INFRASTRUCTURE PARTNERSHIPS AUSTRALIA

COMPLETING ROAD REFORM

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Infrastructure Partnerships Australia is an industry think tank and an executive member network, providing research focused on excellence in social and economic infrastructure. We exist to shape public debate and drive reform for the national interest.

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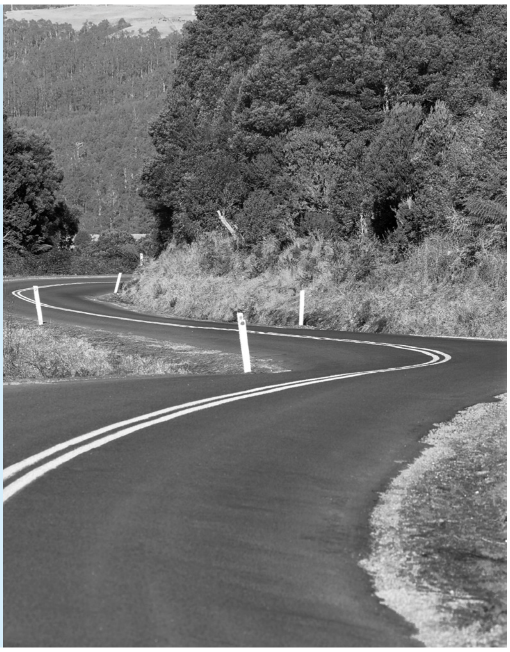
About *Completing Road Reform*

Infrastructure Partnerships Australia has been a loud and consistent advocate for road reform with a series of policy papers, submissions and advocacy campaigns since our inception. Establishing a distance-based road user charge aligns with Infrastructure Partnerships Australia's 2019 *Road User Charging for Electric Vehicles* paper and preceding works, which advocate for the application of a distance-based user charge for electric vehicles initially, before extending this charge to the entire fleet over time.

While the recent High Court of Australia decision in *Vanderstock v Victoria* gave rise to a detour on the road to reform, the policy position of road user charging remains the clearest and most efficient pathway to secure long-term funding for our roads. The Federal and state and territory governments must now navigate a pathway forward together to ensure all motorists in Australia pay their fair share for our network.



EXECUTIVE SUMMARY

Roads are essential to Australia's economic prosperity and social connection. Over time, problems have emerged with how they are used, paid for, and their impact on the environment. We've known how to fix these problems for many years, with independent advice dating back to the 1990s on the need for road reform. But until recently, governments have shied away from real road reform in favour of band-aid solutions.

In the face of mounting challenges, quick fixes and filling potholes are no longer enough. Revenues from road use are in terminal decline, while the bills for maintaining and upgrading road networks grow – exacerbated by damage caused by more extreme weather events in a changing climate. Emissions from road transport have almost tripled since 1990, with our fuels and fleet among the dirtiest in the world. Congestion is tightening its grip on our cities, fed by a retreat to private vehicles following the pandemic. Major investments to boost the supply of transport infrastructure are welcome and will have a big impact, but we cannot simply build our way out of this problem.

Victoria's initial introduction of a rational price on road use for zero- and low-emissions vehicles (ZLEVs) in 2021 provided an avenue to beginning a journey of road reform for a network that had been lacking direction for decades – and showed that real change is possible. The majority of Australia's states and territories agreed and committed to introduce the reform, meaning almost three-quarters of the population would have seen benefits of this change by 2027.

However, the recent four-three majority ruling in the High Court of Australia[1] deemed the Victorian ZLEV charge invalid, creating a detour – not a roadblock – on the road to reform. The legal reasoning was tied up in semantics of the technical definition of 'excise', dating back to a section of our Constitution drafted when roads were made for horse-drawn carriages.

Ultimately, the decision means Victoria (and potentially other states and territories) cannot levy a charge for each kilometre motorists travel on their roads in the way they had planned – but, the policy case for introducing a road user charge (RUC) for ZLEVs remains the clearest and most efficient pathway to road reform. The High Court did not criticise the merits of the policy, nor did it alter the rationale or urgency of the reforms the states and territories commenced.

It is not a question of if or why, but who and how. In light of the High Court decision, the Federal and state and territory governments must now navigate a pathway forward together to ensure all motorists in Australia pay their fair share for our road network. Infrastructure Partnerships Australia is calling on both levels of government to develop a process which finishes the work Victoria and others started. In short, clarity and consistency that all motorists across the country pay for their road use is required, whether it be in fuel excise or RUC.

The good news is that there are a range of easy-to-deploy options at their fingertips to progress reform and continue the momentum gained prior to the High Court's decision.

The Federal Government can take this as an opportunity to abolish fuel excise and levy a national distance-based charge. While this would ensure national consistency, this option involves significant barriers to adoption given the Federal Government does not own or operate road assets – and would add complexity for motorists who

1. *Vanderstock v Victoria* [2023] HCA 30.

would pay for road use to one level of government, and other fees like registration and licensing to another.

Alternatively, the Federal Government can empower states and territories to operate their own systems. This would effectively shift responsibility to the eight jurisdictions to fund, operate and maintain their own road transport networks. The Federal Government would play a role in ensuring broad national consistency and compliance with the recent High Court decision.

If unable to come to an agreement, the states and territories may be able to develop workaround solutions to equitably charge for the use of their roads. The High Court's decision means we may return to a situation where there is no plan for how a small but growing proportion of vehicles will pay for their road use. For state and territory governments that must meet ever-growing transport needs and rising costs, this situation is simply untenable. Governments may develop workaround solutions to ensure they have access to the revenue they need – but stopgap solutions will not deliver many of the benefits of comprehensive road reform.

A distance-based road user charge was never about the vehicle users choose to drive. Introducing a road user charge for ZLEVs – being a vehicle type at the beginning of its adoption journey – was simply a functional starting point for a reform bridgehead that overhauls and modernises how roads are funded, and how motorists pay for their use.

