

INDUSTRY REPORT

URBAN MOBILITY TRENDS FROM COVID-19

—FEBRUARY 2021 EDITION—

HOW URBAN LIFE IS CHANGING

87%

expect to do most of their work back in their workplace

69%

want flexible start and finish times, rising to 86% for CBD and inner-suburban workers

63%

cited increased collaboration or relationships as the main reason for going back to the workplace

21%

fewer people using public transport daily post-pandemic

60%

plan to travel either domestically or internationally in 2021

¹ Infrastructure Australia, *Infrastructure beyond COVID-19: A national study on the impacts of the pandemic on Australia, Interim Report for the 2021 Australian Infrastructure Plan, December 2020*

INTRODUCTION

Since March 2020 almost everyone has faced upheaval in their daily lives as we contend with the COVID-19 pandemic. From mass uptake of work from home to social distancing and locked-down cities, the world is a changed place.

However, it remains to be seen how permanent these changes will be and what life will look like once the global health risk has passed, particularly for our nation's cities and the transport networks that serve them.

Australia is uniquely positioned to offer a glimpse into the future due to its relatively low levels of COVID-19 transmission that have allowed many restrictions to be eased.

A survey commissioned by Transurban of more than 3,000 people across greater metropolitan Melbourne, Sydney and Brisbane in January 2021 explores how they are, and intend to work and travel now and in a post-COVID-19 world, as well as the impact on urban mobility and city transport networks.

This survey follows our July 2020 research and provides insights into how people's attitudes have evolved since then.

After a year in which 30% of Australia's workforce worked from home¹, most people, 87%, still expect to do most of their work at their workplace, a result consistent with our July findings. Flexibility, particularly in the form of staggered working hours, will be a key factor as people return to the workplace. Nearly 70% of respondents said they would be more willing to return to their workplace if flexible hours were offered, to achieve better work-life balance and avoid commuting in congestion.

However, some disconnect may be emerging between people's desire for flexibility and the availability or ability of employers to offer these arrangements with 41% of respondents saying their employer is either not planning on offering flexible work arrangements or they do not know whether they will be an option.

The impact of this may already be evident with what appears to be a return to traditional working hours and peak-hour congestion—made worse by people continuing to avoid public transport in favour of private vehicles.

This trend is likely to continue with 21% fewer people stating they will use public transport daily even once the public-health risk has passed—compared to their pre-pandemic use.

On average across Melbourne, Sydney and Brisbane, 5% more people say they intend to travel by private vehicle every day in a post-COVID-19 world.

These predictions of how people intend to travel put us at a critical juncture and raise questions about how to best manage our transport networks to ensure they are operating efficiently and in an integrated way to contribute to productive and liveable cities.

One of the answers could be to embrace some of the changes we have seen over the past year such as flexible working arrangements.

The good news is that even relatively small shifts in behaviour can dramatically improve the efficiency of our road networks and help flatten the curve of congestion.

This report follows up on themes in our first Industry Report, *Urban Mobility Trends from COVID-19*, published in August 2020 and outlines transport trends in the Australian cities where Transurban operates. These trends include:

- travel preferences before, during and post-COVID-19
- flexible work arrangements and the impacts on travel patterns and transport networks
- impact of a vaccine on domestic and international travel.

Travel Perceptions Research

Online survey conducted between 21 and 29 January 2021

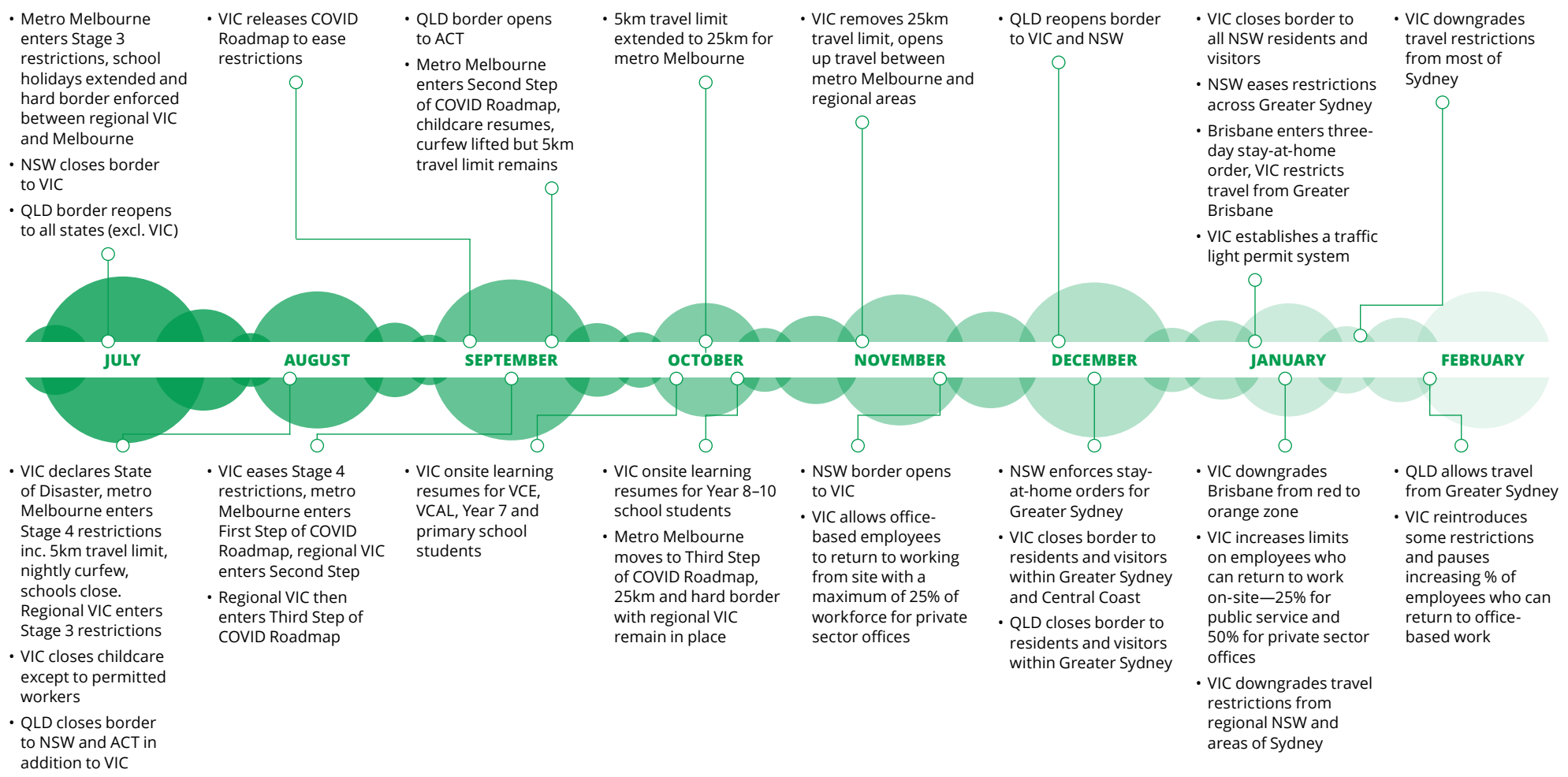
3,038 respondents from Sydney, Melbourne and Brisbane

