

# SPREADING THE PEAK? – COVID-19 AND TRAVEL PATTERNS

A shift in how, when and why we move  
– what is the 'new normal' for Australia's  
transport network?

The KPMG logo is positioned in the bottom left corner of the page. It features the letters 'KPMG' in a bold, white, sans-serif font, with each letter contained within a white square outline. The background of the entire page is a photograph of a busy public space, likely a transit station, with people wearing face masks and a person in the foreground looking at a smartphone.

**KPMG**

# ABOUT THIS REPORT

The health, economic and social impacts of the COVID-19 pandemic are continuing to reshape societies across the world. People are reconsidering where they live and how they work, giving new thought to the potential risks of high-density living and in particular, shared travel.

In Australia, as vaccination rates climb and governments relax public health orders, people are finding a 'new normal' way of living with COVID-19. They are learning to balance the presence of new variants of the virus with getting on with their everyday activities. Moving forward, people are likely to maintain several of their new lifestyle changes, which may impact on the function and form of Australia's future transport network.

Three key trends that are likely to endure are:

- 1** Greater flexibility in how we travel
- 2** A reduced peak hour, yet a longer commute
- 3** A more flexible and responsive transport network

This report explores how COVID-19 has impacted how people travel, and what will be needed from transport organisations in response to ensure a sustainable network for both providers and passengers in the future.

## THE IMMEDIATE IMPACTS OF COVID-19 ON THE TRANSPORT NETWORK

In early 2020, transport networks reduced services amid pandemic lockdowns. Work-from-home arrangements and stay-at-home orders cut the number of trips made across the network and brought into question the viability of shared transport.

The behavioural response of society to combat the spread of COVID-19 was to:

- Reduce the distance and frequency of trips;
- Increase the use of private vehicles;
- Decrease the use of public transport; and
- Increase the use of active transport such as walking and cycling.

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Recent research by Transurban has found people across Brisbane, Sydney and Melbourne expect to be using public transport 21 percent less than pre-pandemic levels, and private vehicles 5 percent more than pre-pandemic levels in the future.

Apple's COVID-19 Mobility Trends Reporting identified just how large this response was. Figure 1 shows the percentage change in travel requests recorded by the Apple Maps application across transport modes in Australia. The change is compared to trip requests made on the 13<sup>th</sup> January 2020, prior to Australian lockdowns.