While our population and the total distance travelled on our roads continues to grow, improvements in the fuel efficiency of vehicles have eroded the revenue collected through fuel excise. What has emerged gradually as an increasingly unsustainable tax – and one that is unfair for many users – will very quickly become an impossible funding task as those who cannot afford an electric vehicle must foot a growing road bill for those who can. And the reality is that a future road user charge for ZLEVs only impacts a small number of vehicles on the roads today.

Once Federal and state and territory governments resolve how to implement a RUC for ZLEVs, they will have cleared a path forward to future-proof transport funding in Australia with a nationally-consistent approach to charging by distance, vehicle mass and emissions, that is fit for the twenty-first century.

Whichever level of government takes the lead on reform, Infrastructure Partnerships Australia will continue to advocate for, and engage with governments on, building out a comprehensive framework that completes road reform across the country.

A nationally-consistent RUC framework can do more than just secure adequate capital to build and maintain road networks. A RUC can also tackle Australia's perennial congestion challenge and reduce transport emissions.

Calls for road reform to address the country's transport emissions are growing ever louder, and with transport accounting for over a fifth of our national greenhouse gas emissions each year, it is not hard to see why. A distance-based user charge presents an opportunity to incentivise kilometres travelled in lower emission vehicles – effectively baking in the preferential charges for ZLEVs in Victoria compared to the charges paid by internal combustion engine (ICE) vehicles. This approach would also mean those who travel the most will have the greatest incentive to move to a ZLEV, providing greater motivation to make the leap and is likely to be far more efficient than sticker price subsidies or other demand-side measures.

While it is clear that Australia is not yet ready for the roll out of congestion charging, we can design a system that improves on the status quo while maintaining optionality to add new elements later. Governments first need to build greater social licence for change, explain the benefits of congestion pricing, and address community concerns about data, privacy, how the scheme would work, and how it will impact them. This engagement should be expedited, as the costs of congestion will only grow in the years it takes to establish support for change.

Since our inception, Infrastructure Partnerships Australia has been a strong advocate for road reform. It was our paper in 2019 that inspired the RUC for ZLEVs reforms, with previous advocacy keeping these changes on public policy agendas over recent decades. We're now calling for governments to finish what they have started, and get on with completing road reform in Australia.

Unless governments act to better manage demand, deteriorating roads, choking pollution and gridlock are inevitable. Road reform has become a case of jump or be pushed, because perpetuating the status quo is no longer a viable option. The flipside is that the potential rewards of positive change are enormous. Governments have an opportunity to boost productivity and enhance the health and wellbeing of their people, while making their cities more liveable and attractive to global talent. Road reform may present political challenges initially, but the highly visible and lasting benefits are a large carrot for any government considering their long-term legacy.

1. ROAD USER CHARGING HAS SET THE WHEELS OF REFORM IN MOTION

The introduction of a road user charge for electric vehicles shows reform is possible

In 2019, Infrastructure Partnerships Australia released a policy paper recommending the introduction of a RUC for electric vehicles.[2] This illustrated the generational opportunity for governments to make the way Australians pay for roads fairer, more efficient and more sustainable.

Our model would provide an alternative source of road funding to fuel excise, which has always been a blunt instrument and is in structural decline. It would also mitigate the imminent risk that, as uptake of ZLEVs grew and fuel excise from petrol and diesel continued to decline, there would be no link between the demand and cost of road use. The window of opportunity for genuine road reform was closing rapidly.

This paper was the catalyst for reforms across Australia prior to the High Court of Australia's decision, where:

- The Victorian Government, through Treasurer Tim Pallas, drove the case for change and led the world by being the first to legislate and implement the changes.
- The New South Wales Government followed suit, with the support of the then-opposition, but delayed commencement of a RUC until July 2027 or when ZLEVs would comprise 30 per cent of new car sales – whichever would come sooner.
- The Government of South Australia was the first to announce a RUC for ZLEVs in late 2020, and changes in the state were legislated a year later – though this was repealed by the next government in early 2023.
- The Governments in Tasmania and Western Australia announced they would undertake reforms mirroring the approaches in other states.
- The Governments in Queensland, the Australian Capital Territory and Northern Territory did not announce formal plans, but did support the Victorian Government in the High Court case.

Table 1: Timeline for RUC for ZLEVs reform across Australian states and territories

State/Territory	Announced	Legislated	Commencement
Victoria	November 2020	May 2021	July 2021
South Australia	November 2020	November 2021*	July 2027 or when ZLEVs reach 30% of new car sales*
New South Wales	June 2021	October 2021	July 2027 or when ZLEVs reach 30% of new car sales
Western Australia	May 2022	-	July 2027
Tasmania	August 2021	-	July 2027 or when ZLEVs reach 30% of new car sales
ACT	-	-	-
Queensland	-	-	-
Northern Territory	-	-	-

* Repealed in February 2023

Across the ditch, similar reforms were put in place under the previous New Zealand Government. Aligned with the same principle that all motorists should pay for their road use, the existing RUC scheme for heavy and diesel vehicles was extended to include all vehicles that do not pay levies when buying fuel. Electric vehicles have been temporarily exempted from paying the RUC, but this exemption is set to end in March 2024 for electric vehicles under 3.5 tonnes, and in December 2025 for heavier ones.[3]

2. Infrastructure Partnerships Australia, 2019, *Road user charging for electric vehicles*.
3. Waka Kotahi NZ Transport Agency, 2023, *RUC exemptions*, see https://www.nzta.govt.nz/vehicles/road-user-charges/ruc-exemptions/.

There have been potholes on the journey to reform

Despite this significant progress over recent years, reform efforts have faced a number of challenges.