Survey commissioned by Transurban and conducted by Nature

TIMELINE OF RESTRICTIONS

Shifting urban mobility (Jul 2020–Feb 2021*)

*As at 9 February 2021



HOW WE'LL TRAVEL

Before COVID-19, transport networks in Australia's major cities struggled to cope with increasing demand driven by strong population growth and a backlog of infrastructure projects. While the growth has temporarily slowed, our survey shows that people's preference for private-vehicle travel over public transport is likely to endure; placing a new and unforeseen pressure on road networks.

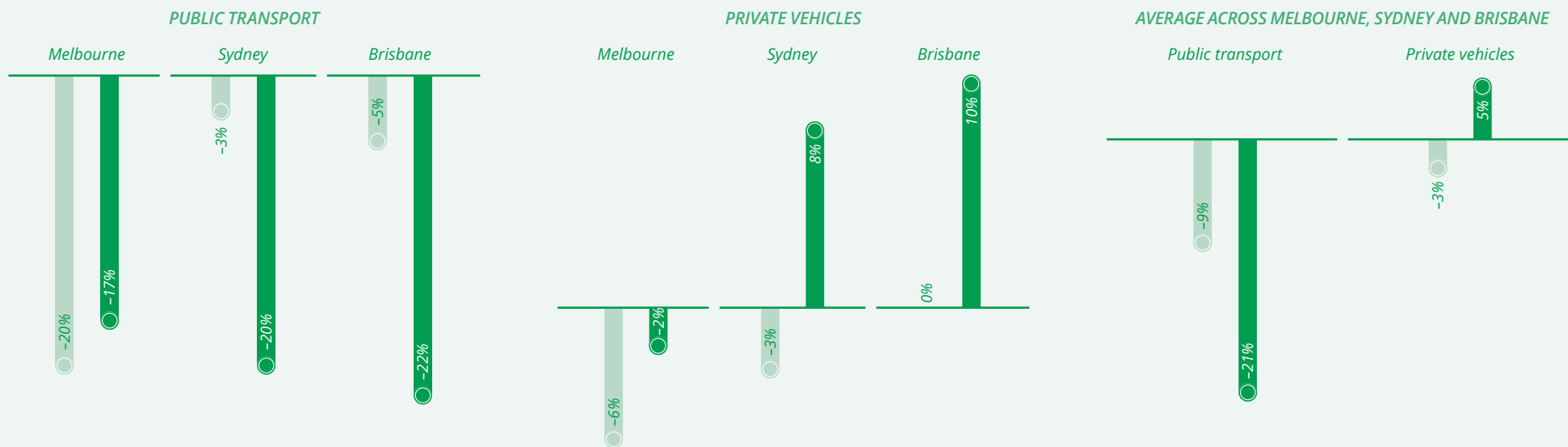
Despite evidence² to suggest that—with the right mitigations in place—the risk of transmission on public transport is low, our research shows that many people in Melbourne, Sydney and Brisbane will still be reluctant to travel on public transport even once the public-health risk has passed.

In Sydney and Brisbane daily users are now even less inclined to use public transport in the future than they were when we asked the same question in July 2020. Twenty per cent of daily users of public transport from Sydney, and 22% from Brisbane said they would use public transport less than they did pre-pandemic, while 17% of Melburnians expect to use public transport less frequently than they did pre-pandemic.

