



# INDUSTRY REPORT

URBAN MOBILITY TRENDS: ROAD FUNDING REFORM

—AUGUST 2021 EDITION—

22%

fewer people expect to use public transport daily post-pandemic, compared to pre-pandemic use

93%

in Melbourne, Sydney and Brisbane concerned with congestion levels, with

28%

very concerned

81%

know nothing, or only a little, about how roads are funded

14%

know how much fuel excise costs, with

73%

believing it costs less than 40 cents per litre\*

# INTRODUCTION

COVID-19 has presented new challenges across every facet of daily life. But while the response to the pandemic has been – quite rightfully – all-consuming, many of the old challenges we faced before the pandemic haven’t gone away.

Australia’s road funding model is one such challenge. Built on the collection of fuel excise, which has been declining in real terms for decades due to the increasing fuel efficiency of our national fleet, our current road funding model means that those driving older, less economical cars pay more to use the roads than motorists in newer, more fuel-efficient vehicles. The challenge is not unique to Australia, with many countries around the world dependent on similar revenue models.

As the world pushes to decarbonise its transport systems by encouraging the adoption of zero and low-emissions vehicles with electric vehicles very much at the forefront, this system will inevitably become more inequitable. It will also mean a bigger gap between revenue collected and funding needed to build and maintain transport infrastructure.

Despite record spending on infrastructure, Australia still has a backlog of projects to fund. And demand is likely to grow.

A survey of 3,000 people across Victoria, New South Wales and Queensland commissioned by Transurban, showed that 8% more people within metropolitan areas intend to use private vehicles every day post-pandemic, compared to their pre-pandemic use.

Furthermore, 22% fewer people said they expected to use public transport every day post-pandemic, compared to pre-pandemic use.

These results are consistent with [Transurban’s previous industry reports](#) released in February this year and August 2020, which showed more people intended to use private vehicles every day while fewer people intended to use public transport daily when compared to pre-pandemic levels.

More people in cars, and fewer on public transport is likely to put strain on, what pre-pandemic, was an already stretched transport network. Increasing congestion is a drag on the productivity and liveability of our cities and is a concern to 93% of respondents in Melbourne, Brisbane and Sydney, with 28% rating the issue as very concerning.

To overcome the challenge of congestion we must look for ways to improve the capacity of the existing road network, as well as opportunities for targeted investment in new road and public transport infrastructure. But this all relies on Australia’s road funding model keeping up.

Despite widespread concern with congestion, most people have little or no understanding of the funding challenge facing governments.

Our research found 81% of people across Victoria, New South Wales and Queensland claim to know nothing at all, or a little about road funding, evidenced by the fact that only 14% of respondents could accurately identify how much they pay in fuel excise per litre of petrol, which is a primary revenue stream for the Federal Government.

Therefore, the issue of the future funding gap facing governments, and the impact this could have on the quality of road networks around the country, is largely invisible to most motorists.

## Research

Online survey conducted between 14 and 27 July 2021

3,003 respondents from Victoria, New South Wales and Queensland

Survey commissioned by Transurban and conducted by Nature

\*Fuel excise is currently 43.3 cents per litre

# 64%

of all respondents believe a road-user charge model would be a fair way to contribute towards road funding compared to

# 55%

who said the same for the current system

# 68%

think it's fair for electric vehicles to be charged per kilometre for using the road

# 42%

would like their next car to be an electric vehicle, with

# 84%

motivated by both the environmental benefits and operational savings

# #1

barrier to electric vehicle adoption is the high purchase price

While fuel excise is not directly hypothecated to road funding, the 2020-21 Federal Budget papers show that the revenue collected via fuel excise is roughly equivalent to that spent on land transport (i.e. road and rail) projects, with \$49.3 billion in fuel excise to be collected and \$46.8 billion to be spent over the forward estimates.<sup>1</sup>

Reforming road funding by implementing a national road-user charge in place of fuel excise and other road-related charges such as licensing and registration, is something that has long been advocated for by government and industry including Infrastructure Australia, Infrastructure Victoria, the Productivity Commission, the Harper Competition Review, the Henry Tax Review, and Transurban.

While a complex reform, our research indicates that motorists would prefer it over the current road funding model of fuel excise and other road-related taxes, with half nominating it as their preferred option, compared to 32% preferring the current model. Preference for the current model declined to 23% when respondents were made aware that it would potentially result in less government funding for future roads and infrastructure projects.

The main reason people preferred a road-user charge model was because they thought it was a fairer system.

Despite a road-user charge being the favoured option, the research showed that around a third of people would want to see concessions in place for those with low incomes, all revenue collected be spent on infrastructure, and for costs to vary depending on location of the road so those in regional and remote locations were charged less per kilometre. These would be important insights to consider in a reform process.

Change is already occurring at the state level, with a distance-based road-user charge now applied to electric and plug-in hybrid vehicles in Victoria, with similar schemes announced but not yet implemented in

New South Wales and South Australia. Overall 68% of respondents thought it was fair for electric vehicles to be charged per kilometre for using the road.

In the USA, the USD\$1 trillion Bipartisan Infrastructure Investment and Jobs Act includes a national motor vehicle per-mile user fee pilot that would look at how to tax cars and trucks with per-mile user fees to fund the Highway Trust Fund.

In addition, 19 states in the USA considered road-user charging legislation in 2019 and 2020, as a sustainable alternative to the gas tax.

Reforming road funding is a critical step in preparing for the mass adoption of zero and low-emissions vehicles, which will help decarbonise our transport networks. While the adoption of zero and low-emissions vehicles is inevitable, there is more that can be done to encourage faster adoption so we can all realise the environmental benefits sooner.

Forty-two per cent of respondents to our survey would like their next car to be an electric vehicle, with 84% of those motivated by both environmental benefits and operational cost savings. But high purchase price and concerns around availability of charging infrastructure remain significant barriers to adoption.

To help play our part in encouraging adoption of zero and low-emissions vehicles we are developing a range of initiatives to highlight the benefits of electric vehicles, and address misconceptions around them, to our 5.7 million Australian customers. This includes incentives such as vehicle giveaways and customer experience programs.

Transurban motorways provide motorists with a quicker and safer route around Melbourne, Sydney, and Brisbane, but they're only as effective as the network – both roads and public transport – that surrounds them. A sustainable road funding model means a strong transport network and it is for this reason we are committed to research, education and advocacy on road funding reform.

<sup>1</sup> Federal Budget 2020-21: Budget Strategy and Outlook Budget Paper No. 1



# THE PROBLEM OF INCREASING CONGESTION

Before COVID-19, increasing congestion was undermining the liveability and productivity of Australia’s major capital cities. In 2019, Infrastructure Australia estimated the total annual cost of congestion would be \$39 billion by 2031.<sup>2</sup>

Then COVID-19 hit, and waves of stay-at-home restrictions were enforced around the country. At times, little or no

congestion was observed on our roads or across the broader network.

When cities reopened and restrictions were lifted, traffic rebounded quickly. In cities with few restrictions, we observed traffic increase, even when compared to pre-pandemic levels, with work-day traffic in May 2021 up 2.1% in Sydney and 5.7% in Brisbane compared to May 2019.

Now it seems the changes we made to the way we travel during COVID-19 may become entrenched with the potential for more traffic and congestion across our cities.