Ensuring national consistency

Our 2019 paper laid out three potential reform pathways and argued national consistency should be a core tenet of reforms. It identified the first mover advantage for jurisdictions on the reform pathway, but called for leadership at all levels of government to ensure national compatibility as the most effective means of avoiding 'Rail Gauge 2.0' – separate approaches to transport networks divided along state borders.

Ultimately, the previous Federal Government failed to act, with the states and territories initiating individual reforms but maintaining consistency around key components – such as the per-kilometre charges – through their own inter-jurisdiction collaboration. The consistency of approach to reform across jurisdictions has been encouraging and the recent High Court decision presents an opportunity for the Federal Government to play a greater role in providing national coordination and support for road reform going forward.

Repeal of legislation in South Australia

In response to the introduction of a RUC for ZLEVs in South Australia, the then-Opposition promised to repeal the legislation if elected. After forming government, the Malinauskas Government introduced the *Motor Vehicles (Electric Vehicle Levy) Amendment Repeal Bill* (SA) in May 2022, which was subsequently passed in February 2023. This was a populist rather than a rational move, which simply kicked the can of reform down the road, and placed South Australia out of step with other states and territories.

Opposition from some sections of the EV industry

Throughout debate over recent years, the reforms have been falsely characterised as anti-ZLEV or anti-environmental by some individuals and organisations. The reality is that ZLEVs use the same roads as other vehicles and ZLEV owners will continue to need to pay for them. In the absence of paying excise on fuel, a RUC simply ensures all vehicles pay for road use, which for ZLEVs has been engineered to provide a discount on the rates paid by motorists using equivalent ICE vehicles. The introduction of reforms in each jurisdiction also brought with it a substantial package of incentives for the purchase and operation of ZLEVs, benefiting current and prospective ZLEV owners.

Contrary to claims by some EV lobbyists that a RUC would cause a major drop in sales of ZLEVs, sales figures in Victoria tell a different story – with rapid growth before and after the implementation of a charge in the state.[4] In fact, sales data indicates the uptake of ZLEVs in Victoria accelerated following introduction of the RUC, likely spurred by generous Victorian Government incentives and greater certainty for motorists about the future operating costs of ZLEVs. The ZLEV legislation either had no impact on demand for these vehicles, or its effect was so modest that it could not be identified in the data.

Another criticism has been that the reforms have deterred vehicle manufacturers from bringing ZLEVs to Australia. While it may have been convenient for the representatives of global brands to blame domestic policy settings, Australia is a small market and has never been first in line for new models. This has been exacerbated by global supply chain issues during the pandemic.

The purchase subsidies and grants announced alongside road user charging reforms represent a clear signal of intent from governments, and have boosted demand beyond what the local arms of many global manufacturers could meet.

High Court challenge

Following the passing of legislation in Victoria in 2021, two individuals brought a case against the State of Victoria. This claimed that the *Zero and Low Emission Vehicle Distance-based Charge Act 2021* (Vic) was invalid as Victoria was imposing a duty of excise under section 90 of the Constitution – the exclusive power of the Federal Government. The plaintiffs were supported by the Federal Government, while Victoria was supported by each of the other seven state and territory governments.

This case was heard by the full bench of the High Court, which found four to three in favour of the plaintiffs and invalidated the Victorian Government's right to levy this form of road user charge. The judgment fixated on the definition of excise, and overturned long-standing precedents around the states' and territories' right to levy consumption taxes. This point was highlighted in the comments of the three dissenting justices, with Justice Steward highlighting the decision would "distort the relationship between the states and territories and the Commonwealth in a way that was unintended by the founding fathers; it would render the States and Territories the constitutionally fiscal minions of the Commonwealth."[5]

This decision, while it is a setback to the progress of road reform in Victoria and potentially the other states and territories that have legislated similar changes, does not alter the policy case for change – it merely clarifies the level of government that is best placed to lead it.

4. Australian Automobile Association, 2023, *Electric vehicle index*, see https://data.aaa.asn.au/ev-index/.
5. *Vanderstock v Victoria* [2023] HCA 30 at 712.

2. GOVERNMENTS ARE NOW AT A CROSSROADS, BUT THERE IS A WAY FORWARD

As already mentioned, the High Court of Australia decision means Victoria (and potentially other states and territories) cannot levy a charge for each kilometre ZLEV motorists travel on their roads in the way they had planned – but the policy case for introducing an RUC for ZLEVs remains the clearest and most efficient pathway to road reform. The High Court did not criticise the policy, just who implements it, which begs the question; who will take it forward, and how?

The Federal Government, and its state and territory counterparts, must now agree on a process to ensure that every Australian pays their fair share for using our road network. Infrastructure Partnerships Australia is calling on both levels of government to develop a way forward that finishes the work Victoria and others started.

There are a range of options Australia's governments could implement to progress this reform.

1. The Federal Government can empower states and territories to operate their own systems

The Federal Government could effectively shift responsibility to states and territories to fund, operate and maintain their own road transport networks. The Federal Government has done this before, with the abolition of a Commonwealth land tax in 1952 one example of when the government forfeited its right to raise revenue for the greater good of Australian taxpayers.

Under this approach, the Federal Government can set guidelines to ensure broad national consistency, but devolve its RUC power to states and territories, who would be free to design charging arrangements that work best for them. This means each jurisdiction's system could be targeted to address emissions, congestion and other transport priorities and amended over time as priorities change. Each state and territory government would serve as a 'one-stop shop' for collecting motorists' transport revenue and meeting their needs.

Obviously, this approach would need to be designed to ensure it complies with the Constitution and reflects limitations laid out in the High Court's recent decision. This may be possible by allowing states and territories to put in place their own legislation to levy distance-based charges on all vehicles on their roads and drafted in a way that circumvents Constitutional limitations. The Federal Government may also decide to remove fuel excise when these arrangements come into place but this is not necessary to effectively devolve its RUC power to state and territories.

