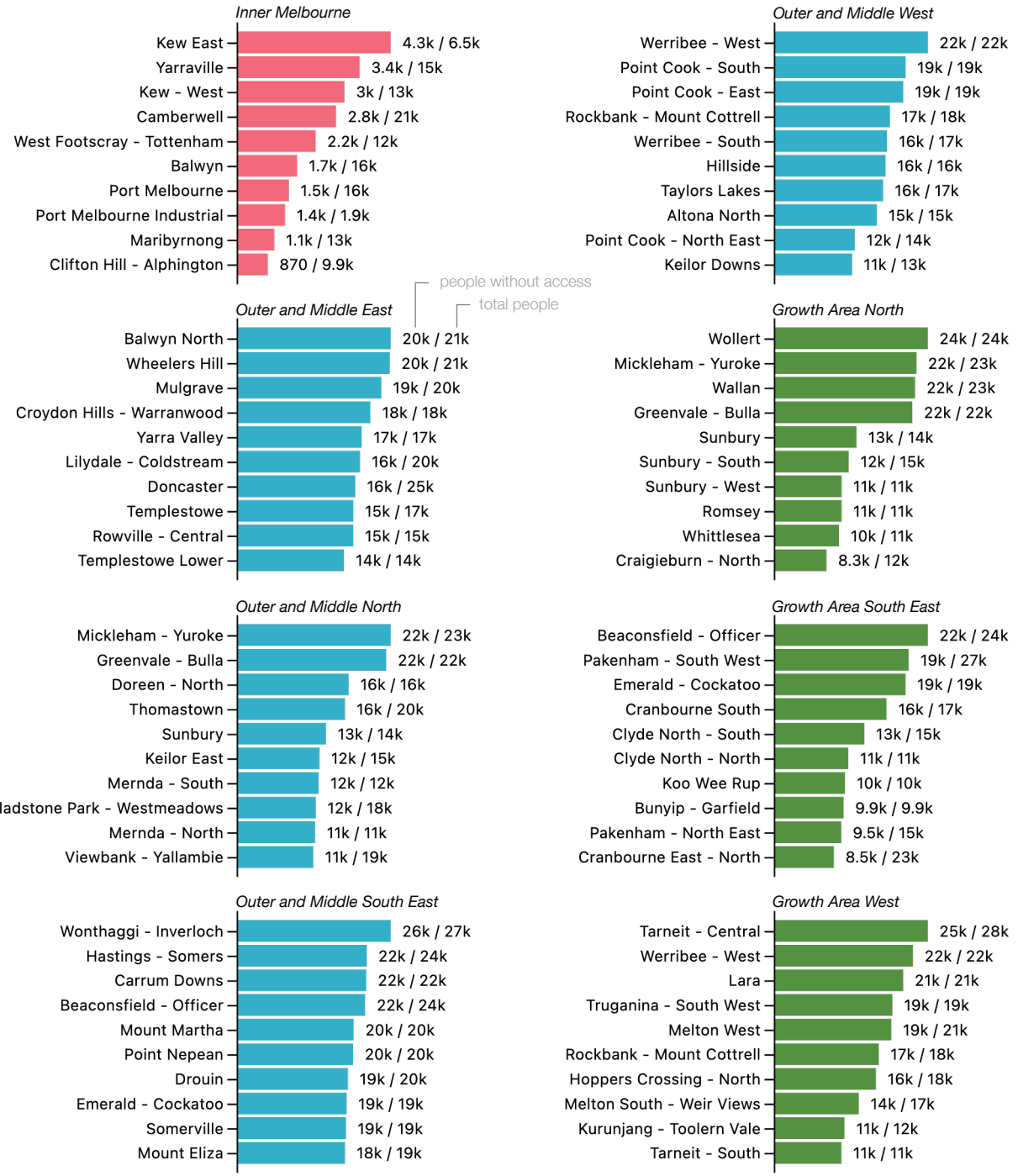


Community Health Centres

Metropolitan areas with low accessibility

The charts shown to the right summarise the top ten SA2s within each metropolitan reporting region that have highest total number of people without access to community health centres via public transport within 30 minutes during the morning peak.

