



Where to
from **HERE**:
Mapping multi-
modal movement
in Australia

Executive Summary



Feeling the squeeze of increasing traffic congestion? You're not alone. New research commissioned by HERE Technologies has uncovered Australian commuter attitudes and behaviours around transport are changing as a result of our cities' clogged arteries.

Some Australians are opting to use public transport more often; others are adjusting their office hours in order to spend less time on the roads; and more still are looking into alternate modes of transport.

It's not just about getting to work before the boss arrives or dropping the kids at school on time. Traffic congestion impacts people's happiness, where they choose to live, how productive we are as a society and the success of our economy. But our roads are already reaching capacity with the weight of population growth and the increasing footprint of Australia's major cities.

Despite the public and private sector's best efforts to compensate by increasing the capacity of road networks, provide greater availability of transport options and renewed investment in public transport and cycling infrastructure, it's clear that a future of four wheels per person is completely unsustainable.

In fact, according to the latest Census data, Australian's have on average 1.8 cars per household – that's more than one car per person in the average

Australian home – and the number of vehicles on the road is ever increasing.² Without adequate action, traffic congestion could cost Australia more than \$50bn by 2031¹.

At HERE, we've monitored the intrinsically linked increase in traffic congestion and adoption of multi-modal transport in Australian cities over recent years – not only through commuter research, but our bank of historic location data. As the leading provider of location technology to cities, transport authorities and on-demand service providers, we know that by pooling location data, governments, industries and businesses can create the infrastructure needed to support the evolution of our transportation systems and future city planning.

Without this data at hand, we can't truly understand the issues at play, and consequently implement holistic solutions to ease the proverbial jam. Furthermore, giving commuters access to this real-time data empowers them to make more informed transport choices.

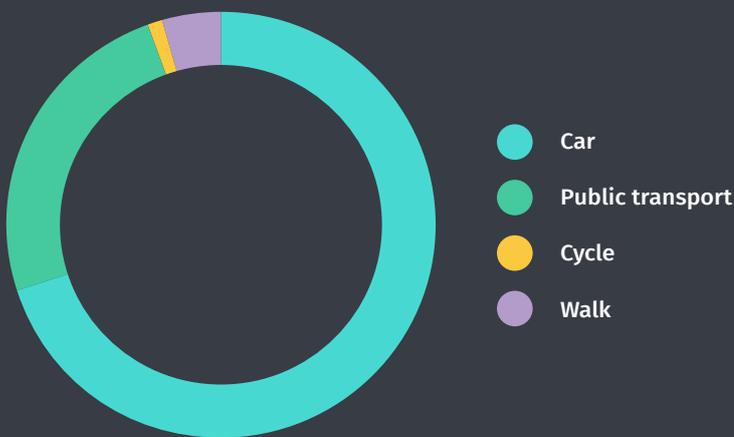
This latest research project surveyed 1,260 Australians (aged 18+) hailing from

a radius of max 50km from Australia's five largest city centres (Melbourne, Sydney, Brisbane, Perth and Adelaide) to gather insights on: how congestion impacted commuter transport choices; the changes commuters are willing to make to relieve congestion; and what's holding them back from changing their habits. Additional analysis was conducted using HERE's historical traffic data and real-time route planning technology.

The results showed that among a myriad of hindrances, the majority of Australians are open to change – to varying extents and with a variety of hesitations in mind. To help understand and guide authoritative perspectives on the road forward, this paper explores the world of the Australian commuter, how they currently get around, and how the future is shaping up.

— Sunny Wijewardana
Head of Product & Strategy, Oceania
HERE Technologies

Getting around: A snapshot of the Australian commute



70%



24.6%



1.2%



4.2%

**70% of
Australian
commuters
travel by car**

**Using public
transport is
most popular
among millennials**

(63.2% of 18-34 year olds)

According to the most recent Australian census data, the last five years have introduced almost half a million cars to our nation's roads. The increased traffic congestion caused by these vehicles has resulted in a shift in commuter attitudes towards their mode of travel. HERE's research explored the current composition of the commuting population, their preferences and how it's all changing:



Driven to alternatives: how the commute is changing

63.2%

are changing their travel habits to avoid traffic

28.5%

now take public transport more often – double the number of 18-24 year old Australians (42%) haven changed to using public transport compared to 45-54 year olds (21.1%)

Almost a fifth

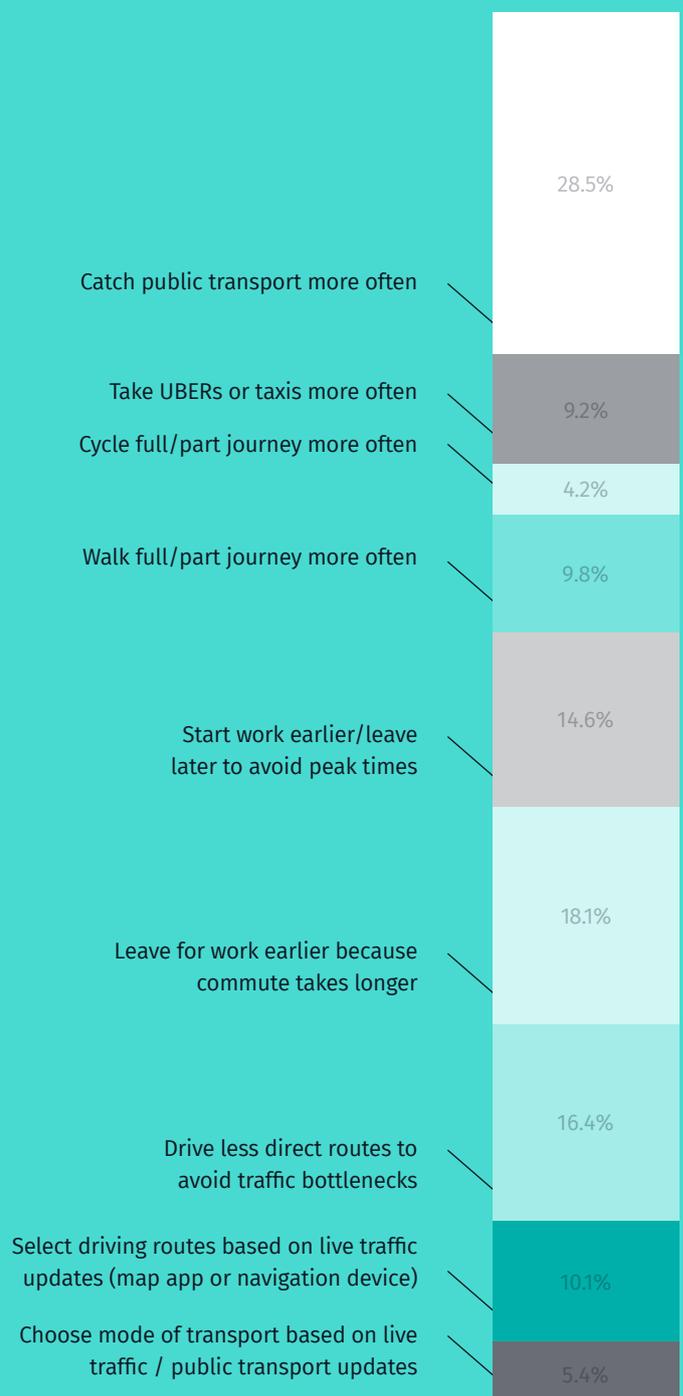
(18.1%) leave for work earlier to compensate for longer travel times