Alternatively, the Federal Government could put in place a national system for collecting road-related revenue, then redistribute funds dollar-for-dollar to each jurisdiction through reimbursement grants or another mechanism overseen by the Commonwealth Grants Commission.

2. The Federal Government can levy a national distance-based charge

Alternatively, the Federal Government could simply repeal fuel excise and implement a new, distance-based charge for road use. All vehicles would pay a per-kilometre charge, with potential discounts for ZLEVs and additional charges based on weight and emissions. Since it does not own or operate road transport assets, the Federal Government would collect revenue and distribute it to the states and territories for transport spending, as it effectively does now with fuel excise, albeit indirectly.

This approach has the benefit of ensuring national consistency and enabling rates of charge to be tied to national emissions and vehicle policies. However, it would perpetuate the inefficiencies and politicking involved in double-handling funds for transport investment. This approach would also add complexity for motorists, who would need to pay for road use to the Federal Government, while other charges, such as registration and licence fees, will go to their respective state or territory government. Additionally, Constitutional barriers may mean a national system cannot levy different charges by location,[6] limiting the ability of a national model to address congestion or provide equitable outcomes for users who need to travel vast distances to access jobs and services.

3. The states and territories can find workaround solutions

The High Court's decision means Victoria and potentially others return to a situation where there is no plan for how ZLEVs – a small but growing proportion of vehicles – will pay for their road use. For state and territory governments that must meet ever-growing transport needs and rising costs, this situation is untenable.

The simplest solution would be for the state and territory governments to tweak their RUC legislation to circumvent the High Court's concerns with the model implemented in Victoria under section 90 of the Constitution. Further legal advice is required to understand whether this may be possible, and the states and territories would need to seek further assurances from the High Court that a revised approach would be valid under the Constitution, and that it would not be subject to a further challenge supported by the Commonwealth.

If the states and territories are unable to levy a specific road user charge, they may seek to find other sources of transport revenue. For example, these governments could put in place additional registration or licencing charges on all vehicles, targeted levies on ZLEVs, or other increases to road access fees. But additional access charges are likely to have perverse outcomes. These would be highly regressive and are likely to contradict broader transport policies by hitting hardest those who use their cars least. Similarly, alternatives such as levying a charge on other consumable components of cars – tyres, for instance – are not feasible. Aside from making road fees a lumpier and irregular impost on household budgets, the introduction of an incentive to delay replacement of tyres could only have disastrous effects on road safety.

While states and territories can find their own (potentially suboptimal) ways of charging ZLEVs a fair price for use of their roads, it should not have to come to that. Clearly, workaround solutions such as these would not deliver many of the benefits of broader, more comprehensive road reform. A piecemeal solution would represent a missed opportunity to implement proper transport reforms that enable governments to fairly and efficiently meet users' transport needs for many decades to come.

The Federal Government has been largely absent from the debate about the future of road user charging over recent years. It never opposed nor criticised the road pricing policies put forward by the states and territories that manage Australia's roads. But the Federal Government can no longer duck the issue.

If the Constitution prevents states from doing so, the onus is now squarely on the Australian Government to take the lead on putting in place a fairer and more sustainable way of paying for road use. Whatever is chosen, collaboration must be a core principle within this Federally-led reform model, and there are options for how responsibility for these changes are enacted. If the Federal Government decides to do it alone or empower states and territories to take action, an agreement should be made through National Cabinet to ensure changes are resilient to electoral cycles and embed this reform in reality.

Reforms enacted over recent years show change is possible. But these only scratch the surface of what can be achieved – the largest benefits to Australian motorists and taxpayers will come from future rounds of reform.

6. For instance, see Commonwealth of Australia, 1900, *The Australian Constitution*, Part 5, Section 51(ii).

3. THE NEXT LEG OF THE ROAD REFORM JOURNEY SHOULD TAKE US FURTHER

Looking beyond the challenge presented following *Vanderstock v Victoria*, with or without the implementation of an RUC for ZLEVs, fuel excise remains unfit-for-purpose so a return to the status quo is not a viable option. Action is required to address a looming and severe road funding shortfall, and to deliver a way of paying for Australian roads that works in the twenty-first century.

There is no shortage of literature on the need for road reform

The case for road reform is well-established. Infrastructure Partnerships Australia's policy proposal in 2019 drew from nearly three decades of policy advice on the need to change how Australians pay for road use.

We have been a loud and consistent advocate for reform, with a series of policy papers, submissions and advocacy campaigns over the course of our existence. Our work, alongside others, has highlighted the benefits of road pricing reform over two decades. See Figure 1 below.

Figure 1: Timeline of key documents arguing for road pricing reform

The form and detail of these arguments varies, but advocates for reform have been in wild agreement about a central premise: **the more all-encompassing the road reform, the greater the benefits.**

The proposed models have typically incorporated some element of time, distance and location-based charging to replace fuel excise, improve the fairness of road funding and reduce congestion.

Shifting factors provide new impetus for action

The rationale for reform has not changed dramatically over recent decades. Road funding has always been imperfect. The sources of revenue are disjointed and inconsistent across states and territories, and have not evolved in line with transport policy priorities.

The link between how much a motorist uses roads, how much they pay, and how governments allocate transport funding has always been weak, and this has underpinned almost exponential growth in congestion in major cities. Fuel excise has been in structural decline since at least the 1990s as the efficiency of vehicles has improved, and has persistently penalised those who cannot afford newer, more efficient vehicles.

Despite the High Court's recent decision, we still need to find a way of paying for the roads that will not end when motorists no longer need to refuel their petrol and diesel vehicles. In the years since the Victorian, NSW, SA, WA and Tasmanian Governments announced their reforms to address this challenge, the number of electric and hybrid vehicles on our roads has grown rapidly. Australia needs a way of paying for its roads and transport infrastructure that is not reliant on a dying technology and old ways of thinking.