<sup>2</sup> Infrastructure Australia, Australian Infrastructure Audit 2019, Urban Transport Crowding and Congestion supplementary report, June 2019

FIGURE 1. HOW TRANSPORT USERS EXPECT THEIR USE WILL CHANGE POST-PANDEMIC – DAILY USERS IN MELBOURNE, SYDNEY AND BRISBANE



Considerably fewer Melburnians and Brisbanites expect to use public transport daily post-pandemic compared to their pre-pandemic use. However, Sydneysiders feel their post-pandemic daily use will bounce back to just below pre-pandemic levels.

People from all three cities expect to be using personal transport more post-pandemic than they did pre-pandemic. This is particularly true for Melburnians who, up until January 2021, expected their daily personal transport use to be lower than pre-pandemic levels.

\*Personal transport includes travel by car and motorbike

Overall 22% fewer people across Melbourne, Sydney and Brisbane expect to use public transport daily compared to pre-pandemic use, whereas 8% more people plan to use personal transport daily compared to pre-pandemic use.

Over the past 18 months we have been tracking how COVID-19 might change people's travel preferences over the long term. Our most recent research shows that, on average, 8% more people across Melbourne, Sydney and Brisbane intend to travel by private vehicle every day in a post-COVID-19 world, up 11 percentage points since we asked the same question in our August 2020 report.

At the same time, people who once were daily users of public transport now intend to use it less, with decreases seen most notably in Melbourne and Brisbane compared to when we asked the same question in our August 2020 report (Figure 1). On average 22% fewer people in Melbourne, Sydney, and Brisbane plan to use public transport every day post-pandemic compared to their pre-pandemic use. However there has been a 32% uptick in the number of people who intend to use public transport a few times a week post-pandemic compared to their pre-pandemic use (Figure 2). This suggests that people who

once were daily users might scale back to less frequent use.

A trend towards more personal transport is supported by data from Apple Maps, which shows demand for driving directions in Melbourne, Sydney and Brisbane have surpassed pre-COVID-19 levels, while demand for transit (public transport) directions is still below pre-COVID-19 levels (Figure 3).

While there would be many factors driving the change, in our August 2020 Industry Report, *Urban Mobility Trends from COVID-19* we found there was increasing concern around personal health and safety on public transport, likely due to heightened anxiety around COVID-19 transmission.

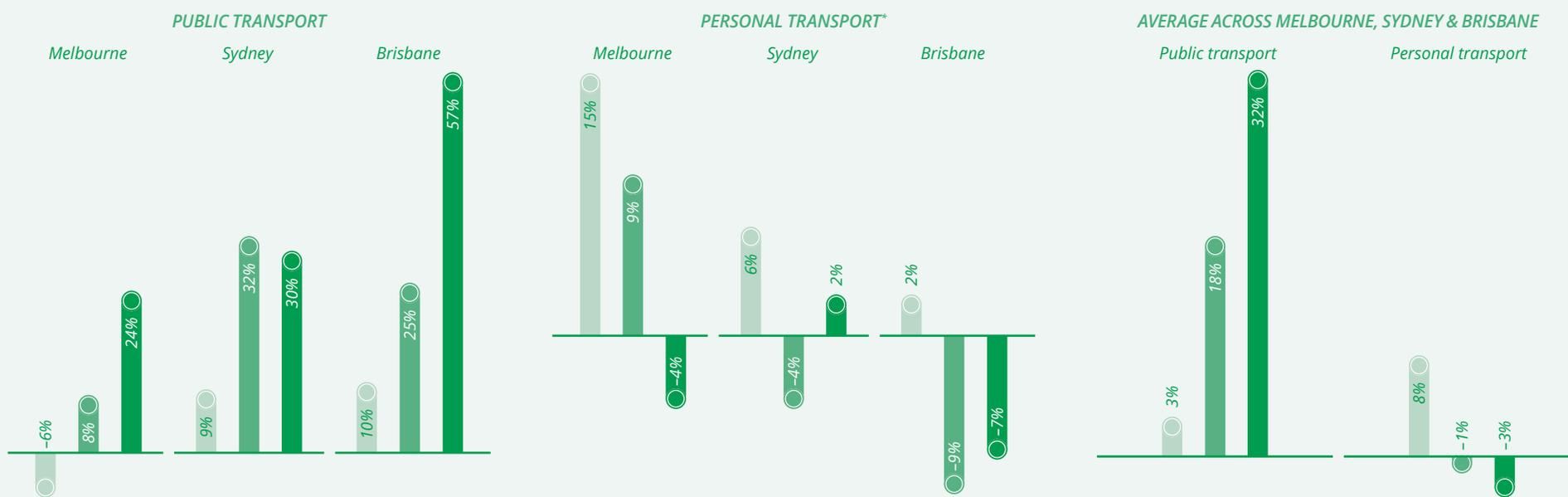
People's increasing preference for private-vehicle travel, coupled with a return to traditional peak-hour travel during periods of eased COVID-19 restrictions, is leading to noticeable congestion across road networks in Melbourne, Sydney, and Brisbane.

It is an issue that 93% of respondents across Melbourne, Sydney and Brisbane nominate as concerning, with 28% rating it as very concerning. These rates are slightly lower in non-metropolitan areas, 83% and 20% respectively (Figure 4).

It ranks lower as an issue people want addressed after obvious first-order issues relating to health and economic security, and the broader issue of climate change, but higher than Australia's ageing population and our education system (Figure 5).

In our February 2020 Industry Report, *Urban Mobility Trends from COVID-19* we demonstrated how flexible working arrangements such as varied start and finish times could help spread peak congestion that was returning across the network in Melbourne, Sydney, and Brisbane. Even small shifts in travel behaviour can have a big impact on congestion. Read the full report on our website [transurban.com/mobility-trends](https://transurban.com/mobility-trends)

FIGURE 2. HOW TRANSPORT USERS EXPECT THEIR USE WILL CHANGE POST-PANDEMIC – REGULAR USERS IN MELBOURNE, SYDNEY AND BRISBANE



Residents from all three cities expect their regular use of public transport (i.e. a few times a week) to increase post-pandemic compared to pre-pandemic levels.

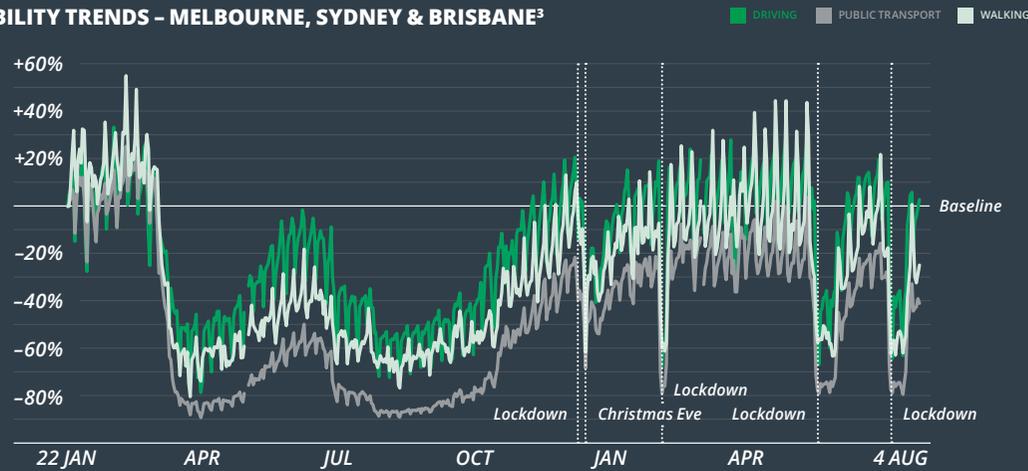
Melburnians and Brisbanites expect their regular use of personal transport (i.e. a few times a week) to decrease post-pandemic, compared to pre-pandemic levels. However Sydneysiders expect their regular use of personal transport to increase slightly.