14%

of Australians have ditched the car in favour of walking or cycling

36.8%

of Australian haven't changed their commuting habits in recent years.





Cycling is the least popular commuter method.

Only one in ten Australians would be willing to cycle to work.

Cycling is the least popular current commuter method, and only one in ten Australians would be willing to change to cycling to work. This attitude has worsened in recent years, with cycling down from 1.2% in 2011 to 1.1% today in the most recent census data.



A quarter of Adelaide residents, as well as over a third of Sydney-siders and Melbournians, are starting to catch public transport more often.

A quarter of Adelaide residents, as well as over a third of Sydney-siders and Melbournians, are starting to catch public transport more often, with Sydney's public transport the most popular network in the country for commuters.



One in every five Perth and Brisbane workers is changing their working hours.

Perth and Brisbane workers are changing their working hours, with one in every five people starting work earlier or leaving their house later in a bid to avoid battling peak congestion.



What's going to change?

71.8%

of Australians are willing to change their commuting habits to help relieve congestion.

55.8%

are willing to ditch the car to relieve congestion.

Almost a third

(30.7%) are willing to opt for public transport.

Only 5.3%

are willing to pay city tolls or higher city parking fees (to compensate for driving a car in city areas).

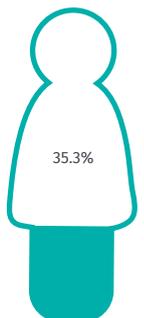
28.2%

aren't willing to change their travel habits.

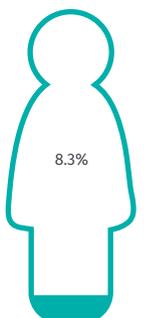
Driving is the fastest and most convenient option for me



I think public transport is too unreliable and too expensive



I don't feel safe riding or there are not enough dedicated cycling lanes on my route

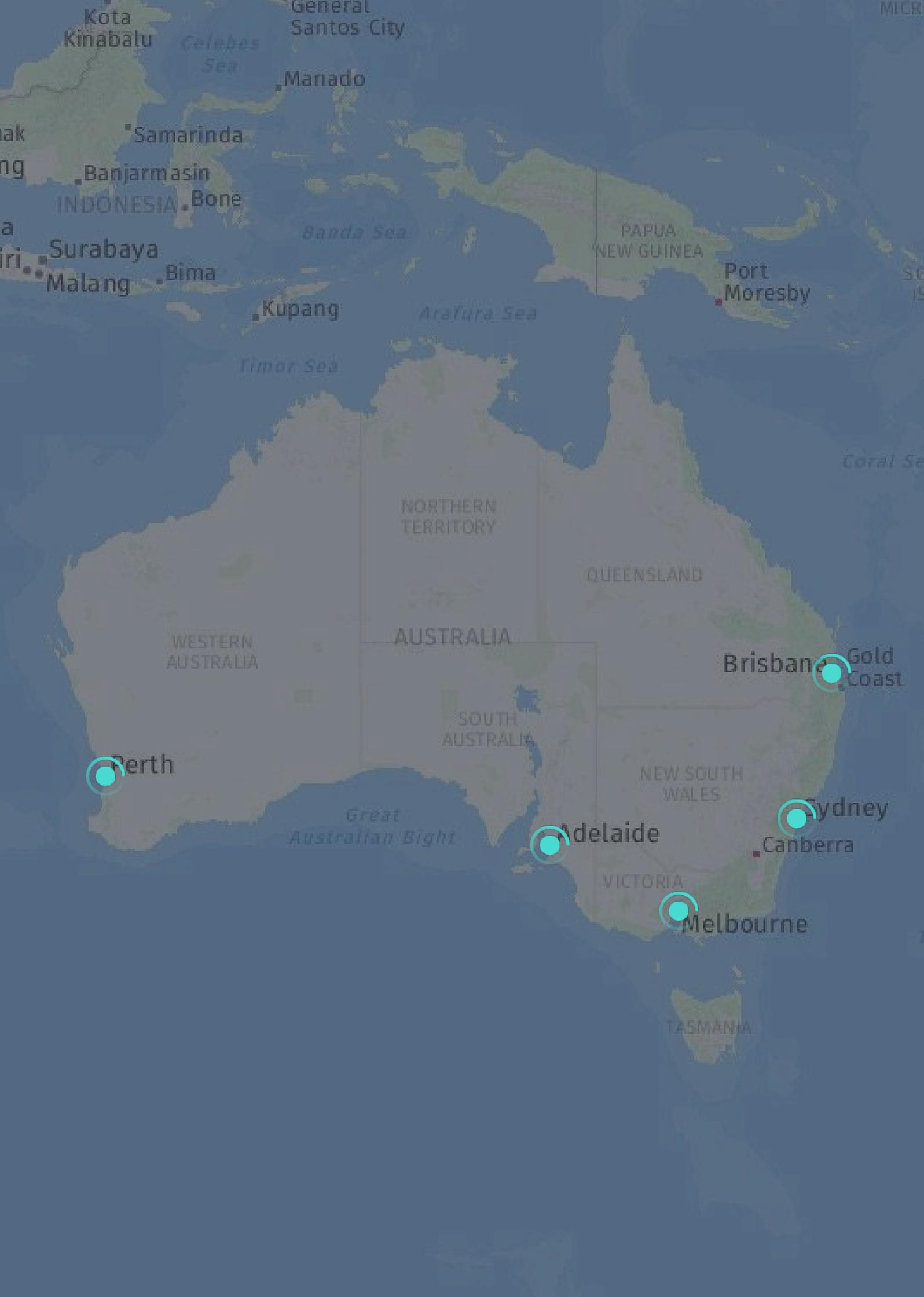




Multi-modal travel time analysis

In addition to the consumer research detailed in this paper, analysis of HERE's historic traffic data and routing technology also helped to explain where, within Australia's biggest cities, it's quicker to travel by one or a combination of other modes of transport (rather than driving). What we found was surprisingly consistent: while driving is still often the fastest route into the CBD, a combination of cycling and public transport often proved fastest in various instances across each city.