SA2s are statistical boundaries defined by the Australian Bureau of Statistics for the purposes of analysis, similar in both concept and size to suburbs.



SA2s† with low access to community health centres

Total people without access to community health via morning peak public transport within 30 minutes

Inner Metropolitan Growth

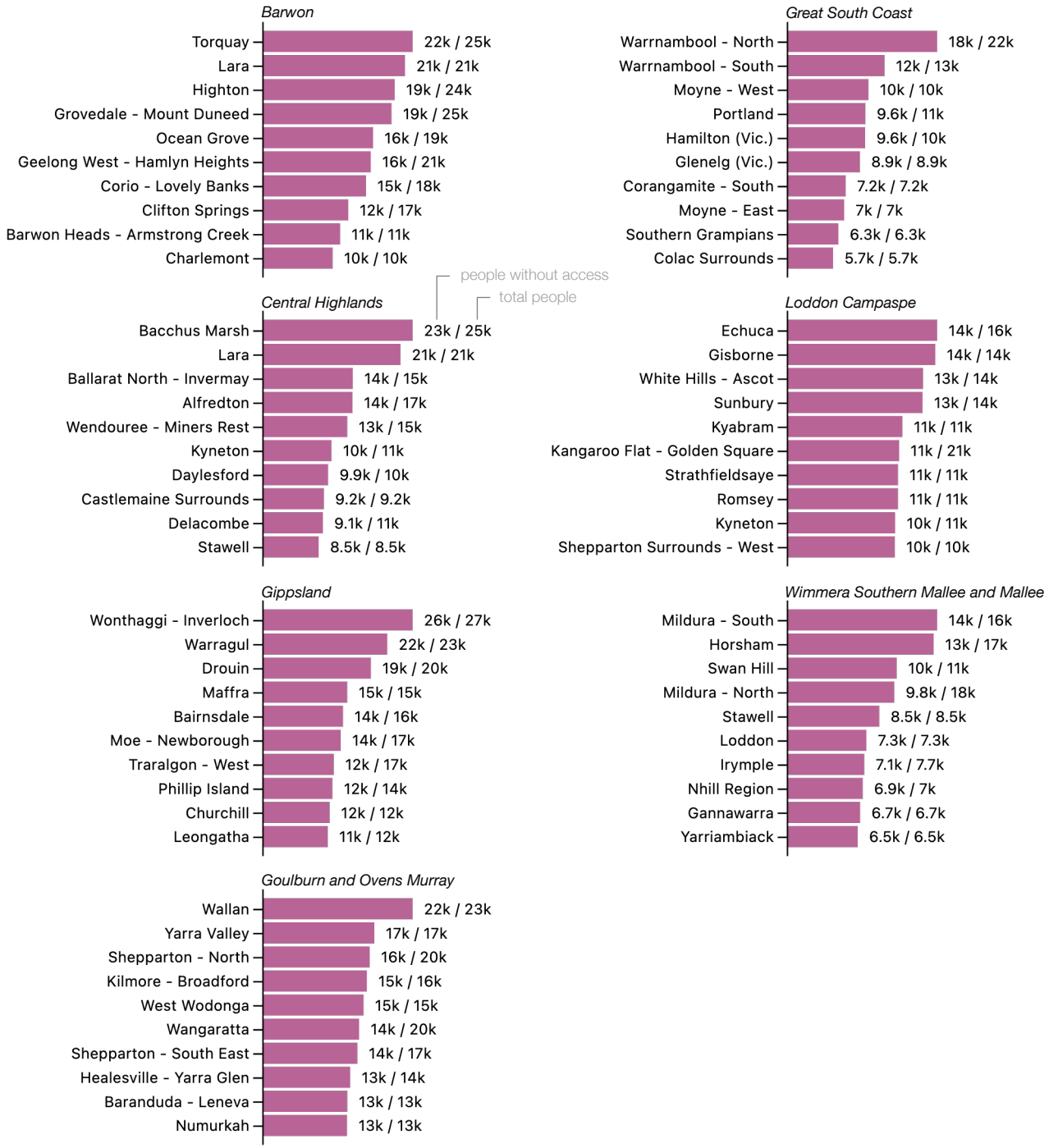
†Certain SA2s may be attributed to multiple reporting regions as they cross several reporting region boundaries.