At the same time, there has been an uptick in people intending to use private vehicles in Sydney and Brisbane daily compared to pre-pandemic levels (Figure 1).

² American Public Transportation Association, *Public Transit and COVID-19 Pandemic: Global Research and Best Practices*, September 2020

FIGURE 1. HOW DAILY TRANSPORT USERS EXPECT USE WILL CHANGE POST-PANDEMIC



Melburnians are feeling slightly more positive about public transport than they were in July 2020. But, after experiencing their own COVID-19 outbreaks and lockdowns since July 2020, Sydneysiders and Brisbanites are feeling less positive about using public transport daily.

People from Sydney and Brisbane expect to be using private vehicles post-pandemic more than they expected to be using this mode of transport in July 2020.

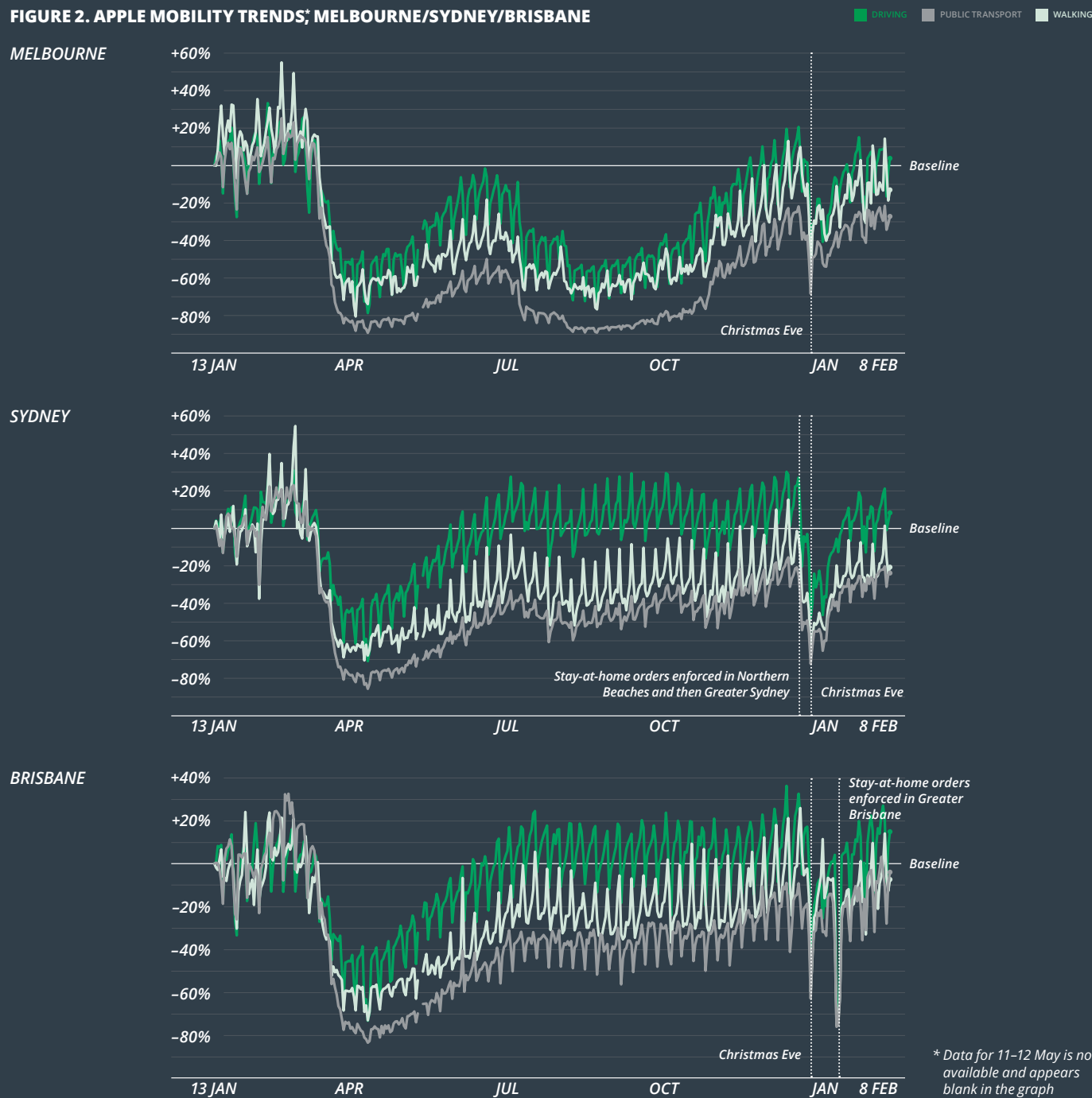
Overall people expect to be using public transport 21% less than pre-pandemic levels and private vehicles 5% more than pre-pandemic levels.

This is supported by data from Apple Maps, which shows less demand for public transport directions than driving and walking directions (Figure 2).

People's preference for private-vehicle travel throughout 2020 led to increased demand for second-hand vehicles. The Datium Insights-Moody's Analytics Used Vehicle Price Index recorded prices for used vehicles rising 35% by the end of December 2020 compared to the previous year.³

In a sign that people may turn more permanently towards private-vehicle travel, new car sales jumped by 11% in January 2021 compared to the same time last year.⁴

FIGURE 2. APPLE MOBILITY TRENDS; MELBOURNE/SYDNEY/BRISBANE



³ CommSec, *Economic Insights, Used car prices soar; New car sales lift again*, 6 January 2021

⁴ Federal Chamber of Automotive Industries, *Positive Signs from January 2021 New Vehicle Sales Figures*, media release, 3 February 2021

* Data for 11–12 May is not available and appears blank in the graph

Return to peak hour

After a decline in traffic volumes due to government-mandated restrictions, the traditional pre-pandemic peak hours are returning to the broader road networks in capital cities (Figure 3).