Cycling to a station or stop before switching over to public transport would more than likely beat your fellow cars into the CBD in many places. Taking into consideration productivity of journeys on public transport vs cars, parking, fuel and tolls vs public transport ticket costs coupled with environmental footprints, it's hoped this analysis will help commuters think differently about their transport options.



Kota Kinabalu

General Santos City

Celebes Sea

Manado

Samarinda

Banjarmasin

INDONESIA Bone

Banda Sea

Surabaya

Bima

Malang

Kupang

Arafura Sea

PAPUA NEW GUINEA

Port Moresby

Timor Sea

Coral Sea

NORTHERN TERRITORY

QUEENSLAND

WESTERN AUSTRALIA

AUSTRALIA

SOUTH AUSTRALIA

NEW SOUTH WALES

Brisbane Gold Coast

Perth

Great Australian Bight

Adelaide

Sydney

Canberra

VICTORIA

Melbourne

TASMANIA

City by city: how commuters fair

While general commuting trends from across the country are invaluable, it is often the state-specific findings that have the greatest impact. By looking in detail at each major city, public and private sector decision makers can make evidence-based infrastructure policy and planning decisions, and national stakeholders can look to the successes and hindrances in each state for inspiration, perspective and warning. Here, we detail the individual commuting habits of some of Australia's largest cities:

Sydney

Australia's most popular public transport system.



44% of those willing to change would consider public transport over driving



19.5% have started changing routes to avoid traffic



7.9% walk to work (the country's highest)



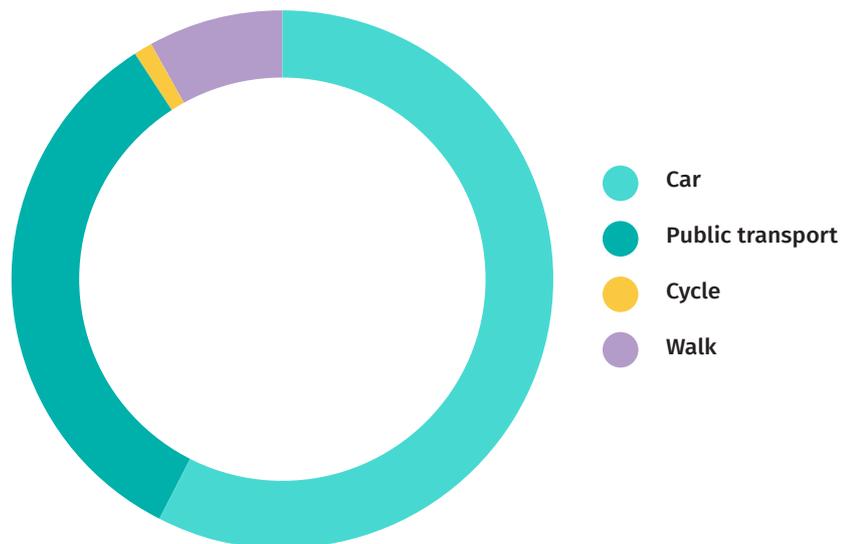
25-34 year olds most likely to choose mode of transport based on live traffic and public transport information updates (10%/6%)