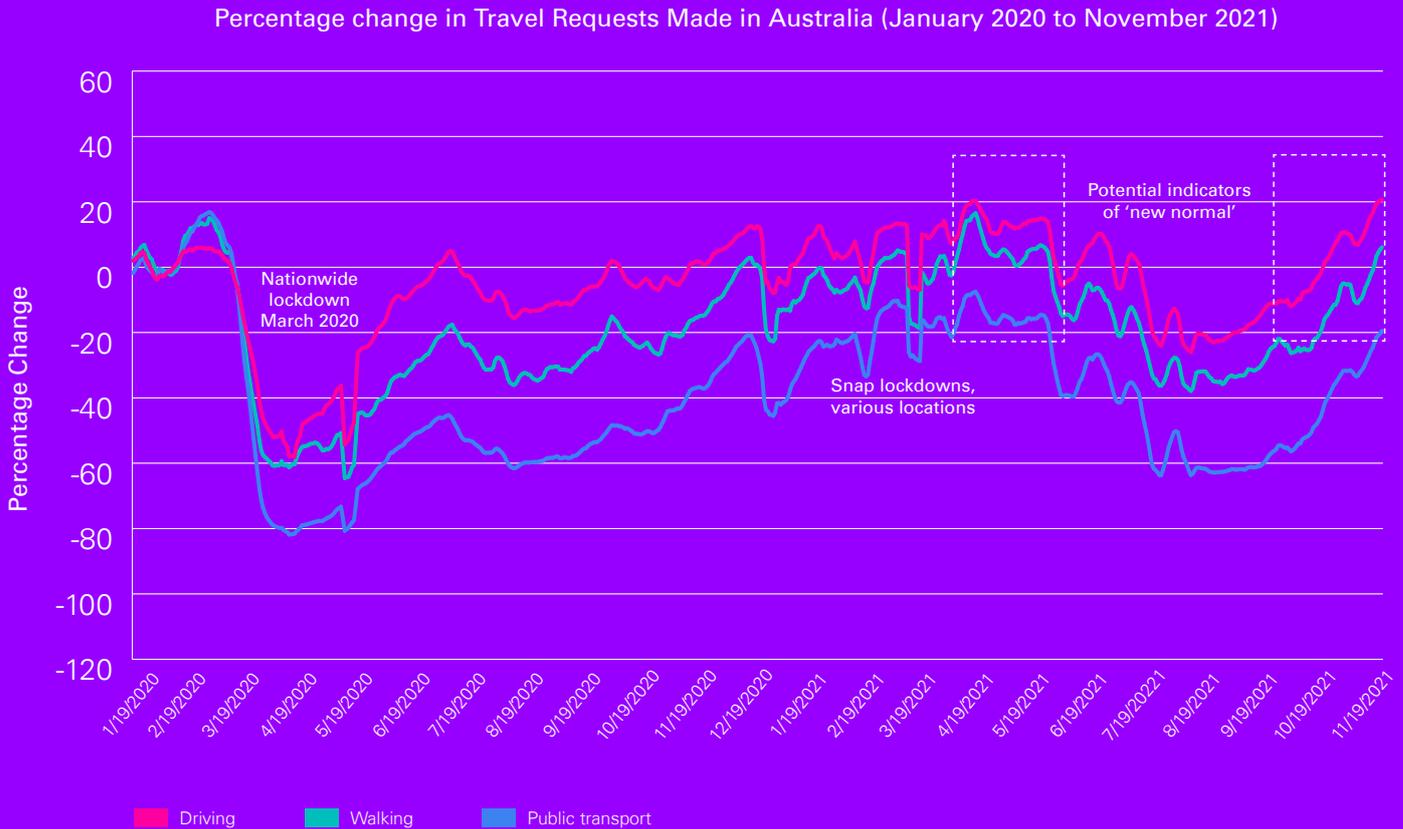
In early 2020, a sharp reduction in trip requests across all modes was observed, reflecting widespread lockdowns and work-from-home arrangements. A steady recovery in trips across all modes can be observed throughout the remainder of 2020 and early 2021, a recovery led by driving and walking trips. Data in June 2021 (prior to NSW's and Victoria's extensive lockdowns) and in November 2021 showed requests for public transport trips remained close to 20 percent below pre-COVID-19 levels, with driving and walking trips both above pre-COVID-19 levels. At a capital city level, public transport trip requests remain between 33 percent and 28 percent below pre-COVID-19 levels in Sydney and Melbourne; both of which experienced significant lockdowns throughout 2020 and 2021. In Brisbane, public transport trip requests remain 16 percent below pre-COVID-19 levels and in Perth 9 percent below pre-COVID-19 levels. This is despite emerging relatively unscathed by extensive lockdown orders.

These trends indicate a change in user preference which may continue to play a role in the new-normal.

Figure 1:  
Australia's mobility response to COVID-19

Source: [Apple COVID-19 Mobility Trends Reports](#).

Note: the data has been smoothed using a 7-day period moving average. All percentage change data is baselined from 13<sup>th</sup> January 2020.



**20%  
below**

Data showing requests for public transport trips remained close to 20 percent below pre-COVID-19 levels, with driving and walking trips both above pre-COVID-19 levels.

Table 1:  
Average Change in PublicTransportTravel Requests by Capital City

	APRIL 2020	NOVEMBER 2021
<b>Brisbane</b>	-77%	-16%
<b>Melbourne</b>	-84%	-28%
<b>Perth</b>	-78%	-9%
<b>Sydney</b>	-78%	-33%

**HEALTH OUTCOMES SUCH AS SAFETY, CLEANLINESS AND THE ABILITY TO SOCIALLY DISTANCE ARE STILL SET TO PLAY A MAJOR ROLE IN MODAL CHOICE FOR TRANSPORT USERS. DECISIONS ON HOW TO TRAVEL ARE BEING INFLUENCED BY MORE THAN RELIABILITY, EFFICIENCY AND PRICE.**

## **MODAL CHOICE AND THE HEALTH RISK OF TRAVEL**

In 2020, Abdullah et al. published a study in the *Transportation Research Interdisciplinary Perspectives Journal*<sup>1</sup> titled 'Exploring the impacts of COVID-19 on travel behaviour and mode preferences' which examined a sample of travel survey responses from participants located in over 15 countries including Australia. The study investigated 11 different factors which affect modal choice prior to and during the COVID-19 pandemic (in May 2020), including traditional factors such as cost, service quality and travel time, alongside health-risk factors such as social distancing, infection concern and cleanliness. For the majority of participants, factors relating to passenger health risk were deemed a high priority during COVID-19, whilst only a small number of participants deemed cost, travel-time savings and comfort of similar priority. For example, prior to the pandemic, cleanliness was deemed a high priority by only 34 percent of travellers, compared to 62 percent of travellers during May 2020.