On Transurban's roads, the return to morning and afternoon peaks is most evident on roads with orbital routes around city centres, such as the Westlink M7 in Sydney. Prior to COVID-19, certain sections south-bound on the M7 (near the M4 Interchange) experienced around 3.5 hours of congestion in peak hours, where average speeds would fall below 60 km/h.⁵ In November 2020 this had risen to 4.5 hours.

It is worth noting that the trend around a return to peak-hour travel is also playing out on public transport networks to a lesser extent, which will challenge the ability for operators and users to maintain social distancing requirements until the risk of COVID-19 has passed.

But the tolerance for increased demand on road networks can only stretch so far.

Low traffic levels on road networks across Melbourne, Brisbane and Sydney throughout COVID-19 restrictions meant roads could handle a switch from public transport to private-vehicle travel. It also helped that traffic was spread more evenly across the day as lower levels of commuter traffic and flexible work arrangements shrunk the typical peaks observed during a working week (Figure 3).

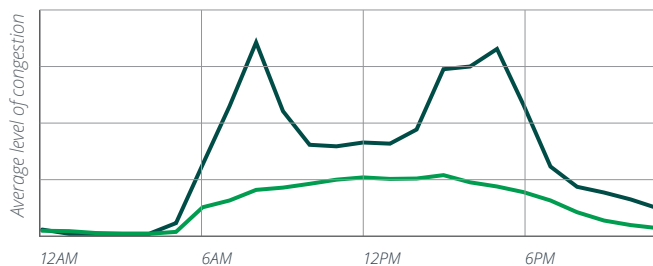
In each state a pipeline of infrastructure projects and upgrades will provide extra capacity within the road and rail network, but it also points to the need for broader policy changes to make the best use of transport networks.

Flexible work arrangements, especially the uptake of staggered start and finish times is one way of spreading peak demand on road networks and controlling patronage levels on public transport. This idea is explored in greater detail in Chapter 5, Flattening the peak-hour curve.

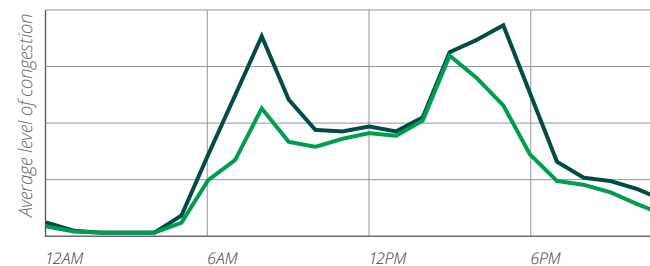
FIGURE 3. WORKDAY TRAVEL PATTERNS BY MONTH, MELBOURNE/SYDNEY/BRISBANE*

MELBOURNE

August

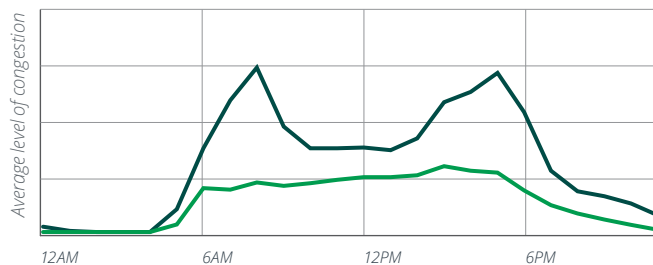


November

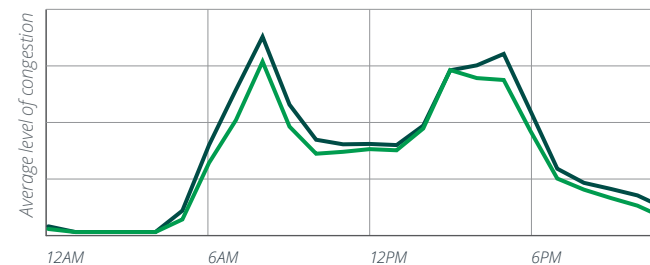


SYDNEY

April

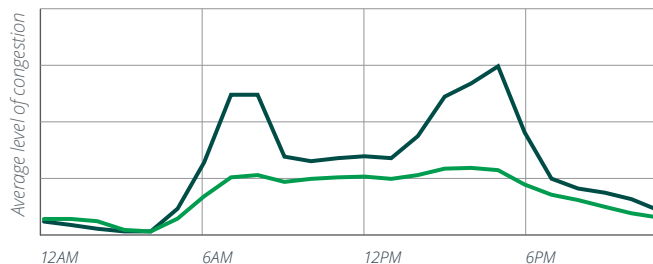


November

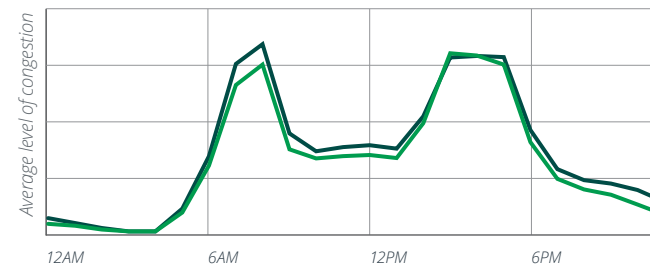


BRISBANE

April



November



5 M7 south-bound runs between the Hills M2 and the M5 West motorways

*TomTom traffic data



The costly congestion crush

Not only is peak-hour travel a barrier to people returning to their workplace, it has been a long-borne drain on the productivity and liveability of Australian cities. In 2019, Infrastructure Australia estimated the total cost of road congestion in Australia would rise from \$19 billion in 2016 to \$39 billion by 2031, with the total cost of crowding on public transport rising from \$175 million to \$837 million over the same period.⁶