\*Personal transport includes travel by car and motorbike

In direct contrast to the expected decrease of daily public transport use, the overall regular use of public transport (i.e. a few times a week) is expected to increase post-pandemic.

**FIGURE 3. APPLE MOBILITY TRENDS – MELBOURNE, SYDNEY & BRISBANE<sup>3</sup>**

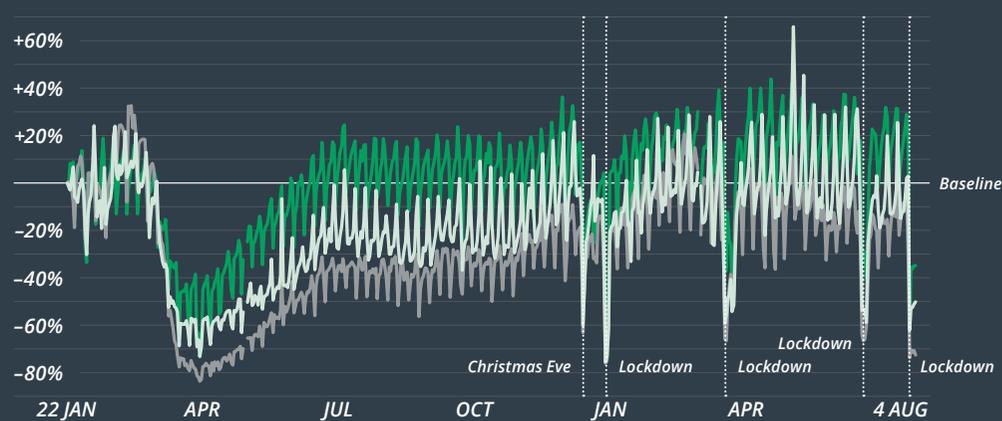
**MELBOURNE**



**SYDNEY**



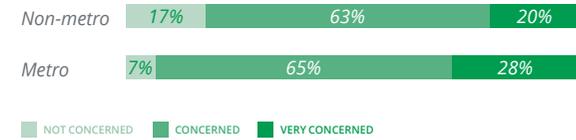
**BRISBANE**



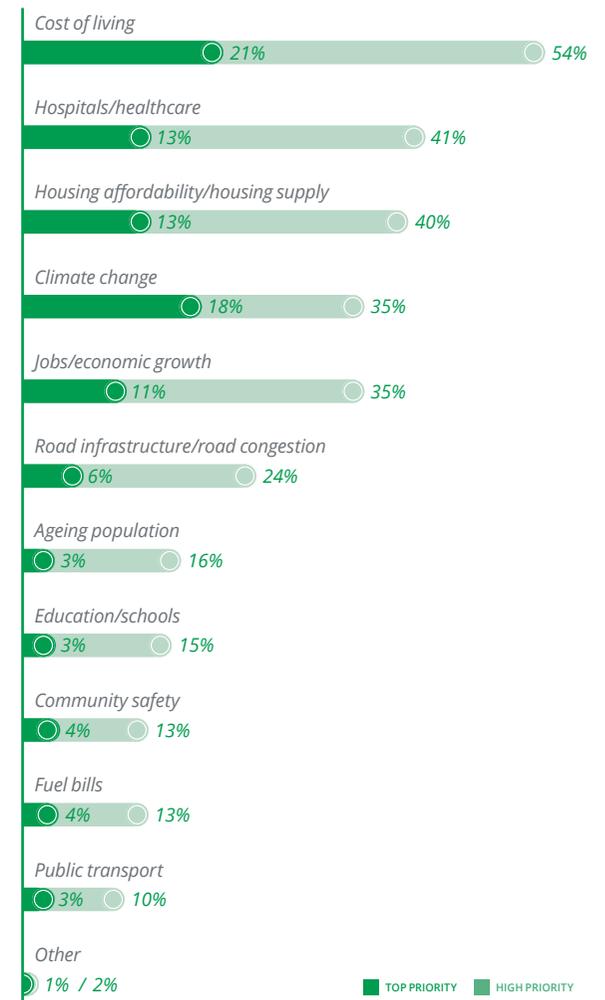
\* Data for 11–12 May 2020 and 12 March 2021 is not available and appears blank in the graph

<sup>3</sup> Apple Mobility Trends, available: covid19.apple.com/mobility, accessed: July 2021

**FIGURE 4. CONCERN TOWARDS INCREASING CONGESTION – METRO VS. NON-METRO**



**FIGURE 5. ISSUES THAT CURRENTLY REQUIRE FOCUS**



# LOW AWARENESS OF HOW ROADS ARE FUNDED

The Federal Government in Australia, like most countries, collects fuel excise on every litre of petrol and diesel. Revenue from fuel excise contributes towards the construction and maintenance of roads.

When it came into effect it was a relatively simple means of revenue collection—linking road use to taxation paid.

However, the increasing fuel efficiency of Australia's vehicle fleet is eroding this funding base and leading to inequities in tax paid. Motorists who drive older, less fuel-efficient vehicles now pay more than those with more economical vehicles.

Fuel excise is currently set at 43.3 cents per litre and in the 2018-19 financial year the Federal Government collected \$11.6 billion worth in fuel excise.<sup>4</sup> Fuel excise accounts for 37% of total road-related revenue. Other sources include registration, licensing, and stamp duty, which are collected by state governments, as well as tolls (Figure 6).

While total vehicle kilometres driven has increased by around 36% since 1997-98, net fuel

excise collected by the Federal Government has declined by around 20% in real terms.<sup>5</sup> Refer to Figure 7 to see how fuel excise collected per vehicle kilometre travelled has been in decline for decades. This is concerning because Australia has a growing backlog of infrastructure to fund.

The issue has been on the agenda for some time, with Infrastructure Australia, Infrastructure Victoria, the Productivity Commission, the Harper

Competition Review, and the Henry Tax Review all arguing the need for reform and for Australia to move towards a road-user charge system.