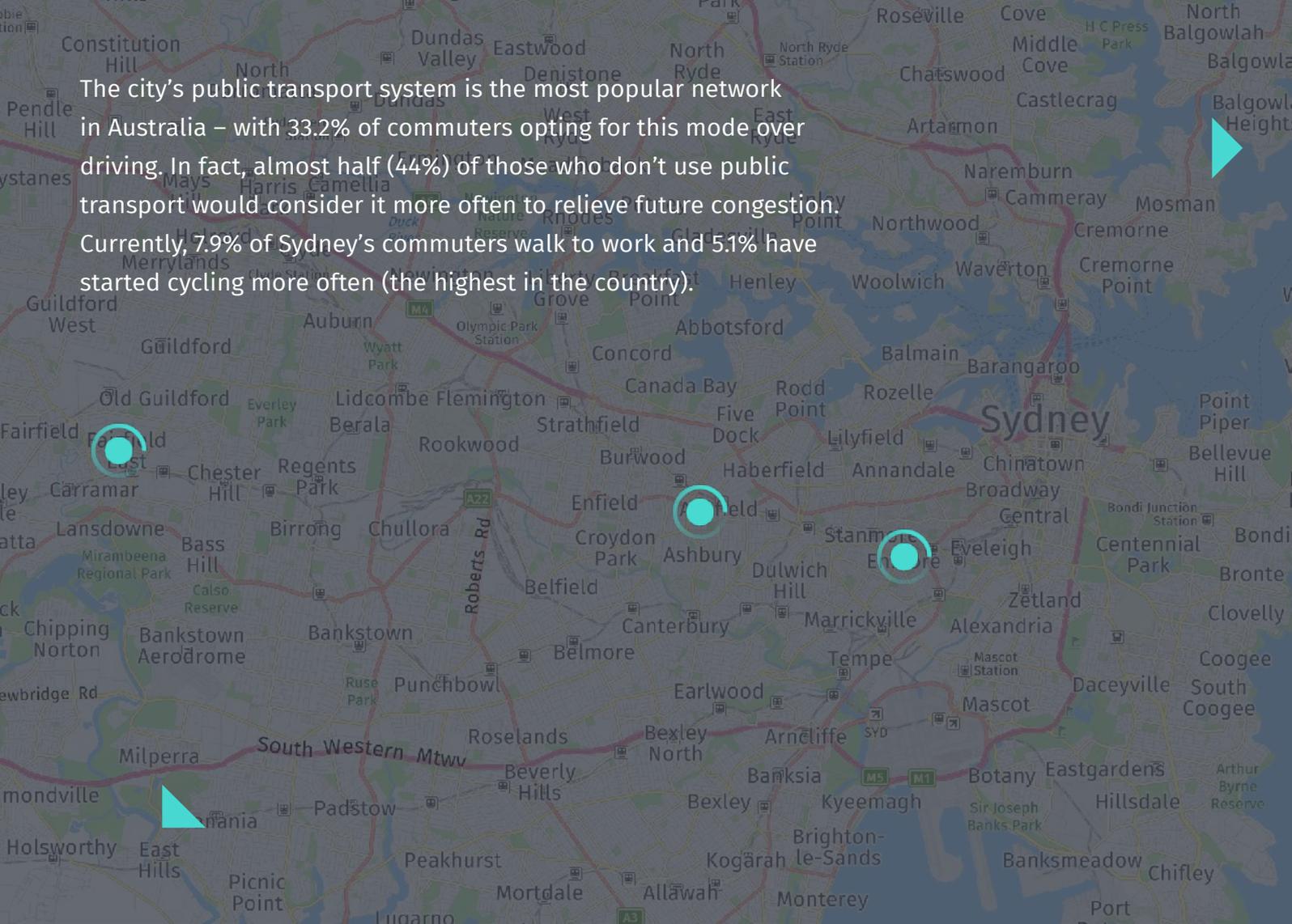


5.1% have recently started cycling (all or part of their journey)



Millennials the most common users of public transport in Sydney (47.7% of 18-34 year olds currently use this method and 37.3% would commit to doing so more)





The city's public transport system is the most popular network in Australia – with 33.2% of commuters opting for this mode over driving. In fact, almost half (44%) of those who don't use public transport would consider it more often to relieve future congestion. Currently, 7.9% of Sydney's commuters walk to work and 5.1% have started cycling more often (the highest in the country).

Fastest commute into the city: The analysis of HERE's historic traffic data and routing technology also shows where, within Sydney, it's quicker to travel by one or a combination of other modes of transport, rather than driving:

CREMORNE

- 21 mins  
- 15 mins 
- 58 mins 

ASHFIELD

- 30 mins  
- 32 mins 
- 118 mins 

NEWTOWN

- 22 mins  
- 20 mins 
- 67 mins 

LIVERPOOL

- 64 mins  
- 63 mins 

BALGOWLAH

- 47 mins  
- 30 mins 

GRANVILLE

- 48 mins  
- 51 mins 

If you're in Ashfield or Granville, a combination of bike and public transport is your fastest option into the city

Melbourne

Half of Melbournians are considering ditching the car.



have starting using Uber and taxis more often



Almost one in ten drive because of unpredictable weather



Only 0.8% cycle to work



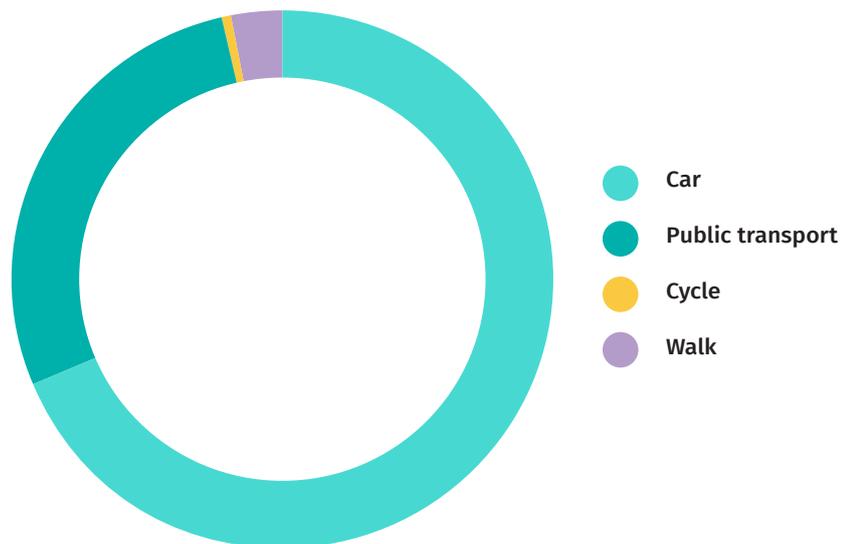
Millennials the most common users of public transport in Melbourne (68.1% currently travel by this method and 84.7% would commit to doing so more)



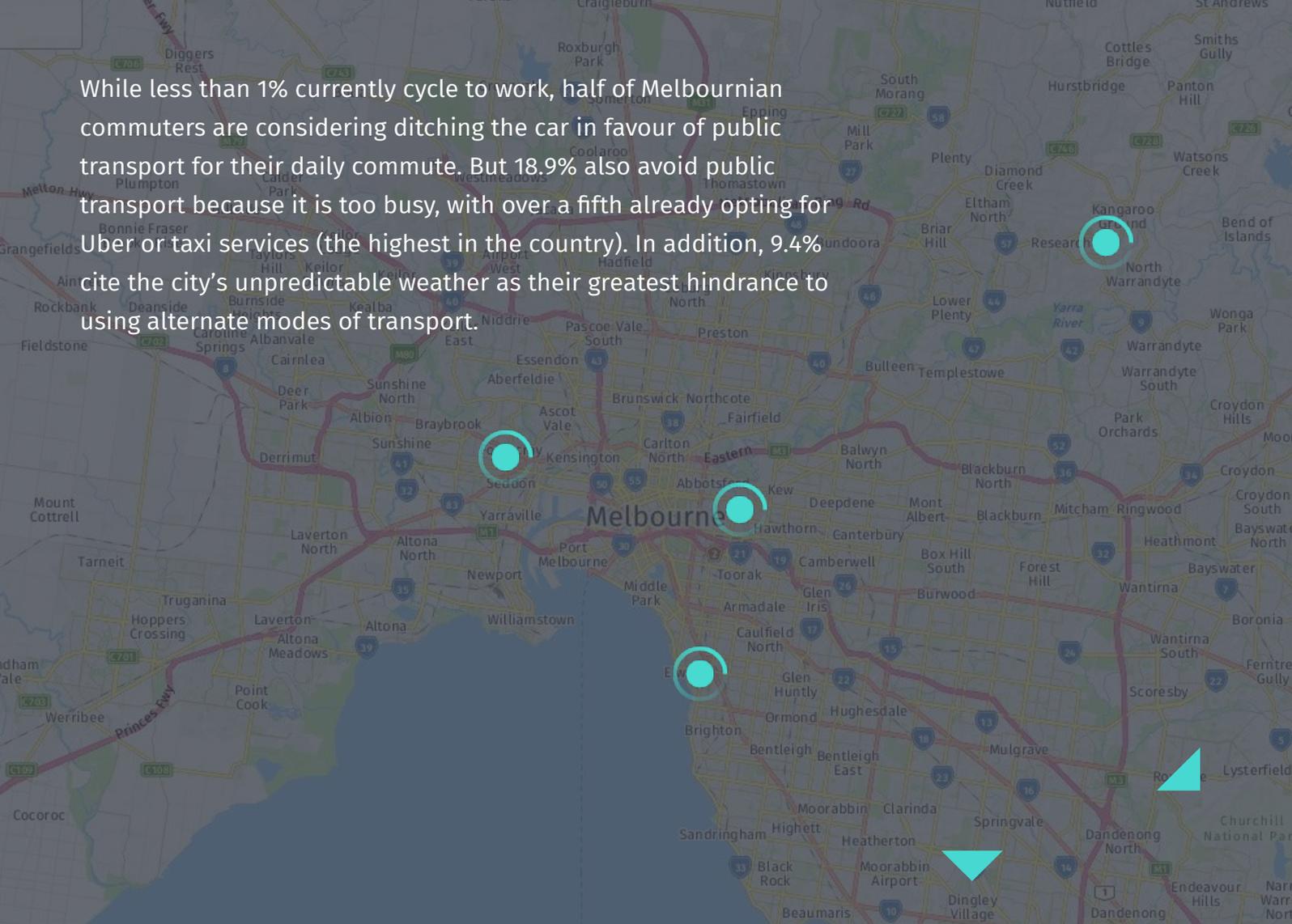
25-34 year olds most likely to choose mode of transport based on live traffic and public transport information updates (10.9%)