Community Health Centres

Regional areas with low accessibility

The charts shown to the right summarise the top ten SA2s within each regional reporting region that have highest total number of people without access to community health centres via public transport within 30 minutes during the morning peak.

SA2s are statistical boundaries defined by the Australian Bureau of Statistics for the purposes of analysis, similar in both concept and size to suburbs.



SA2s† with low access to community health centres

Total people without access to community health via morning peak public transport within 30 minutes

Regional

†Certain SA2s may be attributed to multiple reporting regions as they cross several reporting region boundaries.

Community Health Centres

Accessibility across demographic groups

The figure at the top-right shows the proportion of each demographic group that can access community health centres via public transport within 30 minutes. Total population can be treated as the '*average*' experience and is highlighted in orange.

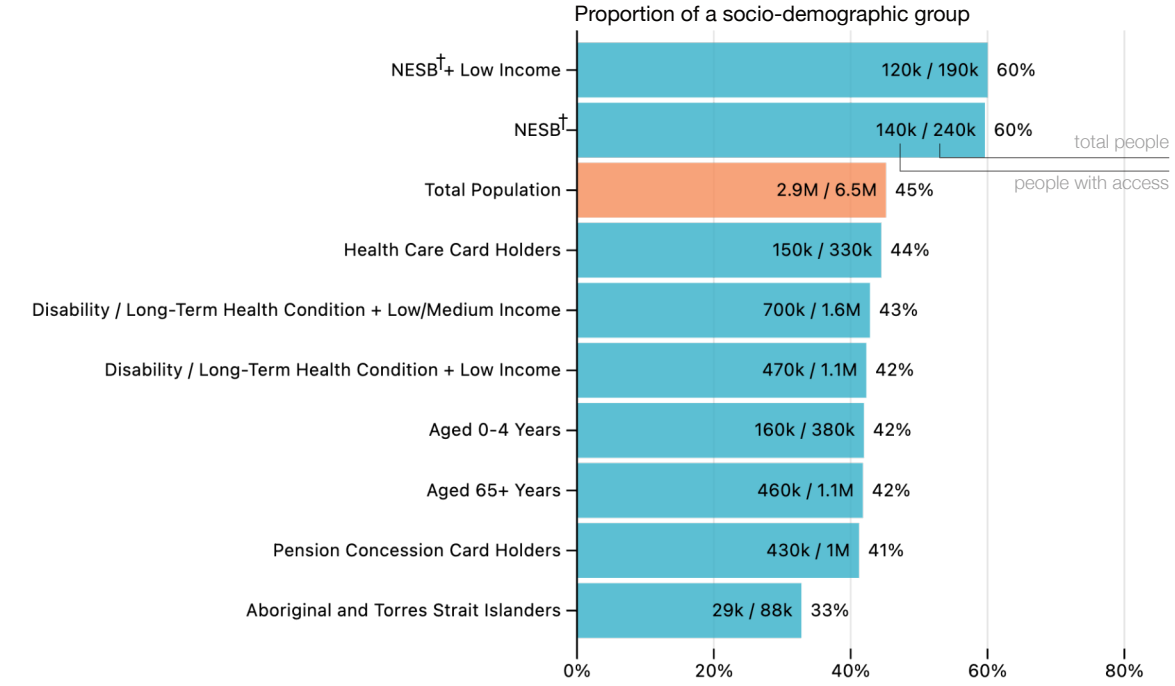
With this, it can be seen that non-english speaking background households (NESB) are more likely to reside near community health centres. All other demographic groups fall short of the average, with Aboriginal and Torres Strait Islander people situated the furthest away from community health centres via public transport.

Accessibility is expected to slightly decrease across younger and older demographic groups into the future.

Where there is change in accessibility over time, this is because more people are projected to be living closer or farther from existing facilities. This analysis has not included future changes to the provision of additional infrastructure or changes in network conditions.