4 Bureau of Infrastructure and Transport Research Economics, Australian Infrastructure Statistics Yearbook 2020

5 *Ibid.*

6 *Ibid.*

7 *Ibid.*

FIGURE 6. ROAD-RELATED REVENUE 2018-19<sup>6</sup>

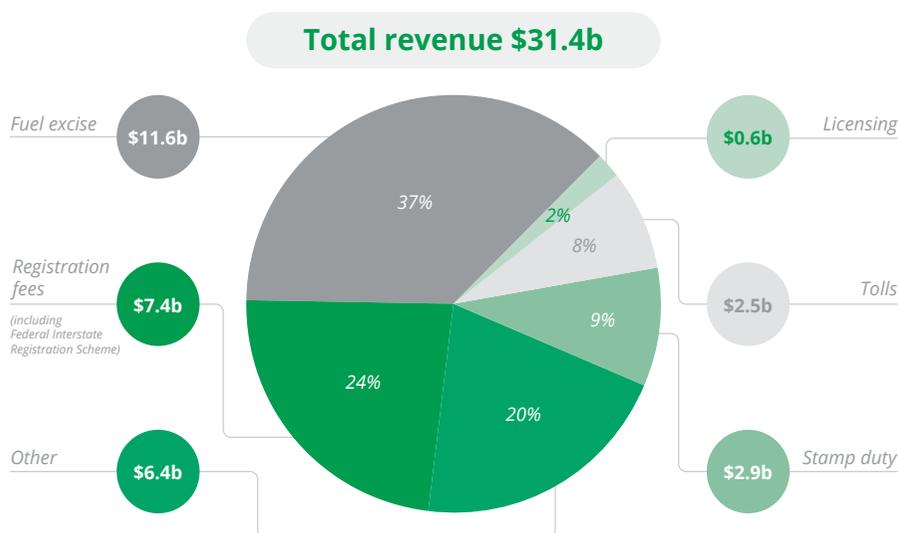
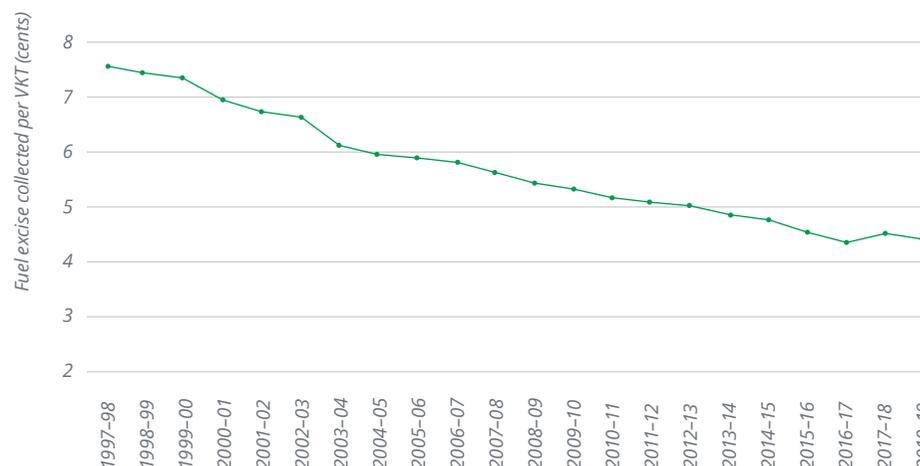


FIGURE 7. FUEL EXCISE COLLECTED PER VEHICLE KILOMETRE TRAVELLED (REAL PRICES 2018-19)<sup>7</sup>

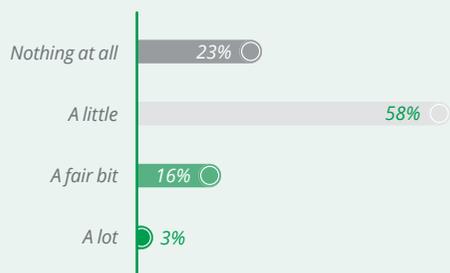


A growing backlog of infrastructure, coupled with the fact that more people intend to use private vehicles post-COVID-19, is reinforcing the need for reform. But given that most Australians don't realise they pay fuel excise to use the roads, it will be a challenge for government and policy makers to prosecute the need for change and begin the process of reform.

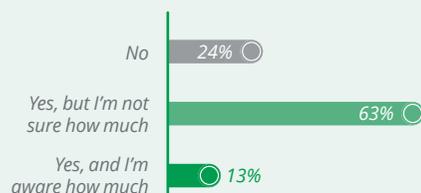
More than 80% of respondents to our survey admitted to knowing nothing at all or a little about how the construction and maintenance of roads in Australia is funded (Figure 8).

While 76% of respondents claim they are aware of fuel excise, only 14% could accurately identify how much they pay per litre, with 73% thinking they pay less than 40 cents. Over 40% believe they pay less than 20 cents per litre, which is less than half the current cost of fuel excise (Figure 9 and 10). Increasing awareness and understanding of Australia's outdated and inequitable road funding system and presenting a fairer and sustainable solution will be critical to pave the way for reform.

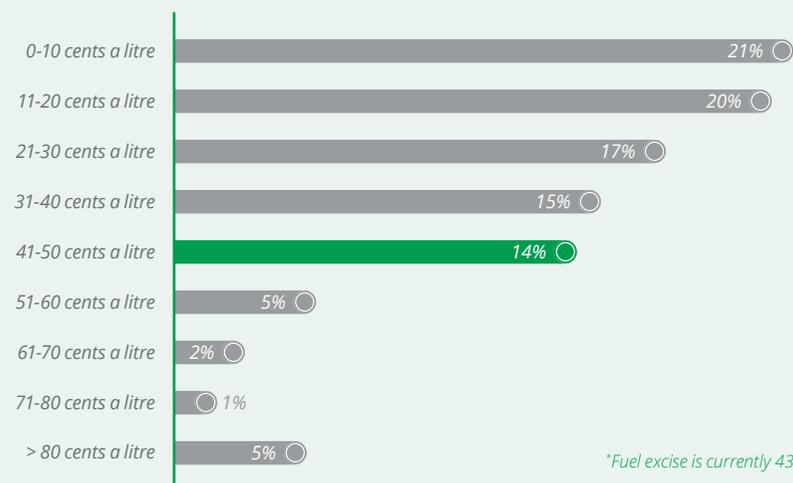
**FIGURE 8. LEVEL OF UNDERSTANDING ABOUT HOW THE CONSTRUCTION OF ROADS IN AUSTRALIA IS FUNDED**



**FIGURE 9. AWARENESS OF FUEL EXCISE APPLIED TO UNLEADED PETROL AND DIESEL AT PETROL STATIONS**



**FIGURE 10. AWARENESS OF THE COST OF FUEL EXCISE PER LITRE\***



\*Fuel excise is currently 43.3 cents per litre



# ATTITUDES TOWARDS REFORM

An alternative taxation model to Australia's current system of fuel excise and other charges is a road-usage charge. This involves motorists paying for their usage and could be set per trip, per kilometre or at a capped daily rate.

In 2016, Transurban completed Australia's first practical study to examine drivers' preferences and awareness when it comes to road funding in Australia, see case study on page 12, Real-world road-usage trials. The study showed the charge per kilometre was the most popular and memorable user-pays option, and potentially the easiest to understand.

In our most recent survey, we asked people to evaluate the two models based on descriptions of the current system and a hypothetical per-kilometre road-user charge.

In describing the road-user charge model, a number of assumptions were made to give respondents a practical example of a road-user charge option. This example assumed that the road-user charge would replace fuel excise and other road-related charges such as licensing and car registration, and that the charge per kilometre would be set at a level similar to what most motorists effectively pay per kilometre in fuel excise and the other charges currently.

After comparing both models, 50% preferred a road-user charge, while 32% preferred the current funding model, and 18% were undecided.