## **CONTINUED CHANGE**

It is likely that health risks will have a continued influence on travellers' mode choices as Australians transition to the new normal.

Prior to COVID-19, transport networks were already experiencing signs of changing modal preference through increased congestion on roads. Sensitivity to health outcomes is reducing the preference for shared transport, and instead incentivising greater use of private vehicles. For example, prior to COVID-19, Transurban's Westlink M7 in Sydney experienced around 3.5 hours of congestion per day in peak hours. In November 2020, this had risen to 4.5 hours. It is likely private vehicle usage will remain a high-choice mode in the short-to-medium term as health risks continue to subside.

Recent research by Transurban has found people across Brisbane, Sydney and Melbourne expect to be using public transport 21 percent less than pre-pandemic levels, and private vehicles 5 percent more than pre-pandemic levels in the future. This is understood to be a direct result of a shift in preferences to avoid public transport in favour of private vehicles, even when the public health risk of active community cases has passed.<sup>2</sup>

The change in travel behaviour has exacerbated the congestion constraints already facing the road networks. To get more from transport networks, existing mass transit organisations, such as bus and train providers, will need to rethink their value proposition to commuters to regain mode share, particularly with health factors highly influential in decision making.

<sup>1</sup> Abdullah, M. & Dias, C. & Muley, D. & Shahin, M. (2020). Exploring the impacts of COVID-19 on travel behaviour and mode preferences. *Transportation Research Interdisciplinary Perspectives, Volume 8*. <https://doi.org/10.1016/j.trip.2020.100255>

<sup>2</sup> <https://www.transurban.com/content/dam/transurban-pdfs/03/Mobility-Trends-Report-1H21.pdf>

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**FOR SOME WORKERS, THE PANDEMIC HAS TRANSFORMED 'WORK' INTO A THING PEOPLE DO RATHER THAN A PLACE TO GO, REDUCING THE NEED FOR THE WORKFORCE TO ACCESS FACILITIES IN CENTRALISED LOCATIONS.**

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## REDISTRIBUTED TRAVEL PATTERNS

COVID-19 has influenced where people work and live, altering both travel patterns and transport demand. Work-from-home arrangements have changed the traditional workplace commute, and a preference for greater space and avoidance of lockdowns has generated a shift in residential populations. Understanding the impact of these trends on transport demand and incorporating this into future transport planning will be critical in ensuring transport providers deliver adequate services.

Work trips traditionally account for a large proportion of trips made across Australia's network. For example, in Queensland, more than one-in-five trips are work commutes, and they tend to last the longest of any trip type.<sup>3</sup> For white collar workforces, work trips tend to revolve around the use of public transport, especially when travelling to and from CBD's where car parking can be challenging.

COVID-19 has significantly changed the traditional workplace commute, both in terms of frequency and route, which could have a significant impact on the transport network in the new normal.

The pandemic has transformed 'work' into a thing people do rather than a place to go,<sup>4</sup> reducing the need for the workforce to access facilities in centralised locations. Change has been predominantly felt in the CBDs, with the vast majority of white-collar workforces able to work from home. Offices are fast becoming spaces needed for collaboration and interaction, rather than a 9am to 5pm workspace, with employers considering locating in suburban and regional centres as opposed to CBD and inner-metropolitan areas.<sup>5</sup> These trends are having an impact on when, where and how people travel to their workplace. In particular, a reduction in white-collar workforce trips drove a significant decline in public transport patronage, particularly to and from CBDs during 2020 and 2021.