Millennials the most common users of public transport in Melbourne (34% of 18-34 year olds currently use this method and 42.4% would commit to doing so more)



While less than 1% currently cycle to work, half of Melbournian commuters are considering ditching the car in favour of public transport for their daily commute. But 18.9% also avoid public transport because it is too busy, with over a fifth already opting for Uber or taxi services (the highest in the country). In addition, 9.4% cite the city's unpredictable weather as their greatest hindrance to using alternate modes of transport.



Fastest commute into the city: The analysis of HERE's historic traffic data and routing technology also shows where, within Melbourne, it's quicker to travel by one or a combination of other modes of transport, rather than driving:

RICHMOND

- 10 mins  
- 8 mins 
- 34 mins 

ELWOOD

- 22 mins  
- 23 mins 
- 86 mins 

FOOTSCRAY

- 20 mins  
- 17 mins 
- 82 mins 

BERWICK

- 73 mins  
- 63 mins 

SKYE

- 95 mins  
- 74 mins 

PAKENHAM

- 70 mins  
- 73 mins 

If you're in Elwood or Pakenham, a combination of bike and public transport is your fastest option into the city.

Perth

Driverless vehicles most popular among Perth residents.



Only 1.6% walk to work (the country's lowest)



Less than 1% cycle (tied with Melbourne for lowest in Aus)



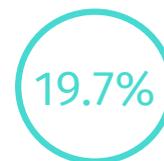
17.5% have started avoiding peak hour by starting work earlier or leaving later



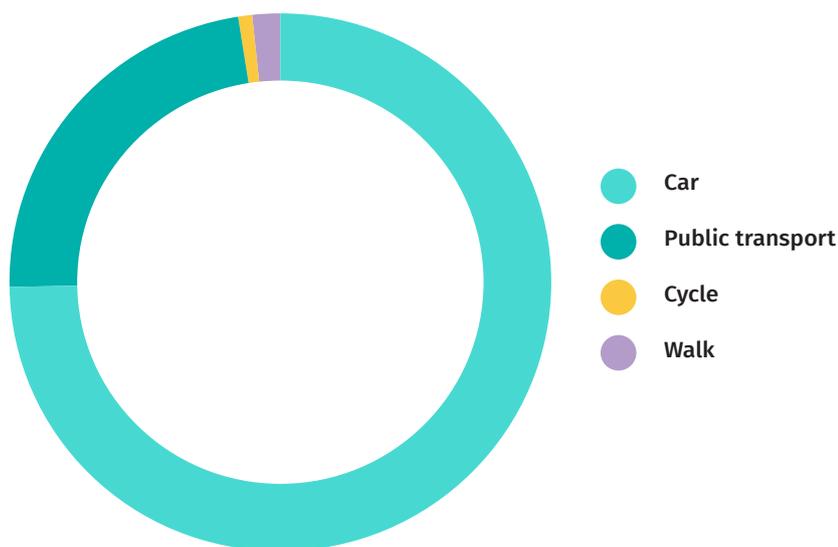
Perth residents are the country's most dissatisfied with cycling infrastructure (10.4%)