Community health centre accessibility by socio-demographic group

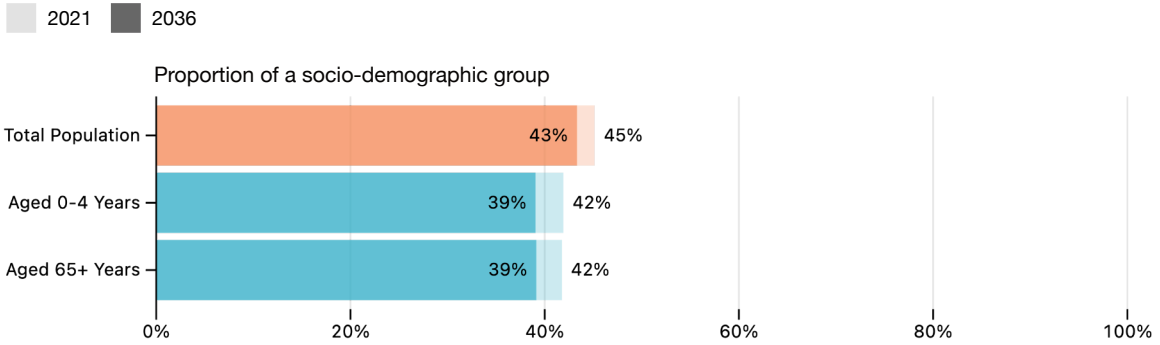
For morning peak public transport journeys within 30 minutes



†Non-English Speaking Background (NESB) households

Current and future accessibility to community health centres by socio-demographic group

For morning peak public transport journeys within 30 minutes



Community Health Centres

Accessibility across demographic groups

The figure at the top-right shows the proportion of each demographic group that can access community health centres via public transport within 60 minutes. Total population can be treated as the '*average*' experience and is highlighted in orange.

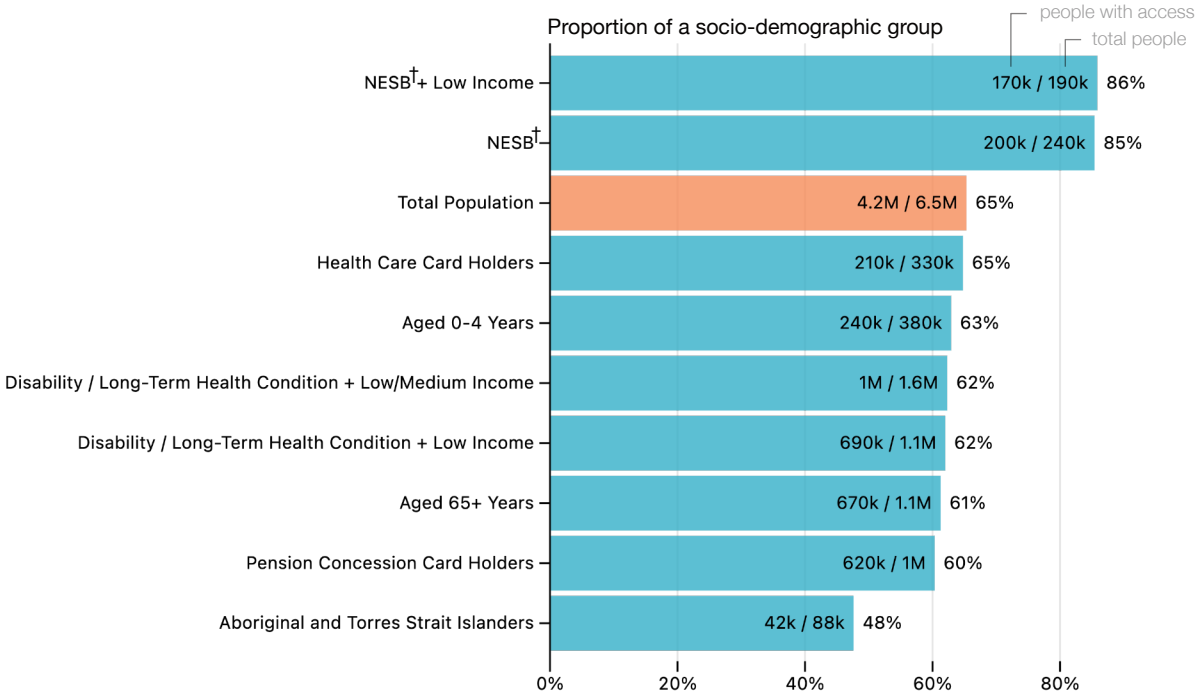
With this, it can be seen that non-english speaking background households (NESB) are more likely to reside near community health centres. All other demographic groups fall short of the average, with Aboriginal and Torres Strait Islander people situated the furthest away from community health centres via public transport.