*"If you have a fuel guzzler car then you will pay more and that's how it should be." – Melbourne metro respondent on the current model*

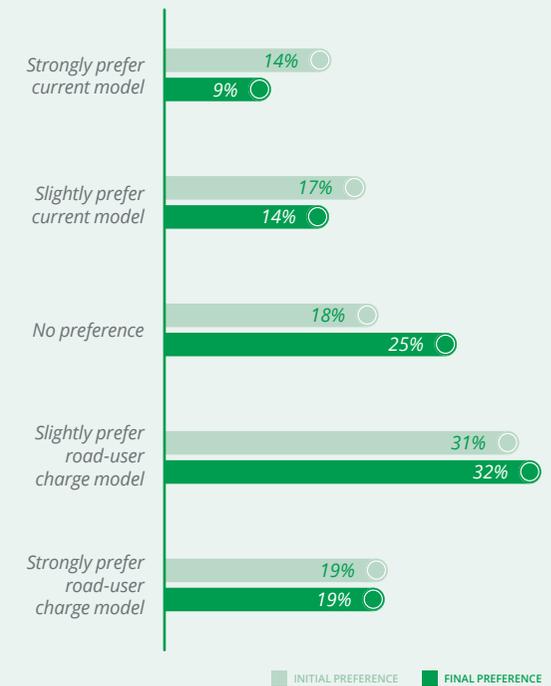
*"A lot of people drive older cars because they cannot afford to purchase new ones. So I think it is somewhat unfair to penalise them." – NSW (non-metro) respondent on the current model*

However, preference for the current funding model decreased to 23% after respondents were made aware that it could potentially result in less government funding for future roads and infrastructure projects given its link to fuel excise which is declining as Australia's vehicle fleet becomes more fuel efficient (Figure 11).

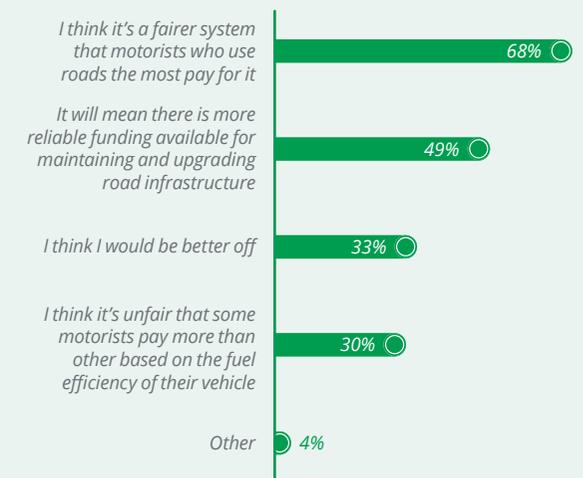
Of those who preferred a road-user charge, 68% said they thought it was fair that motorists who used the roads the most pay for it (Figure 12).

Respondents who preferred the current model were mainly concerned that motorists living in the outer suburbs or regional communities may be unfairly penalised under a road-user charge model (Figure 13). This indicates that many may not be aware of how the current road funding model works and the inequities in the current system. Under the current system motorists pay the same amount of excise per litre regardless of whether they drive on regional roads or inner-city streets and motorways.

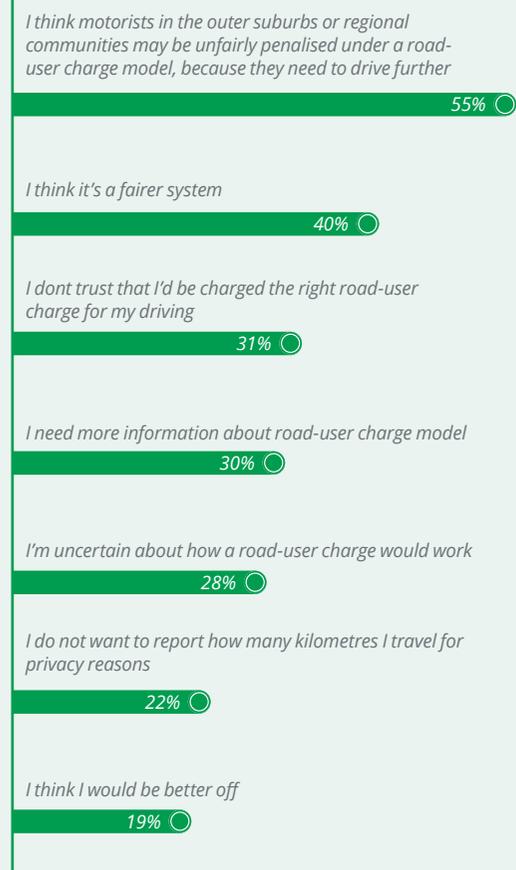
**FIGURE 11. PREFERENCE FOR ROAD-USER CHARGE MODEL VS. CURRENT MODEL – INITIAL PREFERENCE AND FINAL PREFERENCE**



**FIGURE 12. WHY PEOPLE WOULD PREFER A ROAD-USER CHARGE FUNDING MODEL**



**FIGURE 13. WHY PEOPLE PREFER THE CURRENT FUNDING MODEL**



*"I think it would be a hard adjustment but would raise more money in fact and regulate road users better." – Brisbane metro respondent on a road-usage model*

However, wide-ranging funding reform provides the opportunity to build a system from scratch and customise it to the needs and desires of the population it serves. Through our survey we tested a number of statements about how a road-user charge system could work and the end benefits for motorists, to gauge people's attitudes towards a road-user charge.

*"This is a much fairer system. The old system forces those who use less to subsidise those who use more. This way everyone pays for what they use." – Sydney metro respondent on a road-usage model*

We found that applying concessions for motorists with low incomes, hypothecating all money collected for investment in transport, and ensuring the cost per kilometre varies depending on the location of the roads to account for proximity to public transport, increased favourability towards a road-user charge in 30% or more of our respondents (Figure 14).

Overall the survey found that 64% of all respondents believe a road-user charge model would be a fair way to contribute towards road funding compared to 55% who said the same for the current system (Figure 15).

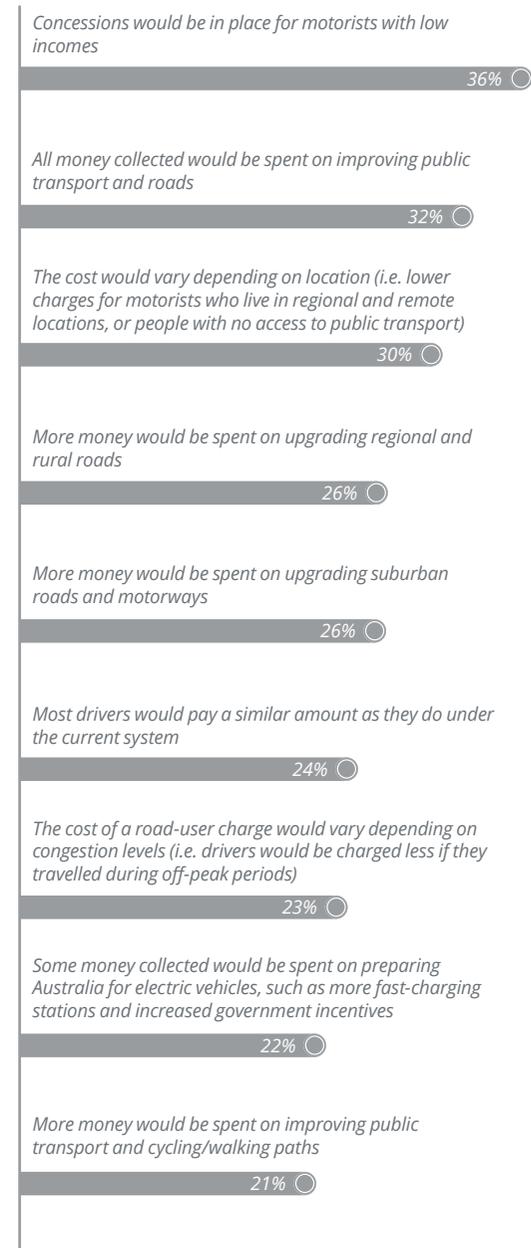
These results highlight what is most important for motorists when it comes to road funding reform and offer practical recommendations for policy makers considering a move to road-user charging.