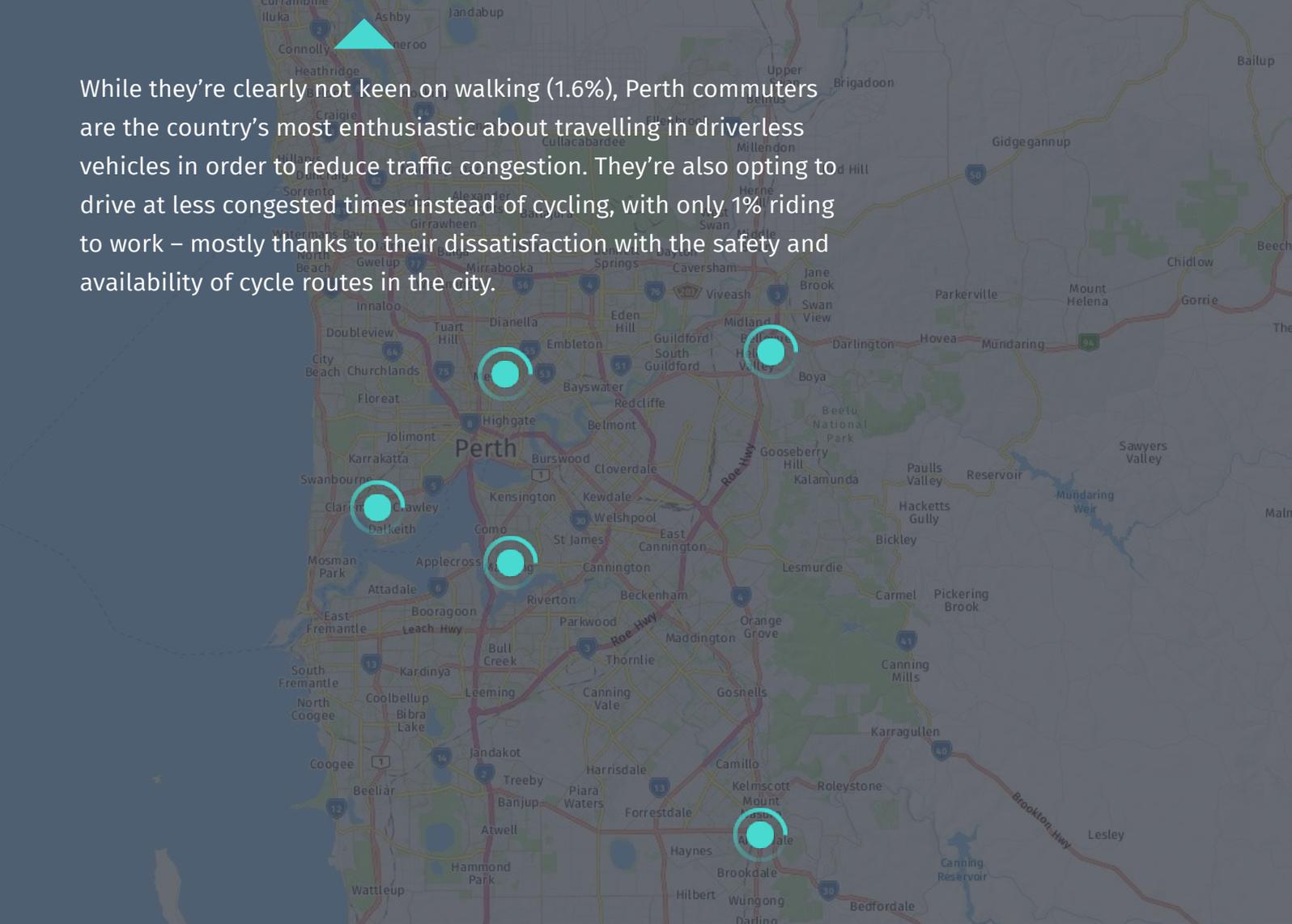
18-24 year olds are the most common users of public transport in Perth (34.3% currently and 37.1% would commit to doing so more) and are most likely to choose mode of transport based on live traffic and public transport information updates (8.6%)



Of those willing to make a change, 19.7% would travel in driverless vehicles

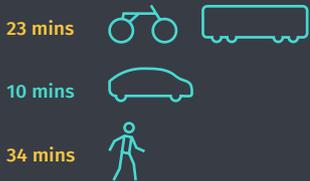


While they're clearly not keen on walking (1.6%), Perth commuters are the country's most enthusiastic about travelling in driverless vehicles in order to reduce traffic congestion. They're also opting to drive at less congested times instead of cycling, with only 1% riding to work – mostly thanks to their dissatisfaction with the safety and availability of cycle routes in the city.



Fastest commute into the city: The analysis of HERE's historic traffic data and routing technology also shows where, within Perth, it's quicker to travel by one or a combination of other modes of transport, rather than driving:

NORTH PERTH



CLAREMONT



MANNING



WOODBIDGE



ARMADALE



SORRENTO



If you're in Manning or Armadale, a combination of bike and public transport is your fastest option into the city

Brisbane

Almost a quarter want flexible work hours to avoid traffic.



12.7% rely on live traffic updates to choose their travel mode and route (the country's highest)



6.8% are willing to pay city driving/parking tolls



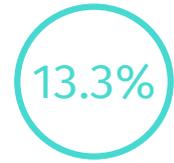
30.6% are committed to catching public transport more often



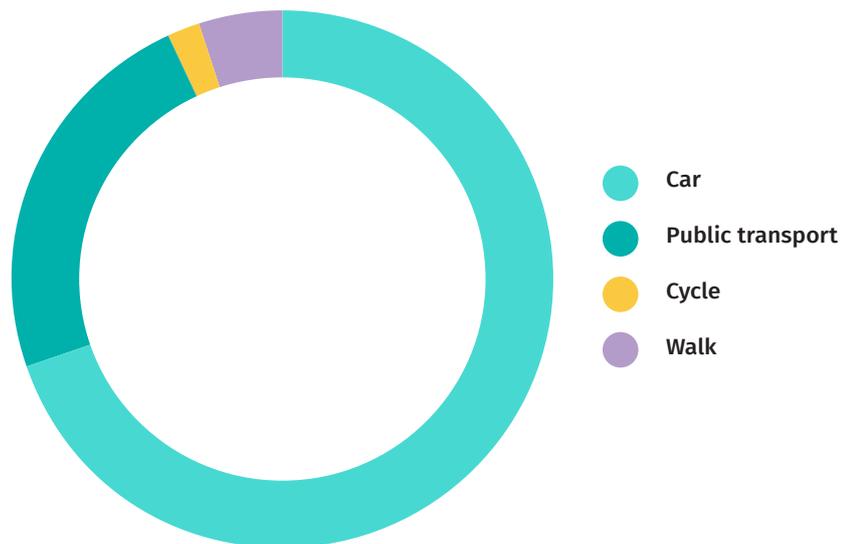
23% think public transport is too expensive