Government incentive schemes are getting more motorists into ZLEVs each week – and that is a good thing. While they are better for the environment in terms of operational emissions, these cars will still use roads and add to congestion. The lack of a charge for road use is not sustainable, particularly as the number of ZLEVs on our roads grows. It's only fair that all motorists pay for their use of the roads, and those who drive a ZLEV or are considering buying one know how they will pay for road use over the life of their vehicles.

With mass uptake of ZLEVs now within sight, and the potential for dramatic transformation of how Australia moves its people and goods, Australia's transport system is at a critical juncture. A series of converging factors mean road reform has become a case of jump or be pushed, because perpetuating the status quo is no longer a viable option.

Fuel excise is in terminal decline. Fuel excise fell by 16 per cent in real terms over the 20 years to FY2020-21[7], and is likely to go into freefall over the coming years as uptake of ZLEVs grows. Without action, this will cause a hole in road-related revenue that can only be plugged via cuts to other priorities in government budgets, or higher taxes.

Road maintenance bills have grown. While excise fell over the past two decades, the costs of maintaining an ever-expanding road network have risen by 79 per cent in real terms.[8] This has been exacerbated by pandemic-driven supply chain cost spikes and extreme weather events causing widespread damage. The result has been deteriorating road quality and heavily stretched government budgets.

The road funding burden is shifting to the jurisdictions. The introduction of a 50:50 ratio for funding of nationally significant transport projects with state and territories in the recently released Federal Infrastructure Policy Statement throws another spanner in the works. Australia's states and territories already have acute fiscal constraints and severely limited capacity to raise revenue. This, coupled with the High Court's decision, places an increasing funding burden on the states and territories while simultaneously restricting their capacity to raise capital to fund their roads.

The pandemic drove a spike in congestion. Despite a dip in transport demand during COVID-19, the pandemic's transport legacy has been to trigger a retreat to private vehicles, undoing decades of growing public transport ridership.

Australia's transport sector is exacerbating climate change. Australia's transport emissions have continued to rise, and are a long way from meeting the benchmarks set through Australia's international commitments. Previous Federal Government policies have added fuel to the fire, with tax breaks underpinning growth in sales of large petrol and diesel vehicles.

Australia's vehicle regulations lag the world. Australia is the only member of the OECD without vehicle emissions or fuel efficiency standards. The Federal Government committed in April 2023 to introduce a Fuel Efficiency Standard for light vehicles.[9] However, the details and timing of this reform are yet to be decided, pending further consultation.[10]

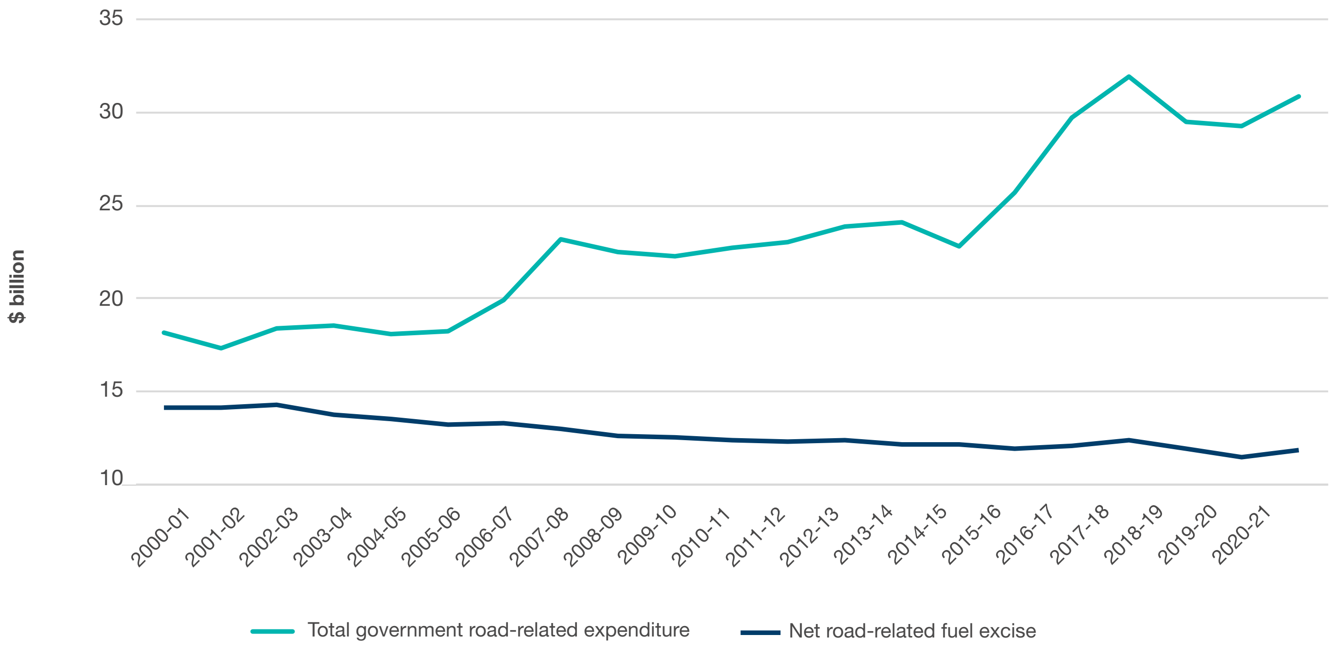
There remains no financial cost for pollution or congestion. The economic, social and health costs of pollution and congestion have grown exponentially as cities have become bigger and more densely populated. A Fuel Efficiency Standard is likely to set limits on the new vehicles manufacturers can sell, but the motorists who cause pollution or congestion will pay nothing and have no direct incentive to change their vehicles or their travel behaviour.

ZLEVs are compounding inequality. The lack of affordable or suitable ZLEVs means many Australian motorists cannot transition to hybrid or electric even if they want to. Those who remain in ICE vehicles face rising fuel costs, higher running costs and shoulder a greater burden of road-related funding.