Regardless of the funding model, 79% of respondents thought it was important to take action to address the future road funding gap by reforming the current road funding model, with 52% expecting to see action within the next five years (Figure 16 and 17).

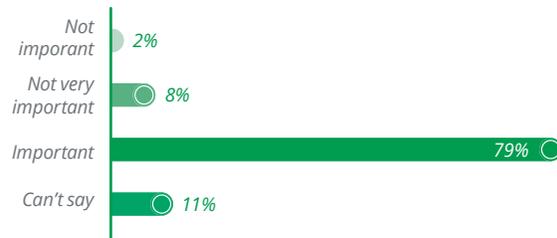
**FIGURE 15. PERCEPTIONS OF FAIRNESS – CURRENT MODEL VS. ROAD-USER CHARGE MODEL**

	Current model	Road-user charge model
Unfair	41%	30%
Fair	55%	64%
Can't say	4%	7%

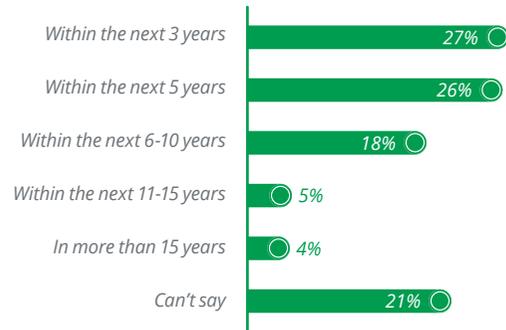
**FIGURE 14. WHAT WOULD IMPROVE FAVOURABILITY TOWARDS A ROAD-USER CHARGE?**



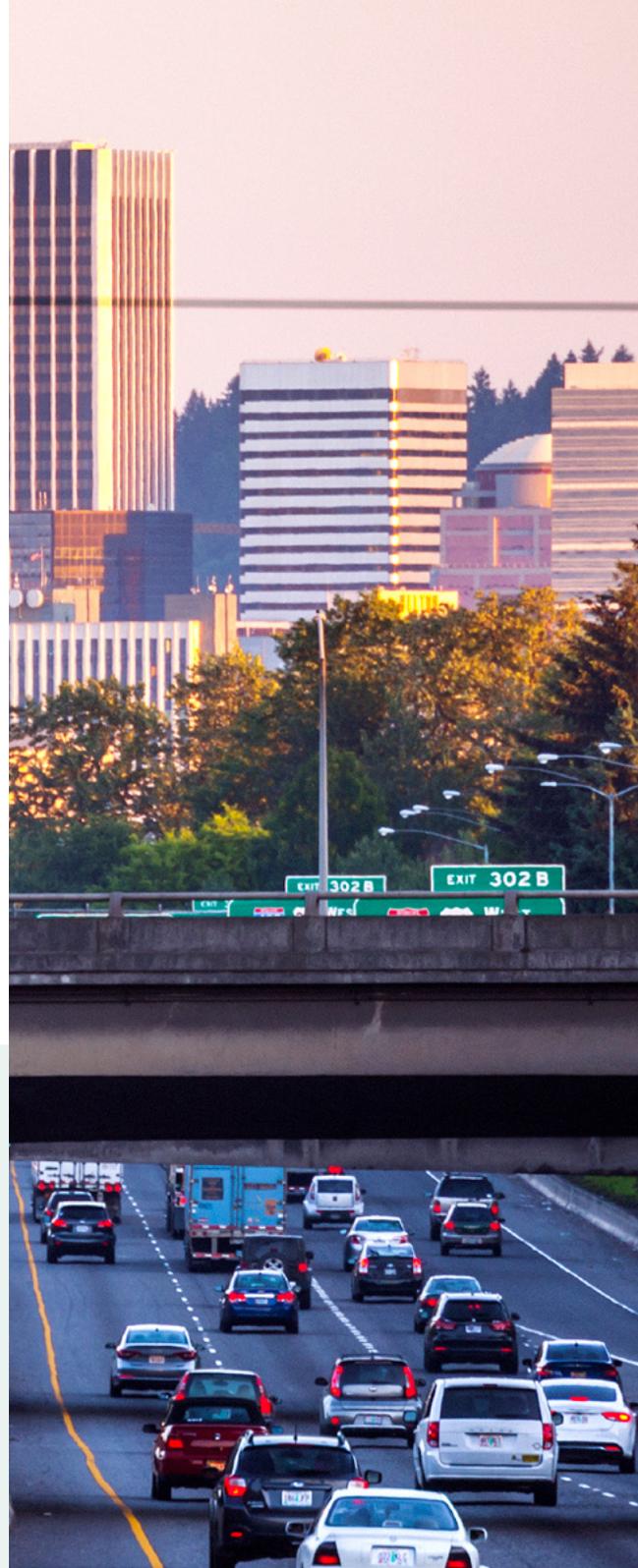
**FIGURE 16. PERCEIVED IMPORTANCE OF RESPONDING TO THE FUTURE ROAD FUNDING GAP**



**FIGURE 17. WHEN PEOPLE EXPECT TO SEE ACTION ON THE ISSUE**



*"It seems to be an equitable way for road users to fund public infrastructure, so long as excess funding collected through this fuel excise is not used elsewhere."*  
 – Sydney metro respondent on a road-usage model



**Case study: Oregon pay-per-mile system**

In the US, there have been multiple state-level initiatives to pilot road-user charging models to help preserve and improve funding for transport infrastructure.

Launched by Oregon Department of Transportation in 2015, the voluntary OReGo program uses a pay-per-mile scheme to create a fair and sustainable system where proceeds are funnelled into the State Highway Fund. Presently, Oregonians pay USD\$0.36 per gallon in fuel tax to fund infrastructure projects but declining revenue inspired the development of the US' first pay-per-mile program.

As part of the scheme, participants receive benefits such as lower vehicle registration fees if they own a car with more than 40 miles per gallon (mpg) efficiency, or an electric vehicle. Participants with internal combustion engines receive fuel tax credits equivalent to fuel tax paid on petrol and diesel.<sup>8</sup>

When enrolled in OReGo, owners of vehicles with a fuel efficiency higher than 20 mpg and electric vehicles pay a levy of 1.8 US cents per mile travelled on Oregon's roads – a rate roughly equivalent to the fuel tax for vehicles with 20 mpg.

To incentivise motorists to sign up to OReGo, owners of electric vehicles save US\$110 per year in vehicle registration, while those who own vehicles with a fuel efficiency of 40 mpg and above can save US\$33 per year. For those who drive shorter distances each year, participation in the scheme returns a net benefit.

In 2021, the Oregon Department of Transportation will further the initiative by studying various time-of-day charging models through the OReGO Local Road Usage Charge Pilot.