A recent report released by the Productivity Commission acknowledges that experimentation with working from home is likely to continue for some time, with long-term working-from-home levels likely to be substantially higher than prior to the pandemic. The decision to work from home is strongly influenced by avoided commute times, with substantial monetary benefits able to be gained by working from home more often. It is estimated approximately \$5.6 billion in annual travel time costs<sup>6</sup> were saved in 2020 in the Sydney Metropolitan region alone, predominantly due to decreased congestion costs.<sup>7</sup>

<sup>3</sup> <https://www.publications.qld.gov.au/dataset/queensland-travel-survey/resource/b19d84c6-4fcf-4112916b-74306994c940>

<sup>4</sup> <https://home.kpmg/au/en/home/insights/2020/05/predictions-after-covid-19/remote-work-reshaping-ways-of-working.html>

<sup>5</sup> <https://home.kpmg/au/en/home/insights/2021/05/commercial-real-estate-future-of-work.html>

<sup>6</sup> Travel time costs include the costs to businesses for the time employees and vehicles spend travelling, and the costs to consumers of the personal (unpaid) time spent travelling.

<sup>7</sup> <https://www.pc.gov.au/research/completed/working-from-home>

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**WORKING FROM HOME HAS INCREASED DEMAND FOR LARGER HOUSING AND HAS IMPACTED ON PEOPLES' WILLINGNESS TO ACCEPT LONGER COMMUTE TIMES.**

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Although it is unclear whether work-from-home arrangements will continue to be commonplace, it is proving to be something that workers want moving forward. A survey of KPMG's personnel and clients found that companies' top offerings as a result of COVID-19 are increased flexibility (41 percent) and the option to work remotely (33 percent).<sup>8</sup> A survey conducted by Transurban found that 70 percent of respondents would be more willing to return to their workplace if flexible hours were offered, to achieve better work-life balance and avoid commuting congestion.<sup>9</sup>

Continuing to allow a more flexible approach to work will have a sustained impact on the traditional work commute, particularly to and from the CBD, influencing where, when and how often people travel for their job. Flexible start and finish times and reduced office days may assist in flattening peak-hour traffic on cities' busiest roads, but will also require public transport providers to rethink service provision, especially during contra-peak periods.

COVID-19 has also had a significant impact on the distribution of populations within and across states and territories<sup>10</sup>. Working from home has increased demand for larger housing and has impacted on peoples' willingness to accept longer commute times. People are choosing to live further away from where they work to take advantage of

greater space and more cost-effective living – much of this inspired by the extensive pandemic lockdowns that were experienced in capital cities. Interstate migration rates have varied across the country. Some states such as Queensland and Tasmania, which experienced relatively less time in lockdown, have seen an influx of interstate migrants. In contrast, NSW and Victoria have experienced a decline in interstate migrants.<sup>11</sup>

These trends are impacting property markets, particularly in regional and suburban areas. Median house prices have risen in the last year by up to 14 percent in Gosford on NSW's Central Coast, and by over 12 percent in Geelong's Armstrong Creek, according to Domain.<sup>12</sup>

Overall, house prices are expected to be 4 to 12 percent higher across the country in 2022 than if COVID-19 had not occurred.<sup>13</sup> According to Dr Brendan Rynne, Chief Economist, KPMG, this unprecedented growth has been caused by a material decline in mortgage interest rates, extra savings from not spending on holidays and leisure, and generous income and housing support from government.<sup>14</sup> Such trends are causing a redistribution of the resident population and will require transport planners to reconsider whether current and planned investment adequately captures travel demand, and connects people to employment both now and into the future.

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<sup>8</sup> <https://home.kpmg/au/en/home/insights/2020/08/embedding-new-ways-working.html>

<sup>9</sup> <https://www.transurban.com/content/dam/transurban-pdfs/03/Mobility-Trends-Report-1H21.pdf>

<sup>10</sup> <https://newsroom.kpmg.com.au/covid-19-impacts-cities-regional-population-growth/>

<sup>11</sup> National, state and territory population, September 2020 | Australian Bureau of Statistics ([abs.gov.au](https://abs.gov.au))

<sup>12</sup> <https://www.domain.com.au/>

<sup>13</sup> Why during a pandemic are house prices soaring? - KPMG Newsroom

<sup>14</sup> <https://home.kpmg/au/en/home/media/press-releases/2021/07/property-prices-higher-covid19-had-not-happened-12-july-2021.html>

## A FLEXIBLE, RESPONSIVE AND INTEGRATED TRANSPORT NETWORK

COVID-19 has evidenced the need for improved operational flexibility across the transport network. The pandemic has changed where, when and how Australians travel, and has influenced all forms of transportation. Ensuring the system is better equipped to respond to unanticipated changes will lead to better outcomes for transport users.