In its January 2021 report, *Transporting Melbourne's Recovery*, Infrastructure Victoria reiterated this warning around traffic congestion saying that traffic speeds in inner Melbourne could reduce by 20-30% as people shifted from public transport to private vehicles.⁷

In 2019, Sydney was the most congested Australian city on the TomTom Traffic Index and Infrastructure Australia predicted the cost of congestion there would rise to \$15.7 billion by 2031.

Further, Infrastructure Australia forecasts that increased population growth across South-East Queensland will result in the cost of road congestion tripling by 2031.

Pre-COVID-19, public transport was under strain, particularly in the traditional peak hours. With social distancing requirements now in place it's going to be even more important to spread the peak. In Melbourne, Public Transport Victoria has recognised this and is offering further discounts for off-peak travel.

What this shows is that even before COVID-19, our road and rail networks were under pressure and that the public and private sector would need to work together to get more out of our transport networks.

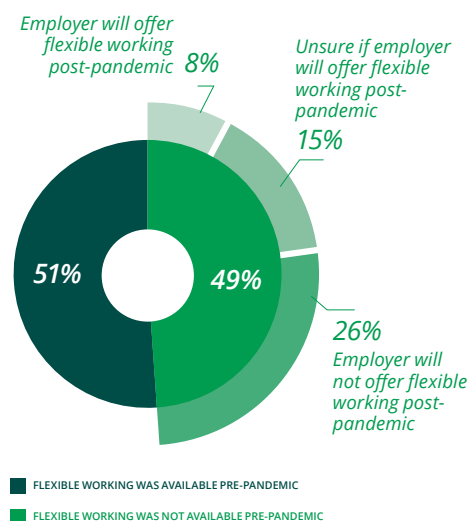
⁶ Infrastructure Australia, *Australian Infrastructure Audit 2019, Urban Transport Crowding and Congestion supplementary report*, June 2019

⁷ Infrastructure Victoria, *Transporting Melbourne's Recovery, Immediate policy actions to get Melbourne moving*, January 2021

HOW WE'LL WORK

COVID-19 forced the mass uptake of flexible work but responses to our survey indicate it is unlikely to result in a permanent and total shift away from the workplace.

FIGURE 4. FLEXIBLE WORKING—PRE AND POST-PANDEMIC



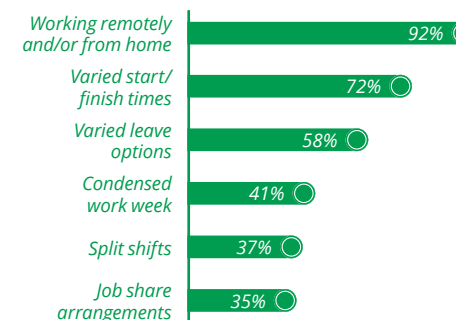
In 2020, around four million Australians worked from home, which is around 30% of the workforce.⁸ Organisations that weren't equipped for their workforces to work remotely had to adapt rapidly, leading to surging demand for virtual workplace tools. Videoconferencing software provider Zoom reported 485% growth in businesses and organisations with more than 10 users in the third quarter of its 2021 fiscal year (August–October 2020).⁹ In 2020, its market capitalisation overtook that of technology giant IBM.¹⁰

However, it remains to be seen the extent to which the new tools and systems put in place to will impact people's work arrangements.

Most respondents (87%) still expect to do most of their work at their workplace when compared to the amount of time spent working from home pre-COVID-19. This is consistent with 86% in our July 2020 survey.

Our survey showed that prior to COVID-19, 51% of respondents had access to flexible working arrangements, with the most common arrangement on offer either working from home or varying start and finish times (Figure 4 and Figure 5). However, only 8% of people said they had no access to flexible working arrangements pre-COVID-19 but will be offered it in the future. The remaining 41% had no access before COVID-19 and either expected no access after the pandemic or were unsure of what options might be available.