The innovative OReGo program has led to new studies and trials in other US states including Utah, Washington, California, Colorado and more.

<sup>8</sup> OReGo, How it works, available: [myorego.org/how-it-works/](http://myorego.org/how-it-works/), accessed: July 2021

## Case study: Real-world road-usage trials

Road-user charging is a major and complex tax reform involving extensive stakeholder consultation and comprehensive trial programs.

Transurban has contributed to policy development through trials both in Australia and overseas.

### Melbourne Road Usage Study

In 2016 we undertook Australia's first real-world test of road-user charging to gauge how motorists would respond to a fairer road funding system.

Two road-charging models were tested, the first was based on road use and included three options: charge per trip, charge per kilometre, and a flat rate (capped kilometres). The second model was linked to congestion and included a cordon charge and time-of-day charging.

Over the course of 17 months, the trial captured one billion data points and recorded more than 12 million kilometres travelled with an overall 1.2 million trips by 1,635 participants.

At the start of Transurban's study, an overwhelming

majority of the Melbourne-based light-vehicle motorists indicated they were comfortable with the fuel excise system. Though, after experiencing two road-charging alternatives consecutively – a usage-based model and a congestion-based model – approximately 60% of participants expressed a preference for the user-pays alternatives.

The swing in motorists' preferences to a user-pays model reveals they see the benefit of a direct and transparent user-pays model over the current system of fuel excise and other road-related charges.

In 2018, the University of Melbourne undertook an independent review of our Melbourne Road Usage Study. Dr Leslie Martin and Mr Sam Thornton, from the Faculty of Business and Economics found that the low-income households were, on average, losers under the current system and would be better off under road-user charging (albeit by \$3 to \$5 dollars per week).<sup>9</sup>

[changedconditionsahead.com](http://changedconditionsahead.com)

### US road-usage charge pilot

In the US, we have been engaged in other schemes that help to investigate the application of road-user charge technologies and increase its acceptance by users.

In June 2021, Transurban – in partnership with The Eastern Transportation Coalition – commenced a pilot on the east coast of the US.

The program will be the first to integrate dynamically tolled managed lanes by leveraging the advanced technology of Transurban's Express Lanes in Virginia to evaluate the customer experience of user-pay systems, congestion and cordon pricing, and various fees and invoicing methods in conjunction with toll facilities. This pilot provides a real-world experience on distance, area or time-of-day charging to the community. It will also provide policymakers with insights into public understanding, experience, and adoption.

<sup>9</sup> Martin, Leslie A. and Thornton, Samuel, *Can Road Charges Alleviate Congestion?* (October 19, 2017)



# PAVING THE WAY FOR ELECTRIC VEHICLES

In 2020, electric vehicle sales accounted for 0.7% of car sales in Australia<sup>10</sup>, compared to 4.6% globally.<sup>11</sup>

Among global leaders, Norway is in front, with electric vehicles making up 75% of new car sales in 2020. The impressive adoption rate comes as the country strives to meet its goal of no new fossil-fuel powered vehicles sold by 2025.<sup>12</sup>

The United Kingdom has brought forward its plans to phase out the sale of new petrol and diesel cars to 2030, and will require all new cars and vans to be fully zero emissions at the tailpipe from 2035.<sup>13</sup> Meanwhile, the United States has set a target for 50% of all new car sales to be electric vehicles by 2030.<sup>14</sup> The USA has also committed US\$15 billion to build a network of 500,000 charging stations by 2030, among a suite of other measures to encourage uptake of zero-emissions vehicles.<sup>15</sup>

10 Electric Vehicle Council, Media Release, *New electric car sales figures show Australia stalled with hazards flashing*, 3 March 2021, available: [electricvehiclecouncil.com.au/new-electric-car-sales-figures-show-australia-stalled-with-hazards-flashing/](http://electricvehiclecouncil.com.au/new-electric-car-sales-figures-show-australia-stalled-with-hazards-flashing/), accessed: July 2021

11 International Energy Agency, *Global EV Outlook 2021*, April 2021

12 Ibid.

13 GOV.UK, News story, *Government takes historic step towards net-zero with the end of sale of new petrol and diesel cars by 2030*, available: [gov.uk/government/news/government-takes-historic-step-towards-net-zero-with-end-of-sale-of-new-petrol-and-diesel-cars-by-2030](http://gov.uk/government/news/government-takes-historic-step-towards-net-zero-with-end-of-sale-of-new-petrol-and-diesel-cars-by-2030), accessed: July 2021

14 The White House, Fact Sheet, *President Biden Announces Steps to Drive American Leadership Forward on Clean Cars and Trucks*, 6 August 2021, available: [whitehouse.gov/briefing-room/statements-releases/2021/08/05/fact-sheet-president-biden-announces-steps-to-drive-american-leadership-forward-on-clean-cars-and-trucks/](http://whitehouse.gov/briefing-room/statements-releases/2021/08/05/fact-sheet-president-biden-announces-steps-to-drive-american-leadership-forward-on-clean-cars-and-trucks/), accessed: August 2021

15 The White House, Fact Sheet, *The American Jobs Plan Supercharges the Future of Transportation and Manufacturing*, 18 May 2021, available: [whitehouse.gov/briefing-room/statements-releases/2021/05/18/fact-sheet-the-american-jobs-plan-supercharges-the-future-of-transportation-and-manufacturing/](http://whitehouse.gov/briefing-room/statements-releases/2021/05/18/fact-sheet-the-american-jobs-plan-supercharges-the-future-of-transportation-and-manufacturing/), accessed: July 2021

FIGURE 18. PREFERENCE FOR NEXT CAR TO BE AN ELECTRIC VEHICLE

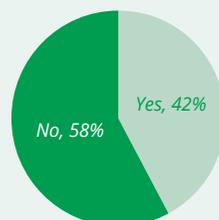


FIGURE 19. REASONS FOR WANTING TO BUY AN ELECTRIC VEHICLE

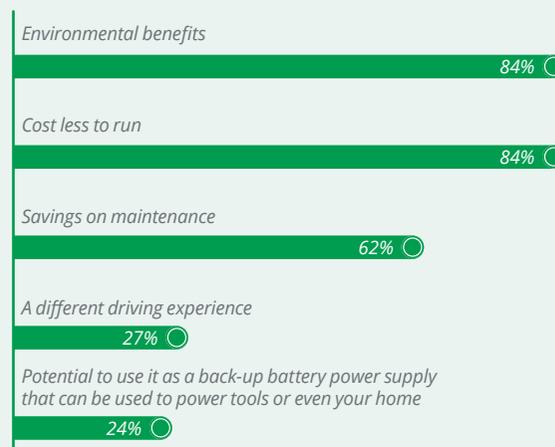
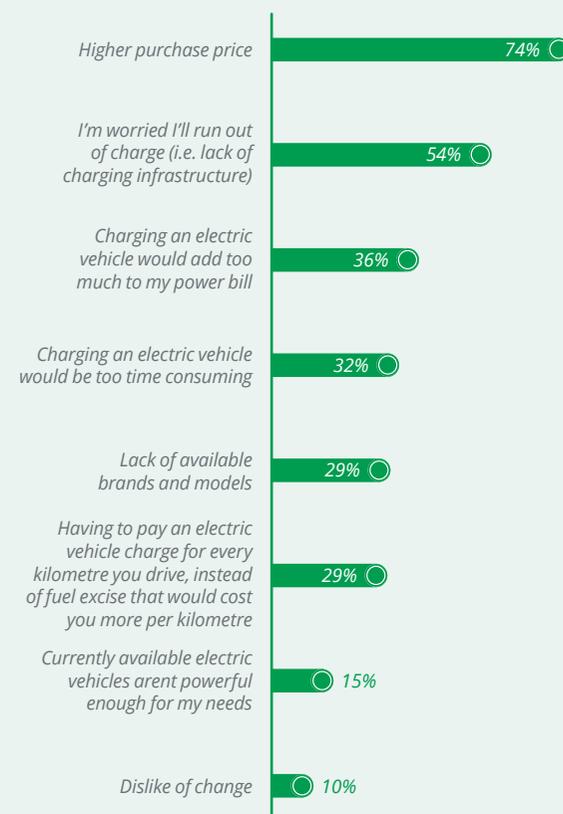