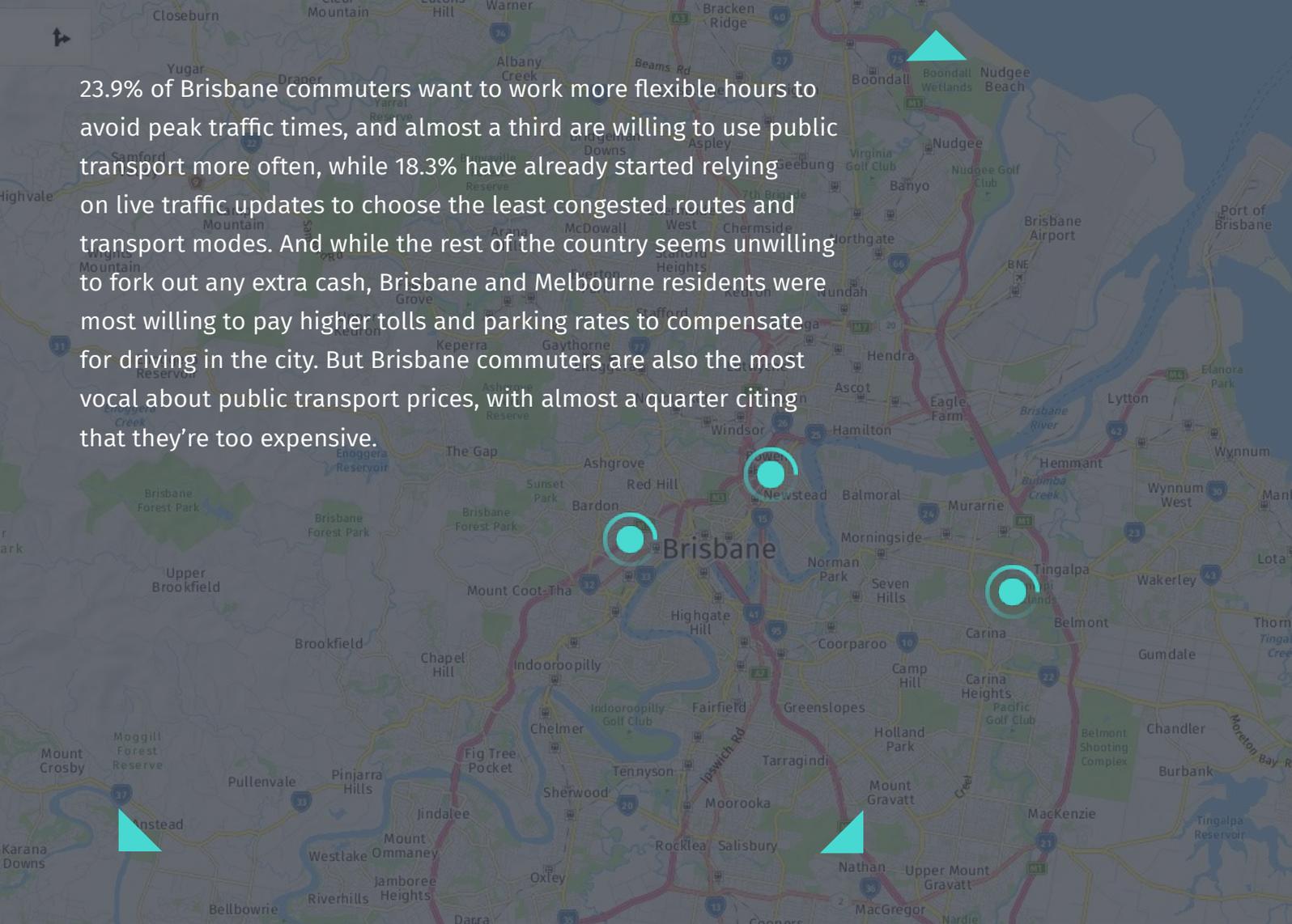
18 - 24 year olds are the most common users of public transport in Brisbane (33.3% currently and 51.1% would commit to doing so more)



13.3% of 18 - 24 year olds choose mode of transport based on live traffic and public transport information updates



23.9% of Brisbane commuters want to work more flexible hours to avoid peak traffic times, and almost a third are willing to use public transport more often, while 18.3% have already started relying on live traffic updates to choose the least congested routes and transport modes. And while the rest of the country seems unwilling to fork out any extra cash, Brisbane and Melbourne residents were most willing to pay higher tolls and parking rates to compensate for driving in the city. But Brisbane commuters are also the most vocal about public transport prices, with almost a quarter citing that they're too expensive.



Fastest commute into the city: The analysis of HERE's historic traffic data and routing technology also shows where, within Brisbane, it's quicker to travel by one or a combination of other modes of transport, rather than driving:

WINDSOR

- 15 mins  
- 13 mins 
- 51 mins 

BOWEN HILLS

- 12 mins  
- 8 mins 
- 33 mins 

MILTON

- 10 mins  
- 13 mins 
- 27 mins 

LOGAN

- 54 mins  
- 40 mins 

IPSWICH

- 64mins  
- 55 mins 

CABOOLTURE

- 57 mins  
- 70 mins 

If you're in Milton or Caboolture, a combination of bike and public transport is your fastest option into the city

Adelaide

Adelaide is open to multi-modal solutions.



Adelaide has the most drivers



Australia's least popular public transport network



46.8% haven't made any changes to their commuting habits in recent years



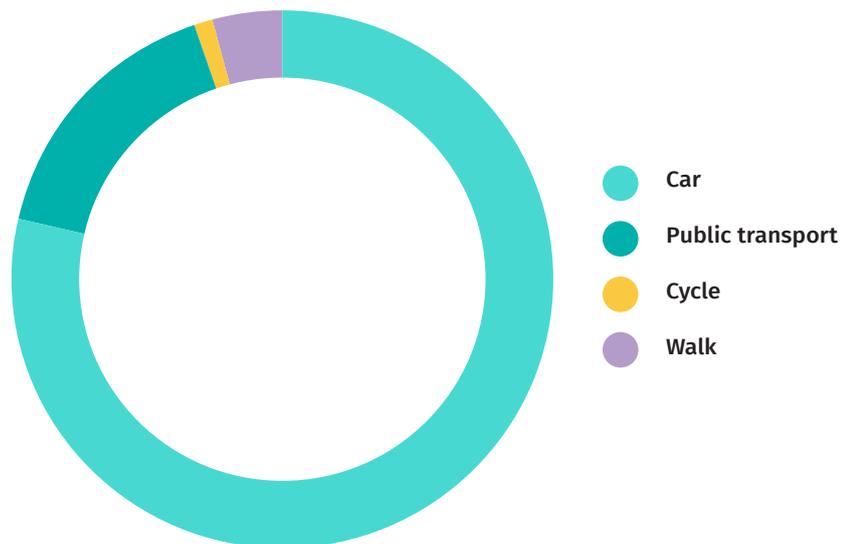
13.2% admit that they drive because they're a bit lazy