ZLEVs are exacerbating the urban-regional divide. Range anxiety and few ZLEVs with suitable offroad and towing capacities have deterred uptake for many regional motorists. Those with limited access to services and few transport options must continue to face high running costs from their ICE vehicles until viable ZLEV models are brought to market.

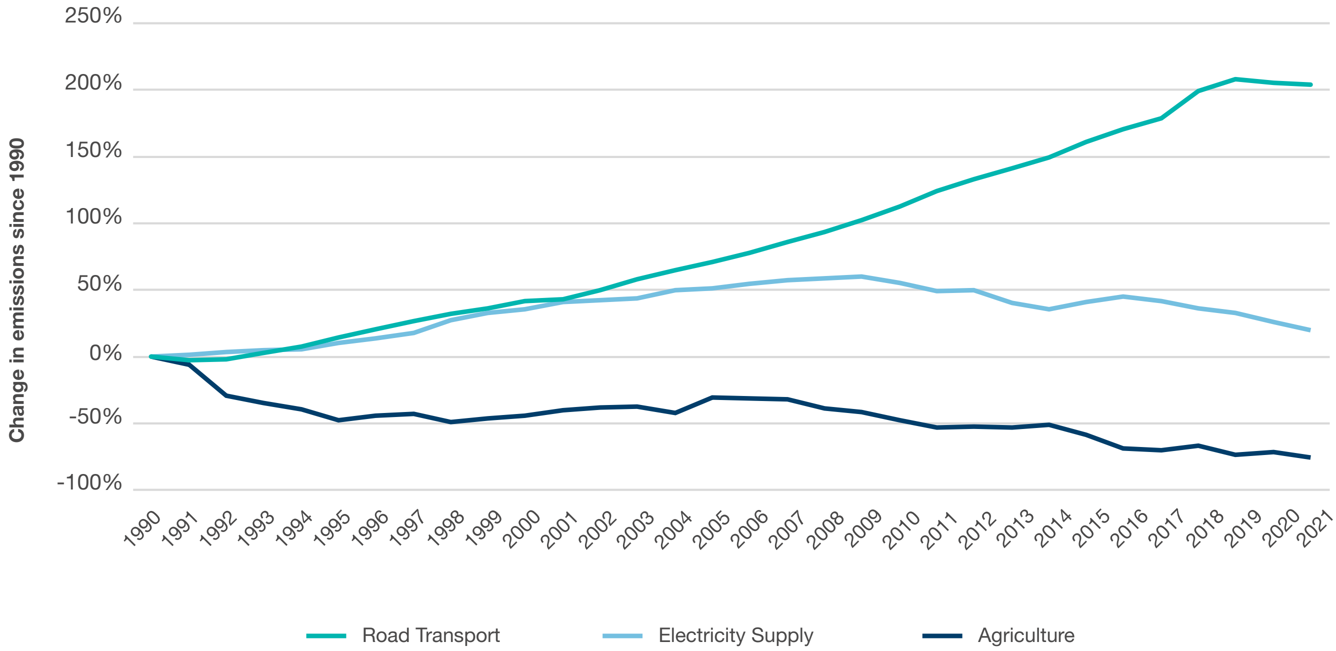
7. Infrastructure Partnerships Australia analysis of BITRE, 2022, *Australian Infrastructure and Transport Statistics – Yearbook 2022*.
8. Infrastructure Partnerships Australia analysis of BITRE, 2022, *Australian Infrastructure and Transport Statistics – Yearbook 2022*.
9. Federal Department of Climate Change, Energy, the Environment and Water, 2023, *National Electric Vehicle Strategy*.
10. Federal Department of Infrastructure, Transport, Regional Development and Communications, 2023, *The Fuel Efficiency Standard – Cleaner, Cheaper to Run Cars for Australia: Consultation paper.*

Figure 2: The gap between what governments spend on roads and take through fuel excise has ballooned in recent decades



Source: Infrastructure Partnerships Australia analysis of BITRE, 2022, Australian Infrastructure and Transport Statistics Yearbook 2022.

Figure 3: Carbon emissions have turned a corner in sectors such as electricity and agriculture, while transport emissions have continued to climb



Source: Infrastructure Partnerships Australia analysis of Federal Department of Climate Change, Energy, the Environment and Water, 2023, Data on Australia's greenhouse gas emissions.

The benefits of reform have also grown

Just as the scale of Australia's transport challenges have grown, so too have the potential rewards of change.

The cost of avoidable road congestion in Australian cities was estimated to be $24 billion in FY2018-19 – a figure set to rise by 45 per cent within 10 years without action.[11] This only captures the value of time lost in traffic in cities, and could be far higher when broader road networks plus social and health costs are considered. These health costs are poorly understood, but potentially severe when the impacts of noxious gases and fine particulate matter from tailpipes, brakes and tyres are taken into account. One recent study estimates these could be the cause of up to 11,000 premature deaths in adults per year, as well as tens of thousands of cases of cardiovascular and respiratory illnesses.[12]

While these figures are alarming, the flipside is that the potential rewards of positive change are enormous.

Governments have an opportunity to boost productivity and enhance the health and wellbeing of their people, while making their cities more liveable and attractive to global talent. Road reform may present political challenges initially, but the highly visible and lasting benefits are a large carrot for any government considering their long-term legacy.

11. Productivity Commission, 2021, *Public transport pricing: Research paper.*
12. University of Melbourne, Melbourne Climate Futures, 2023, *Health impacts associated with traffic emissions in Australia.*

Future-proofing funding for transport

A distance-based charge on ZLEVs was a huge step towards placing a rational price on roads and ensuring all motorists pay for the roads they use. ZLEV motorists would effectively opt-in to a distance-based charge instead of fuel excise on the diesel or petrol they buy. But by design, this charge was only going to impact a small – albeit growing – number of vehicles on the roads over the foreseeable future.