Accessibility is expected to slightly decrease across younger and older demographic groups into the future.

Where there is change in accessibility over time, this is because more people are projected to be living closer or farther from existing facilities. This analysis has not included future changes to the provision of additional infrastructure or changes in network conditions.

Community health centre accessibility by socio-demographic group

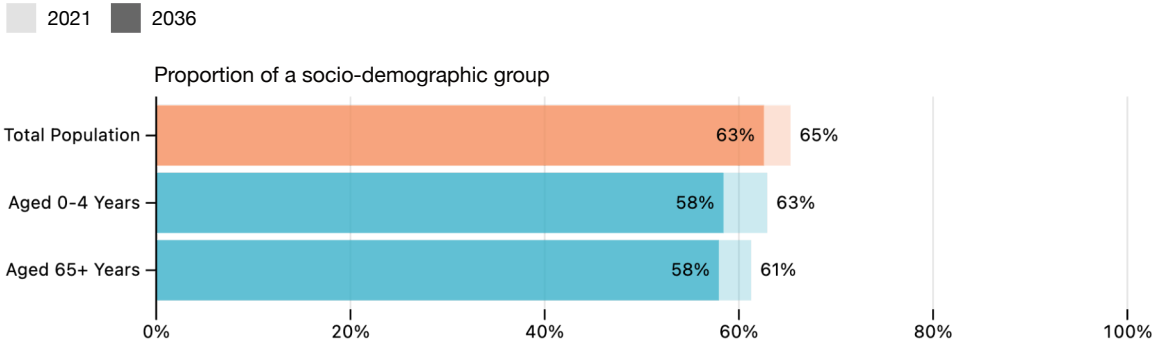
For morning peak public transport journeys within 60 minutes



†Non-English Speaking Background (NESB) households

Current and future accessibility to community health centres by socio-demographic group