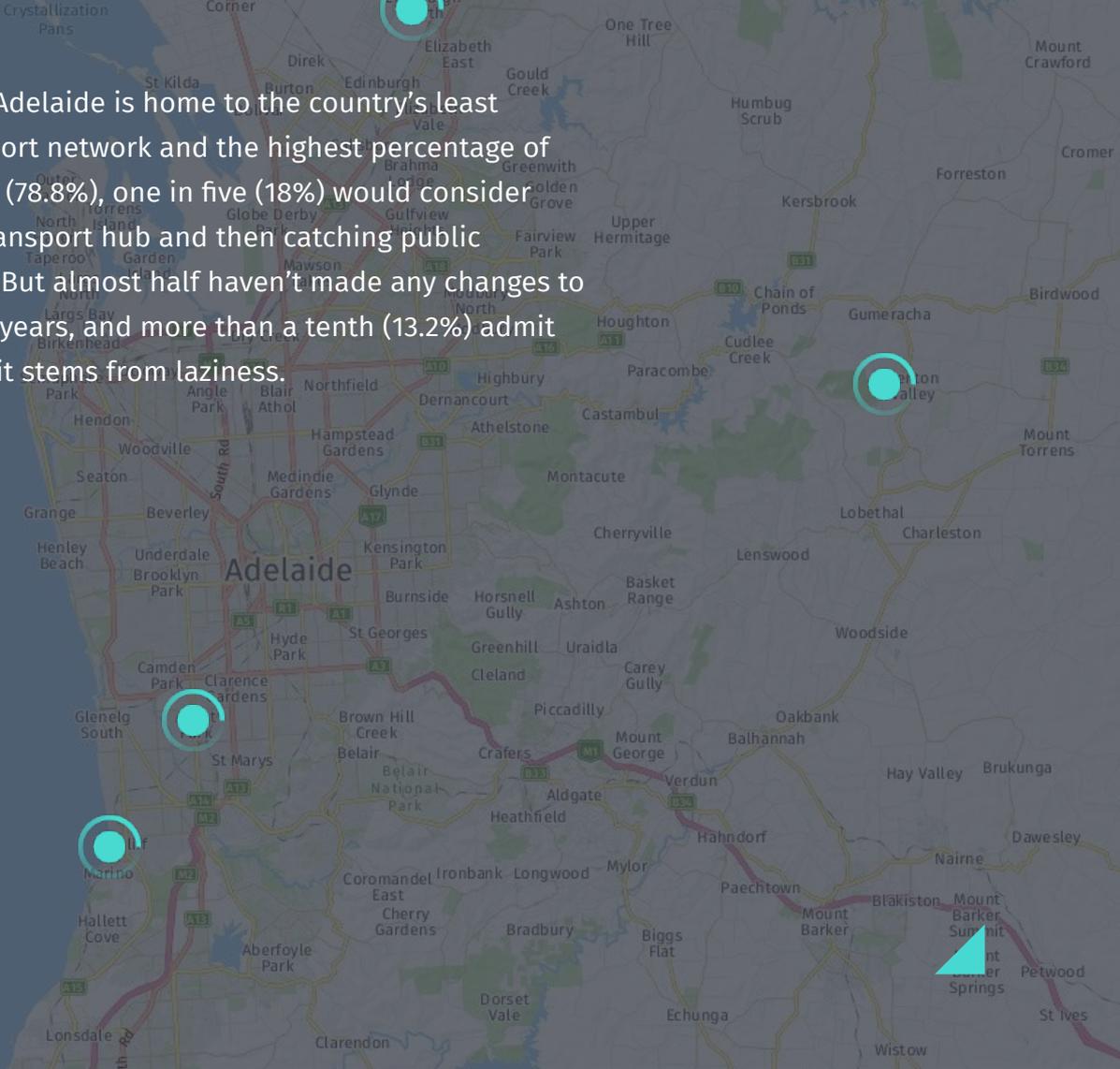
Adelaide the only city where 35-44 year olds are the most common users of public transport (33.3%) and 35-54 year olds most willing to use it more



Adelaide residents least likely to choose their mode of transport based on live traffic and public transport information updates (7.2%)



Despite the fact that Adelaide is home to the country's least popular public transport network and the highest percentage of drivers in the country (78.8%), one in five (18%) would consider driving to a nearby transport hub and then catching public transport from there. But almost half haven't made any changes to their habits in recent years, and more than a tenth (13.2%) admit that their driving habit stems from laziness.



Fastest commute into the city: The analysis of HERE's historic traffic data and routing technology also shows where, within Adelaide, it's quicker to travel by one or a combination of other modes of transport, rather than driving:

DUDLEY PARK



EDINBURGH NORTH



ASCOT PARK



SEACLIFF



BRIDGEWATER



If you're in Dudley Park or Edinbrough North, a combination of bike and public transport is your fastest option into the city.

The road forward: key recommendations for traffic-free smart cities

As a nation of car lovers, Australians aren't likely about to switch to alternate transport modes overnight. But with Australia's population set to increase by a million people every two to three years - many of whom will add new cars to an already straining road network - something has to be done to unclog our cities in the interim decade before the expected mobility revolution of autonomous vehicles arrives.

Luckily, there is much room for improvement on the road to reduced congestion - particularly for those who rely on their cars to do their jobs.

Applying innovative approaches to multi-modal transport can have a significantly positive impact on the traffic commuters face on a daily basis. But building smarter cities is no mean feat - it requires coordination between hundreds of disparate systems and testing in real-world environments.

Governments and industry leaders need to work together, and by using location technology and analysing historical traffic data they can make more informed decisions on urban planning and infrastructure projects. Exploring and understanding the fears, preferences and needs of com-

muters provides an unrivalled foundation for decision making. Knowing that public transport prices, or lack of availability of safe cycle routes, are all that is holding a commuter back from leaving the car in the driveway is invaluable for decision makers.

Making better choices

It is not just governments and industry that can benefit from using location technologies. In order to realise a sustainable future for Australia's road networks and burgeoning population of commuters, it is recommended that citizens are continually engaged with clear, timely and relevant information about what transport option is the fastest, cheapest and most convenient for them. This enables commuters to accurately choose whether to cycle, catch public transport or use a combination of transport modes based on real-time traffic information and any relevant disruptions to public transport systems or road network. It can also detect the speeds and traffic conditions on Australian roads, right down to helping commuters anticipate which lane of traffic to drive in to avoid the Monday morning bottleneck.

In fact, with today's innovative location technologies at hand, there is no reason why an Australian commuter can't wake up to a notification on their smartphone telling them that today, thanks to a disturbance on their public transport route, an Uber or bicycle would be most efficient in getting them to their first meeting on time. Drivers can then make truly informed decisions about the changes they are willing to implement, while authorities evolve the commuting landscape from the data up.

Better alternate infrastructure, affordable public transport and the availability of smart city technologies for commuters and decision makers alike are all key stepping stones on the road forward.

About HERE Technologies

HERE, the Open Location Platform company, enables people, enterprises and cities to harness the power of location. By making sense of the world through the lens of location we empower our customers to achieve better outcomes – from helping a city manage its infrastructure or an enterprise optimize its assets to guiding drivers to their destination safely. To learn more about HERE, including our new generation of cloud-based location platform services, visit <http://360.here.com> and www.here.com

Methodology

This survey was conducted via Pure Profile in October 2017 using an online survey method. It was completed by 1260 Australians aged 18 and over.