At the beginning of the pandemic, Australia observed an over 80 percent decline in public transport trips due to lockdown orders.<sup>15</sup> Many public transport authorities responded to these changes by reducing services or closing stations in an attempt to adapt operations and reduce costs.<sup>16</sup> For example, Queensland chose to reduce long haul train and coach services due to a decline in patronage, and to reduce the spread of COVID-19.<sup>17</sup> Although services across Australia have been reinstated, capacity across public transport operations has been variable due to changing social distancing regulations, and the perceived health risk of shared travel. There is now a greater need to ensure service capacity and frequency is more responsive to real time demand to avoid underutilisation or overcrowding.

Transport authorities across Australia have begun to utilise real-time capacity information to warn passengers when services are full. The Opal Travel app provides customers with a notification ahead of time when common journeys are at or nearing capacity.<sup>18</sup> Moving forward, greater pressure will be placed on service operators to adapt to real-time capacity. As more passengers return to the network, it will be important from a regulatory and operational perspective to respond to changing demand through upscaling and downscaling service provision as required. A flexible and responsive operating model will be particularly important for maintaining cost efficiency and customer satisfaction.

There are a number of ways in which to ensure greater flexibility across the transport networks, including:

- Implementing greater use of stop-skipping models when services are nearing capacity – using real-time information to decide when to 'skip' stops;
- Rescheduling services to utilise available resources where they are needed most – changing service frequencies and redeploying resources to areas of increased demand; and
- Coordinating responses across modes through information sharing, which could be achieved through integrated passenger platforms.<sup>19</sup>

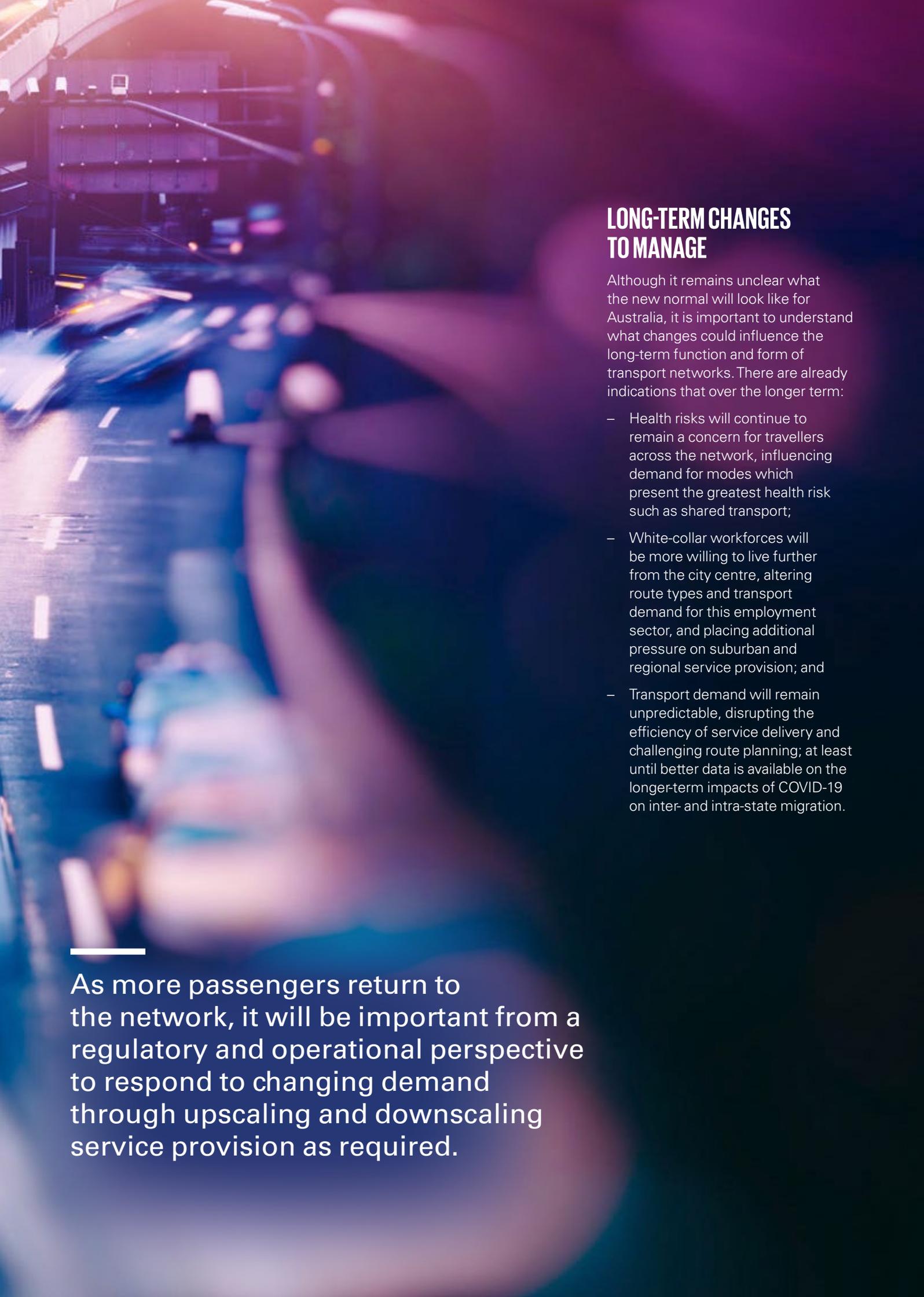
<sup>15</sup> COVID-19 - Mobility Trends Reports - Apple