The problem is that – even if the Federal Government moves rapidly to implement a road user charge on ZLEVs or hands the task over to its state and territory counterparts – the transition to an electric-power fleet may take decades, exacerbated by a delay in the introduction of stronger vehicle emissions standards and in the absence of bans on the sale of ICE vehicles. Additionally, there remains uncertainty about how various vehicle technologies will evolve over the coming years and decades. For example, it is unclear:

- whether hybrids will continue to grow as an interim or lasting choice for Australian consumers
- whether hydrogen will grow into a mainstream fuel source for light vehicles, and when this will be feasible
- how major environmental, social and ethical challenges through the extraction of rare earth materials and manufacturing of lithium-ion batteries will be resolved
- how the ZLEV battery recycling, reuse and resource extraction market will develop, and who bears the responsibility and costs for these processes, and
- what role bio-fuels play and whether they could extend the life of existing ICE or hybrid vehicles and slow the uptake of ZLEVs.

Given these uncertainties, moving to a technology-neutral model of road user charging makes the most sense. The revenue governments raise from road use will be directly linked to demand, resilient to changes in technology and the economy, and stable over time – allowing more efficient long-term planning for transport upgrades. From a user perspective, this approach provides certainty and removes the need to second guess future government policy decisions when buying a vehicle. This approach would also more transparently link the cost of roads with their use, rather than being hidden in the cost of fuel.

Extending road user charging to all vehicles

Applying a RUC to ZLEVs was a pragmatic response to the shift in vehicle technology, and a way of kick-starting reform efforts after many years of consensus on the need for change but little action. It was always intended to be an initial leg of a longer journey to completing road reform.

Infrastructure Partnerships Australia's 2019 paper highlighted additional dimensions to road user charging that would bring greater benefits for users, by using a more sophisticated approach to managing demand that would make road networks even fairer and more efficient. However, we acknowledged that it was important to build community support for further changes, and that this would take time.

Whichever of the three pathways the Federal, state and territory governments choose to tread, once the RUC for ZLEVs challenge is behind us, Australia must move on to the next horizon. A nationally-consistent distance-based charging model for all vehicles is the cornerstone reform needed to future-proof road funding in a manner far more fit-for-purpose than declining fuel excise.

Designing this approach can and should be relatively straightforward, requiring no additional technology or infrastructure:

- A distance-based charge can commence on the same day the federal fuel excise ceases, enabling a seamless transition for motorists. Any excise paid by wholesalers on fuel bought before this date but sold afterwards can be refunded.
- As implemented in Victoria, users could report their odometer readings periodically. Additionally, users could choose to opt-in to remote digital transmission of distance data from vehicles that allow it.
- For a mass-based charge, state and territory governments would remove any annual mass-based charge alongside annual registration at the same time as they implement a per-kilometre charge. This would move from a possession-based tax to a fairer and more efficient consumption-based charge, more accurately reflecting the impact each motorist has on the roads.

4. COMPLETING THE FINAL ROAD REFORM STEPS

The final steps to completing road reform will see Australia's management of its largest asset class by kilometres enter the twenty-first century. The reality is that future proofing our funding only ensures we have the capital to maintain our existing road bill. But this is only part of the problem.

Transport remains Australia's second largest emitting sector, meanwhile every capital city is at the mercy of crippling congestion. The road to reform will be a long one, but an urgent one.

Reducing transport emissions

Calls for road reform to address Australia's transport emissions have grown louder over recent years. It is not hard to see why. Transport accounts for 22.3 per cent of our national greenhouse gas emissions and – unlike other sectors – transport's emissions continue to rise[13] Whereas Australia's electricity generation, waste and agriculture have driven decarbonisation through reforms over recent years, road transport emissions have gone the other way and are almost three times higher than in 1990.[14]

The biggest driver of these emissions has been growth in demand, fuelled by economic activity and population growth. At the same time, governments have not done enough to drive emissions reductions. Improvements in the fuel efficiency of vehicles have been more than cancelled out by a shift to bigger, diesel-powered vehicles, in part spurred by federal tax breaks for work vehicles. A lack of vehicle emissions standards makes Australia a global outlier, and lax fuel quality standards means our unleaded petrol is among the dirtiest in the world, containing up to 15 times more sulphur than in the EU.[15]

There is plenty that governments can do to turn this around, as outlined in Infrastructure Partnerships Australia's *Decarbonising Infrastructure*.[16] The first step should be for the Federal Government to plug a gaping hole in our regulatory framework and legislate light vehicles emission standards, then tie its implementation over time to standards in the EU or the US. The next step should be a pathway for stricter regulations to rein in fine particulate matter and noxious emissions from the exhaust, tyres and brakes of vehicles, with the Euro 7 standards a model to follow.[17]

13. Federal Department of Climate Change, Energy, the Environment and Water, 2023, *National greenhouse gas inventory quarterly update: June 2023.*
14. Infrastructure Partnerships Australia analysis of Federal Department of Climate Change, Energy, the Environment and Water, 2023, *Australia's national greenhouse accounts*, see https://greenhouseaccounts.climatechange.gov.au.
15. See Gibson, E. 2022, *Developments in Australian fuel quality and vehicle emissions standards: a chronology, and* European Commission, 2005, 'Commission recommendation of 12 January 2005 on petrol and diesel fuels,' *Official Journal of the European Union,* L. 15/26-29.
16. Infrastructure Partnerships Australia, 2022, *Decarbonising Infrastructure*.
17. European Commission, 2022, *Commission proposes new Euro 7 standards to reduce pollutant emissions from vehicles and improve air quality.*

Beyond this, governments should look to electrify the light vehicle fleet. Caution is required on this front, however, as not every incentive for ZLEVs is a worthwhile use of taxpayers' funds. The sticker price subsidies for new ZLEVs put in place across a number of Australian states and territories, for example, have likely been highly inefficient, with the Productivity Commission estimating the cost per tonne of CO2-equivalent abated may run into the thousands of dollars.[18] Given the relatively high price of ZLEVs on the market, these subsidies have also had minimal impact on shifting the threshold of attainability of these vehicles for many households, with taxpayer funds largely flowing to those who least need them and, in practice, effectively constituting a transfer of wealth from Australian taxpayers to vehicle manufacturers.