For morning peak public transport journeys within 60 minutes



Community Health Centres

Rates of provision against accessibility

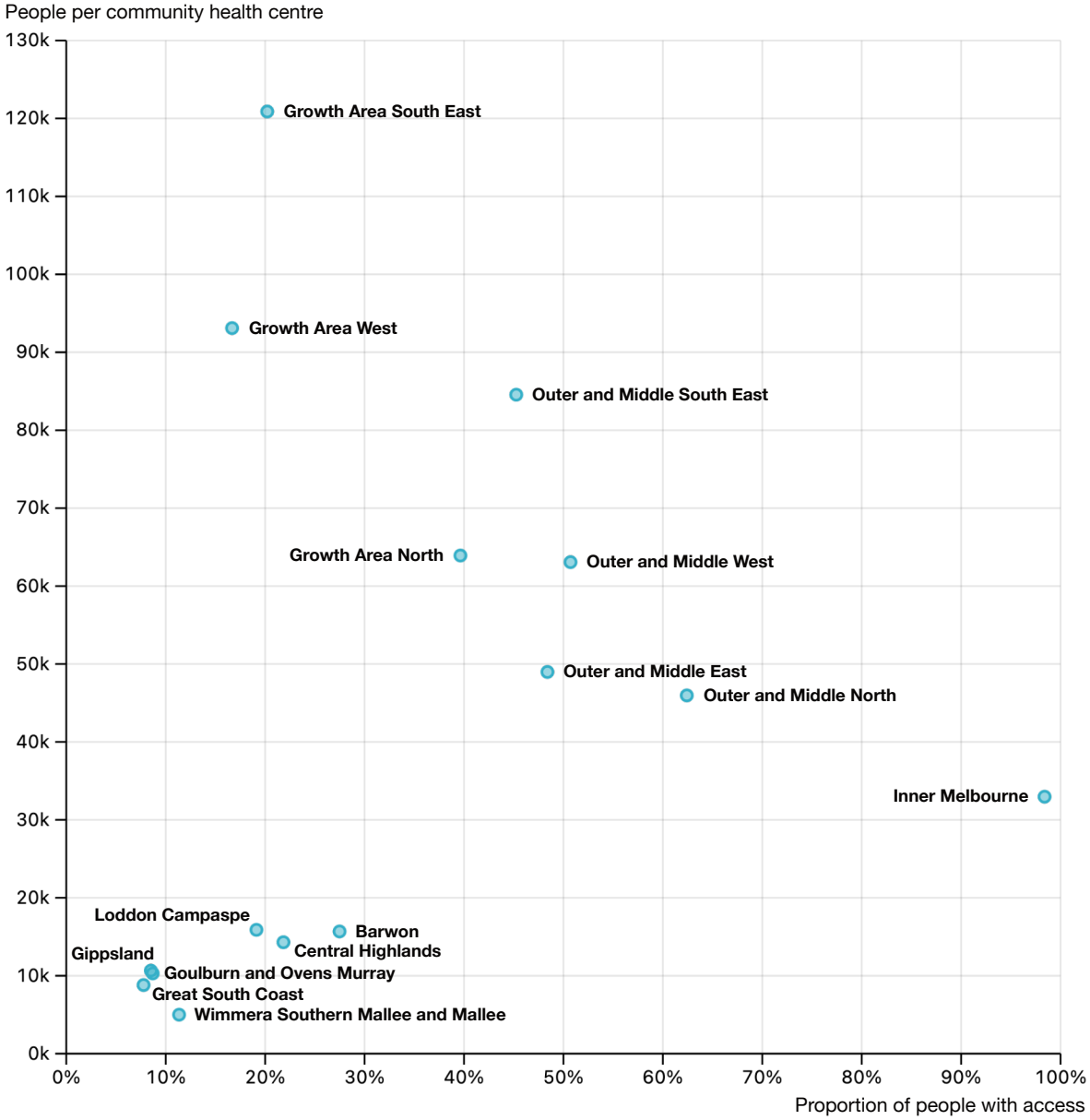
The chart compares the proportion of people with access to community health centres via public transport against the number of people 'sharing' each community health centre across reporting regions. Access is characterised for morning peak public transport journeys within 30 minutes.

- Inner Melbourne has high accessibility to community health centres as well as many facilities.
- Growth areas have the fewest number of facilities per person as well as lower levels of public transport accessibility. *Growth Area South East* has the lowest level of provision in Victoria.
- Regional areas have low levels of public transport accessibility but relatively high levels of provision compared to metropolitan areas due to lower population densities.

The analysis of community health centres has not considered the capacity, size, age, or asset condition of each facility.

Community health centre rates of provision against accessibility

For morning peak public transport journeys within 30 minutes



Community Health Centres

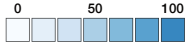
Socio-demographic accessibility summary

The table to the right provides the proportion of people with access to community health centres via public transport during the morning peak within 30 minutes for every reporting region and socio-demographic group considered as part of the acessibility analysis.

Where there is change in accessibility over time, this is because more people are projected to be living closer or farther from existing facilities. This analysis has not included future changes to the provision of additional infrastructure or changes in network conditions.