<sup>16</sup> <https://www.tandfonline.com/doi/full/10.1080/01441647.2020.1857886>

<sup>17</sup> <https://www.railway-technology.com/news/covid-19-queensland-reduces-long-haul-train-and-coach-services/>

<sup>18</sup> <https://www.nsw.gov.au/news/real-time-passenger-capacity-alerts-on-opal-app>

<sup>19</sup> <https://www.tandfonline.com/doi/full/10.1080/01441647.2020.1857886>



## LONG-TERM CHANGES TO MANAGE

Although it remains unclear what the new normal will look like for Australia, it is important to understand what changes could influence the long-term function and form of transport networks. There are already indications that over the longer term:

- Health risks will continue to remain a concern for travellers across the network, influencing demand for modes which present the greatest health risk such as shared transport;
- White-collar workforces will be more willing to live further from the city centre, altering route types and transport demand for this employment sector, and placing additional pressure on suburban and regional service provision; and
- Transport demand will remain unpredictable, disrupting the efficiency of service delivery and challenging route planning; at least until better data is available on the longer-term impacts of COVID-19 on inter- and intra-state migration.

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As more passengers return to the network, it will be important from a regulatory and operational perspective to respond to changing demand through upscaling and downscaling service provision as required.

## WHAT DOES THIS MEAN FOR TRANSPORT PLANNERS, POLICY MAKERS AND FUTURE INFRASTRUCTURE DECISIONS?

Constant pressure from a growing population and increased demand for services is continuing to have an impact on the delivery of reliable, efficient and safe transport services across the country. Prior to COVID-19, transport planners were working towards relieving network constraints in an environment with long lead times for infrastructure planning and delivery. COVID-19 and its impact particularly on public transport patronage offers room for transport planners to re-assesses demand and invest in infrastructure for the population and its changing user preferences, getting ahead of the curve.

Now, there is a significant opportunity for transport planners, policy makers and industry to influence travel behaviour for the better as Australia moves forward with COVID-19 into the new normal. Some key steps are to:

- Gather evidence to further understand how health risks are impacting modal choice and the incentives which may influence consumer behaviour to incorporate into future transport planning. This may require a greater focus on sensitivity analysis when forecasting demand for major infrastructure projects whilst uncertainty remains over the long-term impacts of COVID-19;
- Improve the approach to land-use forecasting to understand the impact COVID-19 has had on work, home and travel, and incorporate this into future transport planning;
- Make better use of behavioural economics and digital information to encourage transport users and operators to respond to real-time capacity information, optimising transport network outcomes.

These steps will be vital in ensuring Australian commuters have access to safe, efficient and reliable travel services, and we continue to make investment decisions which improve transport outcomes for users.

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