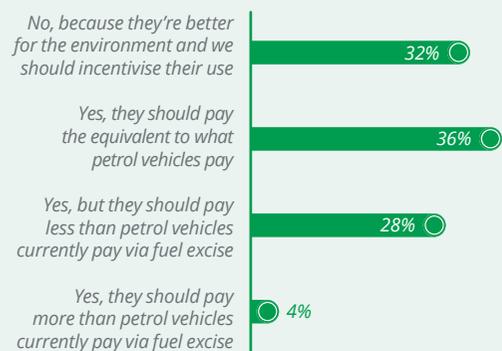
FIGURE 20. BARRIERS TO BUYING AN ELECTRIC VEHICLE



Low adoption in Australia isn't for lack of consumer desire, with our survey revealing 42% of respondents in Victoria, New South Wales and Queensland would like to purchase an electric vehicle (Figure 18). The most common reasons for wanting to buy an electric vehicle were for operational cost savings and environmental benefits (Figure 19).

But for 74% of respondents, high purchase price remains the number one barrier to adoption, followed by concerns around availability of charging infrastructure and electric vehicles adding too much to their power bill (Figure 20). It shows there is more still to do to educate consumers on the practical benefits of electric vehicles, which is why

**FIGURE 21. IS IT FAIR FOR ELECTRIC VEHICLES TO BE CHARGED PER KILOMETRE FOR USING THE ROAD?**



we are developing a range of initiatives to highlight the benefits of electric vehicles, and address misconceptions around them, to our 5.7 million Australian customers. This includes incentives such as vehicle giveaways and customer experience program.

In Montreal, we collaborate with the Government of Quebec in a toll-exemption pilot program for registered electric vehicles using the A25 toll road. The program is being extended after initial success with electric vehicles now representing 7.5% of traffic on the A25.

In Australia, a number of state governments have set goals for the sale of new zero-emissions vehicles, these listed below:

- Victoria – 50% by 2030<sup>16</sup>
- South Australia – 100% by 2035<sup>17</sup>
- New South Wales – 52% by 2030-31<sup>18</sup>
- Australian Capital Territory – new vehicle sales to be zero emissions by 2030<sup>19</sup>

State governments across Australia are offering a range of incentives such as no – or reduced – stamp duty, purchase rebates and subsidies, zero-interest loans, and registration discounts.

The Federal Government has raised the threshold for Luxury Vehicle Tax to \$79,658 for electric vehicles, compared to \$69,152 for internal-combustion engine vehicles. Luxury Vehicle Tax is levied at 33 cents for each dollar above the threshold.<sup>20</sup>

These measures along with efforts to increase charging infrastructure and electric vehicle model availability in Australia, will be fundamental to the success of zero-emissions vehicle uptake in Australia.

Zero-emissions vehicles powered by clean energy promise an emissions-free transportation system, but the performance of such a system is dependent on roads being developed and maintained. As outlined throughout this report, the increasing adoption of zero and low-emissions vehicles will erode Australia's main source of road-related revenue. That's why some state governments have introduced, or are considering the introduction of an electric vehicle charge.

A per-kilometre electric-vehicle charge ranks well below other barriers such as purchase price and concern around availability of charging infrastructure (Figure 20).

Overall 68% of respondents thought it was fair for electric vehicles to be charged per kilometre for using the road (Figure 21).

While zero-emissions vehicles are generally more expensive than their petrol-fuelled counterparts, they are much cheaper to run.

Infrastructure Partnerships Australia has calculated that when price parity is achieved, which could be as early as 2025, owners of zero-emission vehicles will save at least \$3,600 over an eight-year lifespan even after their hypothetical road-user charge of 4 cents per kilometre is applied.<sup>21</sup>

16 Victorian Government, *Victoria's Zero Emissions Vehicle Roadmap*

17 South Australian Government, *South Australia's Electric Vehicle Action Plan*

18 NSW Government, *NSW Electric Vehicle Strategy*

19 ACT Parliamentary & Governing Agreement, *10th Legislative Assembly Australian Capital Territory*

20 Australian Taxation Office, *Luxury car tax rate and thresholds*, available: [ato.gov.au/rates/luxury-car-tax-rate-and-thresholds/](http://ato.gov.au/rates/luxury-car-tax-rate-and-thresholds/), accessed: July 2021

21 Infrastructure Partnerships Australia, *Road User Charging for Electric Vehicles*



# CONCLUSION

Australia's road network is more than 800,000 kilometres in length<sup>22</sup>, which is even further than the distance it would take to get to the moon and back.

From unsealed roads to urban motorways, governments have the mammoth task of maintaining and upgrading existing roads, as well as developing new roads to support towns, cities, and entire industries across the country.

But the road funding model that supports them in this is no longer fit for purpose and will result in a future funding gap between revenue collected and funds needed for transport infrastructure.

Despite the challenges associated with root and branch tax reform, our research shows that 79% of respondents think it is important for action to be taken to address the future road funding gap by reforming the current road funding model, with 52% expecting to see action within the next five years (Figure 16 and 17).

Road-user charging has long been seen as an alternative to the current road funding model of fuel excise and other taxes. When compared side-by-side, around half of the respondents to our survey said they preferred a road-user charge over the current system, with fairness cited as main reason for their preference.

In order for any potential reform to be successful, some key issues would need to be overcome.

Motorists need to be made aware of the problem, so they see the benefit in change, but the current level of understanding about how roads are funded is low. Only 14% of respondents could accurately identify how much they pay in fuel excise, with 73% believing they are charged less than they currently are. Of those who preferred the current system, 55% did so due to concerns that people in regional or outer suburban areas may be worse off under a road-user charge system. If people are to embrace road funding reform, they must be made aware of the costs and inequities involved in the current system.

A new road-user charge presents an opportunity to address inequities and create a fairer system. When asked what would improve favourability towards a road-user charge, 36% selected concessions for those with low incomes and 30% selected lowering the per kilometre costs for those who don't have access to public transport or live regionally. Clearly these are important issues policy makers would need to consider when preparing for potential reform.

If Australia can look to learnings overseas, such as in the USA to get the funding model right it will set us up for the eventual arrival of zero and low-emissions vehicles on our roads, ensuring we have the funding base needed to upgrade and develop our infrastructure as our national fleet decarbonises.

<sup>22</sup> Bureau of Infrastructure and Transport Research Economics, Information sheet 'Growth in the Australian Road System', August 2017