Accessibility summary for community health centres

Proportion of specific demographic groups by reporting region



	Inner Melbourne	Outer and Middle East	Outer and Middle North	Outer and Middle South East	Outer and Middle West	Growth Area North	Growth Area South East	Growth Area West	Barwon	Central Highlands	Gippsland	Goulburn and Ovens Murray	Great South Coast	Loddon Campaspe	Wimmera Southern Mallee and Mallee	
Total Population –	98%	48%	62%	45%	51%	40%	20%	17%	27%	22%	9%	9%	8%	19%	11%	Age Groups (2021)
Aged 0-4 Years –	98%	48%	60%	46%	48%	38%	20%	13%	26%	21%	9%	9%	8%	19%	12%	
Aged 5-14 Years –	98%	48%	59%	43%	48%	42%	21%	15%	25%	20%	9%	9%	8%	17%	12%	
Aged 15-24 Years –	99%	48%	62%	45%	51%	44%	21%	17%	29%	24%	9%	9%	8%	21%	12%	
Aged 65+ Years –	98%	47%	63%	44%	54%	36%	20%	26%	28%	23%	8%	9%	7%	20%	10%	
Total Population in 2036 –	96%	50%	62%	45%	49%	27%	16%	11%	25%	20%	8%	8%	8%	18%	12%	Age Groups (2036)
Aged 0-4 Years in 2036 –	95%	51%	59%	45%	46%	22%	15%	9%	24%	17%	8%	7%	8%	18%	12%	
Aged 5-14 Years in 2036 –	96%	48%	56%	42%	42%	26%	16%	10%	23%	17%	8%	7%	8%	16%	12%	
Aged 15-24 Years in 2036 –	97%	50%	59%	46%	49%	31%	17%	11%	25%	21%	9%	8%	9%	19%	13%	
Aged 65+ Years in 2036 –	98%	46%	63%	40%	51%	33%	17%	16%	25%	22%	8%	8%	8%	18%	11%	
Low Income –	99%	48%	62%	46%	53%	44%	21%	20%	29%	23%	8%	9%	8%	20%	11%	Personal Income
Low/Medium Income –	99%	48%	62%	46%	52%	40%	20%	18%	28%	22%	8%	9%	8%	20%	11%	
Health Care Card Holders –	99%	48%	63%	47%	54%	46%	22%	18%	31%	24%	10%	10%	9%	24%	14%	Concession Card
Pension Concession Card Holders –	98%	46%	63%	47%	56%	45%	21%	24%	32%	25%	9%	10%	8%	23%	12%	
NESB –	99%	56%	64%	58%	61%	63%	22%	21%	40%	27%	13%	13%	12%	35%	17%	NESB†
NESB + Low Income –	99%	56%	64%	58%	61%	64%	22%	21%	41%	25%	14%	13%	12%	36%	18%	
NESB + Low/Medium Income –	99%	56%	64%	59%	61%	64%	22%	21%	40%	25%	13%	14%	13%	36%	17%	
Long-Term Health Conditions –	98%	47%	63%	44%	52%	38%	21%	21%	29%	23%	9%	9%	8%	21%	11%	Health
Disability –	98%	48%	64%	47%	54%	47%	23%	23%	32%	25%	10%	10%	8%	24%	12%	
Disability / Long-Term Health Condition –	98%	47%	63%	44%	52%	38%	21%	21%	29%	23%	9%	9%	8%	21%	11%	
Disability / Long-Term Health Condition + Low Income –	98%	46%	63%	45%	54%	42%	21%	24%	30%	24%	9%	9%	8%	21%	11%	
Disability / Long-Term Health Condition + Low/Medium Income –	98%	47%	63%	45%	53%	39%	21%	22%	29%	24%	9%	9%	8%	21%	11%	
Early School Leavers –	98%	47%	60%	42%	49%	44%	20%	18%	26%	22%	9%	9%	8%	18%	12%	Education
Aged 25-64 with Lower than Cert III Qualification –	98%	45%	61%	45%	53%	43%	21%	18%	29%	21%	9%	9%	8%	20%	11%	
Aboriginal and Torres Strait Islanders –	98%	39%	60%	40%	48%	30%	22%	20%	33%	25%	10%	11%	8%	25%	17%	

†Non-English Speaking Background (NESB) households

Community Health Centres

Accessibility analysis methodology

All analysis conducted in this report used a multi-step methodology to generate outcomes across socio-demographic groups from network accessibility.

1. Locations of social infrastructure facilities were determined using Government and open data sources.

2. Travel time isochrones were generated across all facilities for combinations of travel modes (driving, public transport†, walking, cycling), time periods (morning peak or inter-peak), and journey time thresholds (ranging from 5 to 120 minutes). These utilised a family of network routing models developed by Arup using a combination of open transport network data and simulated congested travel times derived from the Victorian Integrated Transport Model (VITM).

3. Spatial analysis was conducted to determine the spatial intersection of socio-demographic groups against the isochrones. This was used, for instance, to determine what proportion of the population were able to access a certain type of infrastructure under one of the considered travel conditions.

†Public transport travel times include walking required to access and egress from stops.

Example isochrone analysis