FIGURE 5. TYPES OF FLEXIBLE WORK OPTIONS OFFERED PRE-PANDEMIC



⁸ Infrastructure Australia, *Infrastructure beyond COVID-19: A national study on the impacts of the pandemic on Australia, Interim Report for the 2021 Australian Infrastructure Plan, December 2020*

⁹ Zoom Video Communications Inc., *Results for Third Quarter Fiscal Year 2021, media release, 30 November 2020*

¹⁰ CNBC, *Here are the incredible stats about Zoom following its blowout earnings report, online article, 1 September 2020*

FIGURE 6. REASONS FOR RETURNING TO THE WORKPLACE

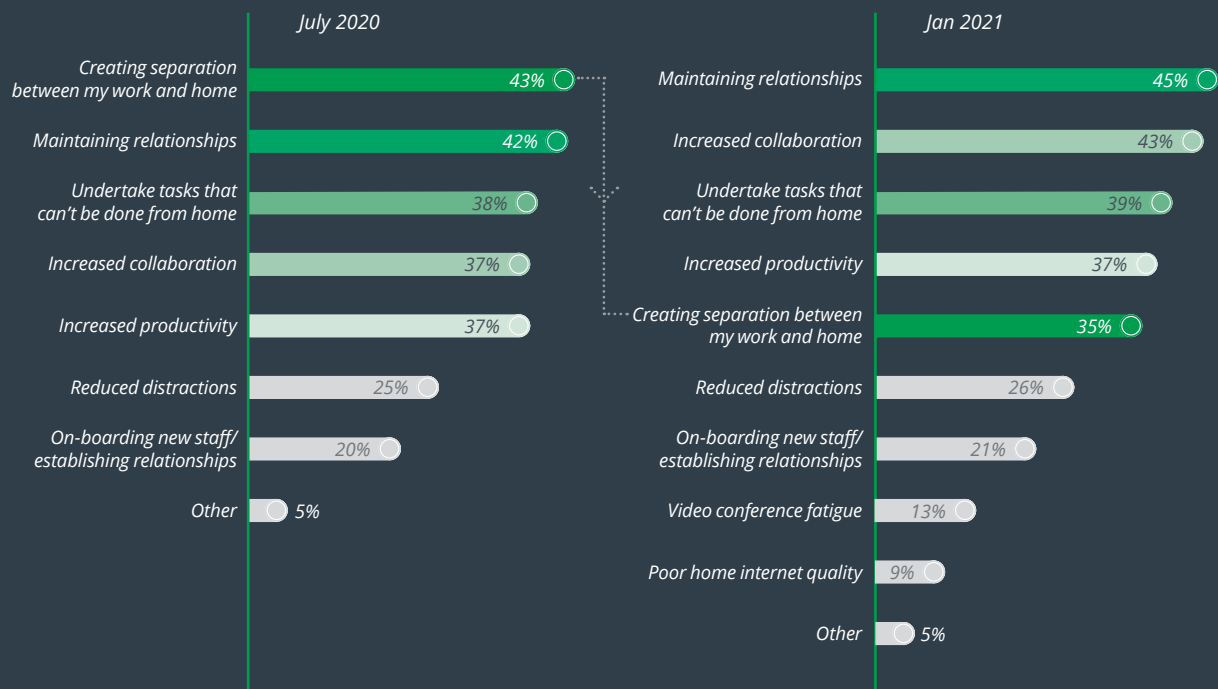


FIGURE 7. REASONS FOR WORKING FROM HOME MORE OFTEN



However, the motivations for returning to the workplace have shifted since July 2020 when the top three reasons cited were creating separation between work and home life, maintaining relationships and undertaking tasks that couldn't be done from home (Figure 6).

In January 2021, 63% of respondents cited either increased collaboration or relationships as key drivers to return to the workplace, indicating that the isolation of working from home

was starting to impact on tasks and projects requiring input from multiple stakeholders and there was a desire for more face-to-face interaction.

For the respondents who plan to work from home more than they did before COVID-19, some of the top reasons cited were to avoid commuting and peak-hour traffic (Figure 7).

While people expect to do most of their work at their workplace, our research found that they are keen for more

flexible hours. Around 70% of respondents said they would be more willing to return to the workplace if flexible working hours were available, rising to 86% for those working in the CBD and inner suburbs. This means the availability of flexible hours could play an important role in stimulating broader economic recovery in the areas most impacted by COVID-19 restrictions, such as inner-city businesses.



Embracing newfound flexibility

Matt works in Transurban's digital communications team and is father to two-year-old Theodore. Prior to COVID-19, Matt occasionally worked from home or left the office early to lend a hand with Teddy at home.

Since COVID-19 disrupted their routine, Matt has embraced using flexible work to manage his work and home life. He's been able to spend more time with Teddy and help his partner around the house, which has, in turn, helped her transition back to work (albeit, remotely).



"I did work flexibly prior to COVID-19, but it was pretty ad hoc. When COVID-19 is over I'm going to build flexible working into my family's weekly routine, so my partner and I can better share the load and spend more time together."

Flexibility and workplace diversity

Flexible work plays an important role in increasing diversity within an organisation, particularly by encouraging women to join the workforce.

This is important because Australia's position on the World Economic Forum's Global Gender Gap Index has been falling since 2006. In its 2020 report, published before COVID-19 in December 2019, Australia ranked 44th, compared to 15th in 2006. On labour force participation rates, Australia ranked 53rd.¹¹

In a 2016 report, Australia's Workplace Gender Equality Agency highlighted that women are twice as likely to request flexible work arrangements than men.

Given women spend 64% of their average weekly working time on unpaid care work, compared to 36% for men, flexibility plays a critical role in attracting women to a workplace and preventing them from dropping out of the workforce.¹² The Agency said that if men had greater access to flexible working this could help increase their participation in childcare and unpaid domestic labour.

Our survey found women wanted access to flexibility more than men pre-COVID-19, but that levels post-COVID-19 were about the same, which could be the result of more men experiencing flexible work conditions throughout 2020.

¹¹ World Economic Forum, *Global Gender Gap Report 2020*

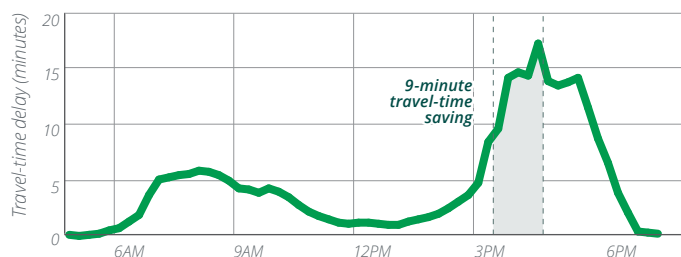
¹² Workplace Gender Equality Agency, *Unpaid care work and the labour market, Insight Paper, November 2016*



FLATTENING THE PEAK-HOUR CURVE

FIGURE 8. WEEKDAY TRAVEL-TIME SAVINGS—PM PEAK, CITYLINK (MONASH FREEWAY)

NOVEMBER 2019 TRAVEL-TIME DATA



Transurban's traffic analysis shows that if we maintain a mix of flexible work practices, we can prevent congestion returning to pre-COVID-19 levels or worse and may even improve the efficiency of transport networks. Small shifts in usage can equate to big gains in efficiency.

Analysis of CityLink (Tullamarine Freeway) traffic in Melbourne shows that if 6% of motorists heading towards the city shifted their travel

outside the busiest hours of 6am to 9am, traffic levels would be similar to those observed during school holidays and average speeds would increase by over 10 km/h.¹³ The road would operate more efficiently. Drivers would also save time if they shifted the time they travelled.

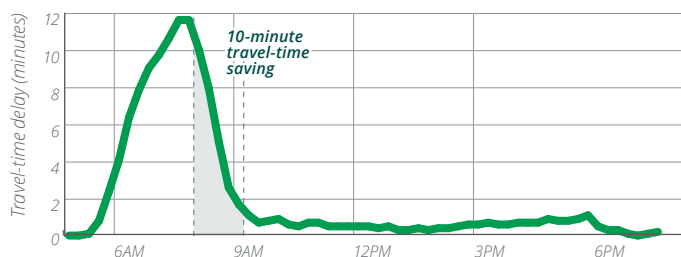
For example, a motorist using CityLink (Monash Freeway) would save 9 minutes in the afternoon by travelling around 3.30pm instead of the peak at around 4.45pm¹⁴ (Figure 8).

In Sydney, a motorist travelling towards the city on the M2 could save 10 minutes if they delayed their trip until after 9am¹⁵ (Figure 9).

If taken up as a regular part of working life, flexible work could improve the capacity of all modes of transport, but if we return to our pre-COVID-19 routines the negative consequences will be just as impactful.

FIGURE 9. WEEKDAY TRAVEL-TIME SAVINGS—AM PEAK, M2

NOVEMBER 2019 TRAVEL-TIME DATA



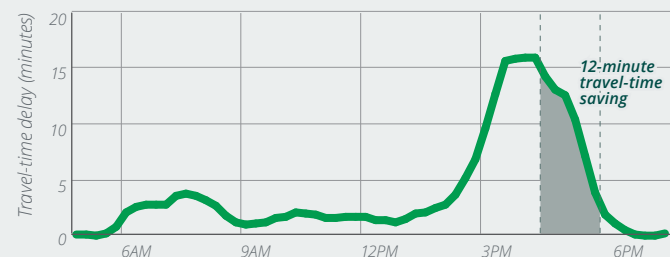
Avoiding the tradie traffic

Ever knocked off work a little early to beat the evening traffic? You might not realise it, but on some roads you are driving into one of the busiest periods.

Take Sydney's M7 Motorway for example, 4.30pm is when many tradies or students are travelling home. Leave around 6pm and you'll save around 12 minutes in travel time (Figure 10):¹⁶

FIGURE 10. WEEKDAY TRAVEL-TIME SAVINGS—PM PEAK, M7

NOVEMBER 2019 TRAVEL-TIME DATA



¹³ Calculated by using traffic data between Bell Street and Racecourse Road

¹⁴ Travel-time saving for trips from Toorak Road to the West Gate Freeway

¹⁵ Travel-time saving for trips from Abbott Road to Lane Cove Tunnel

¹⁶ Travel-time saving for trips from Hills M2 to the M5 Motorway

DOMESTIC AND INTERNATIONAL TRAVEL

After 12 months of intermittent domestic border closures, most respondents are keen to travel this year if the public-health risk has passed. Sixty per cent of respondents plan to travel either domestically or internationally in 2021.

In good news for domestic tourism, 93% of people planning to travel in 2021 are looking to do some form of domestic travel. In total, 56% of respondents plan to travel interstate (Figure 11), with 69% planning to travel by plane.

Of the 20% who plan to travel internationally, 63% plan to do so within 12 months of a vaccine being widely available, with a further 18% happy to go after 12 months (Figure 12).

Being stranded in another state or country is one of the main deterrents for those not planning to travel, with 40% citing this as a concern.

FIGURE 11. TRAVEL PLANS FOR 2021

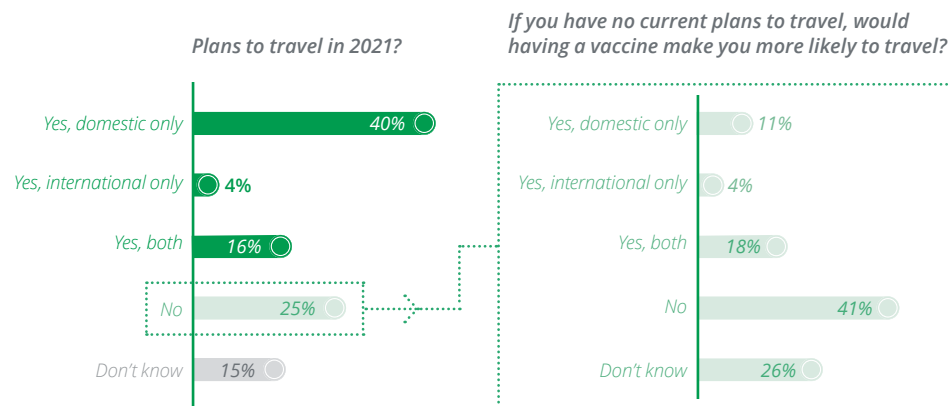
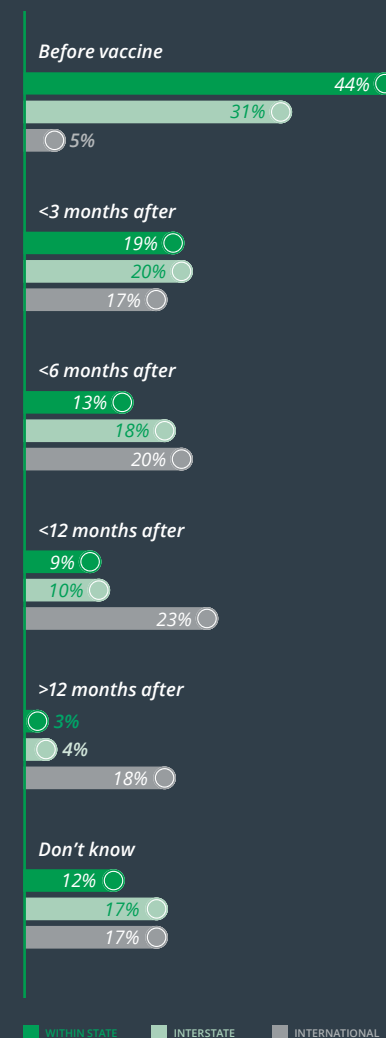


FIGURE 12. HOW SOON PEOPLE INTEND TO TRAVEL



Holidaying close to home

It seems most Australians won't be straying too far when they're allowed to head overseas, with 46% planning travel to neighbouring New Zealand.

South-East Asia was identified as a destination by 34% and 19% put other parts of Asia as their preferred destination.

This compares to Europe 38% and North America 23%.



CONCLUSION

The past 12 months has shown that we can be responsive and move quickly to make huge changes to the way we live and work.

Flexible work arrangements helped a large proportion of the workforce transition as COVID-19 hit, but their continued availability will be just as vital in helping those who want or need to transition back to office-based work, to do so in a safe and sustainable way.

Our transport networks, especially our roads will face increasing pressure in 2021. The double whammy of a return to peak-hour traffic along with the fact that more people are opting for private vehicles over public transport, means that this is an opportune time to assess how to get the best out of our transport networks but also practices such as flexible working to improve efficiency.

Despite the huge steps made towards a culture of flexible work during the pandemic, our survey shows that many people are likely to be driven back to working traditional hours from their workplace, with 8% of all workers who had no access to flexible work pre-COVID-19 to be offered this post-pandemic. This leaves 41% of workers either unable to work flexibly or unsure as to what options they will have in the future.

Unfortunately, this uncertainty comes at a time when there is large appetite for flexibility, with nearly 70% of respondents saying they would be more willing to return to the workplace if flexible hours were offered.

If we miss the opportunity to embed the changes we've made now, we'll forgo the benefits flexible work

could bring to our cities and workplaces. Because not only would flexibility help manage increased demand on transport networks, it could help increase diversity and female participation in the workplace.

At Transurban we have offered flexible work arrangements for some years and invested in technology to allow our employees to work remotely. More than 90% had the opportunity to work from home pre-pandemic and in 2020 more than 95% of our workforce was working from home at the height of restrictions.

As restrictions have eased in each of our Australian markets, we've encouraged employees to think about how they can work flexibly in a way that's best for them and their team.

However, change won't come about as the result of individual company policies, nor would it be effective if everyone were to shift in a similar way. This would simply transfer peak-hour congestion to a different time. Flexible work as a way of addressing mobility constraints requires a coordinated approach between public and private sectors and the participation of large, medium and small employers. The impact would be further strengthened by investment in integrated transport networks and by leveraging data and technology. And there's no better time than now to be ambitious and take the opportunity to consider what is best for our cities.

Commuting in 2035

Technology is likely to play a major role in when and how we move around cities in the future.

In 2015, Transurban explored some of the ways technology could influence our decision making in travel when we had ready access to information and options such as flexible-work protocols, transit parking, travel times on

multiple modes, neighbourhood car pools and electric vehicles in a video called *Commuting in 2035*.

Six years on and the themes that emerged then continue to be just as relevant today as ways to ensure we make the most efficient use of transport networks. Here's how we think commuting may look in 2035.