Instead, governments should use a RUC to incentivise kilometres travelled in lower emission vehicles. This approach would effectively bake in the preferential charges for ZLEVs in Victoria compared to the charges paid by ICE vehicles. This approach is likely to be far more efficient than sticker price subsidies or other demand-side measures. A 1.5 cent per kilometre discount would come at an effective carbon price of $102 per tonne for regular passenger cars and $70 for larger passenger vehicles.[19] This approach would also mean those who travel the most will have the greatest incentive to move to a ZLEV, providing greater motivation to make the leap.

Table 2: Effective cost of RUC discounts for ZLEVs per tonne of carbon abated

	Sedans, hatchbacks and light SUVs				Heavy SUVs and light commercial vehicles			
RUC discount (cents/km)	1	1.5	2	4	1	1.5	2	4
Effective carbon price ($/t$CO_2$-e)	68.0	102.0	136.1	272.1	46.9	70.4	93.9	187.8

Note: This assumes ZLEVs are charged from 100 per cent renewable energy and does not take into account the relative emissions intensity of manufacturing ZLEVs versus ICE vehicles.
Source: Infrastructure Partnerships Australia analysis of National Transport Commission, 2022, Light vehicle emissions intensity in Australia.

An extension of the RUC to address emissions could be implemented simply and easily:

- Emissions incentives could be a simple discount for ZLEVs on the base per-kilometre rate charged to ICE vehicles, with a lesser discount for hybrids and plug-in hybrid electric vehicles – akin to the existing model in Victoria.
- Emissions incentives should be time limited and expire once the ZLEV fleet reaches critical mass, potentially flipping to a penalty for non-ZLEVs at a certain point in future.
- Similar to a mass-based charge, an additional distance-based charge could be applied to heavy emitting vehicles (above a specified emissions threshold).
- Any existing annual levies on high-emitting vehicles (such as in the ACT) should be rolled into the distance-based charge.

Although ZLEVs are a better alternative to ICE vehicles, they are far from the perfect transport solution. Beyond the greenhouse gas emissions generated through their manufacture (including their substantial embodied carbon profile built into their batteries), use (if charged from the grid), and ultimate disposal, ZLEVs still contribute harmful fine particulate matter from their brakes and tyres. They still occupy the same road space, add to congestion, and the additional weight of batteries means they will do at least as much damage to road surfaces as ICE vehicles. There is a risk that measures to encourage ZLEV uptake result in more cars on the road, with any potential benefits swamped by the costs to society.

Government policies should reflect these realities. Those who can travel by foot, by bike or by public transport should be encouraged to do so. Investments to improve these services are likely to yield greater environmental and economic benefits than measures that incentivise the use of private vehicles, no matter how they are powered.

18. Productivity Commission, 2023, Updated submission to *National Electric Vehicle Strategy consultation*
19. Infrastructure Partnerships Australia analysis of National Transport Commission, 2022, *Light vehicle emissions intensity in Australia.*

Tackling congestion

As Australia's cities have grown bigger and denser, traffic congestion has worsened significantly. Peak hours have spread to engulf whole weekdays, while in some cities weekends have become peak periods in their own right.[20] Governments have responded by investing heavily in new road and public transport infrastructure to boost supply, while seeking to shape or curb demand through more bus lanes, parking controls, improving safety for bikes and pedestrians, and a raft of other measures.

Ultimately, however, the most effective way to tackle congestion is by placing a higher price on some roads at some times. Those who can travel by other modes have greater incentive to leave their cars at home, while others may choose to travel off-peak or avoid travel altogether. We have known about the need for road pricing for decades, if not more than a century.[21] Transport experts are in violent and perpetual agreement about the benefits this change would bring. However, congestion pricing has been – and remains – a step too far for Australian governments. Australians may loathe congestion, but we hate the thought of congestion pricing even more – or so it seems.

There are various models to address congestion in place across the world. These vary in scope and intent, and respond to each city's geographic and transport needs.

Table 3: Different forms of light vehicle congestion pricing schemes

Model	Description	Examples
Dynamic pricing	Combines distance, time and location-based charging to price the full network or a designated zone. Vehicles are tracked by licence plates or GPS as they move around the network. A display in vehicles or via an app prices each trip to minimise congestion and nudge motorists towards other modes of transport.	Brussels, Singapore (planned), Netherlands (planned)
Cordon or zone charging	Vehicles are charged for entering designated urban zones. Some models have graduated charges for different zones or vehicle types, with ZLEVs typically being charged less.	London, Stockholm, Milan, Oslo, Singapore, Jakarta (planned)
Corridor charging or variable tolling	Variable tolls are applied on certain corridors, roads or with additional charges during peak periods. Tolls are collected at static gantry points.	Abu Dhabi, Seoul, Eight US states with High Occupancy Toll (HOT) lanes,[22] Sydney (Harbour Tunnel and Bridge only)[23]
Urban access regulations	Excludes certain types of vehicles (typically ICEs) during certain periods, and issuing fines for exemptions or non-compliance. Variants include low or zero-emission zones, limited traffic zones and pollution emergency schemes. This is not congestion pricing, though it can be combined with a cordon charge, as in Milan, Oslo and London.	Tehran, Schemes in place across many European cities and towns[24]

20. Infrastructure Australia, 2019, *Urban transport crowding and congestion*.
21. See discussion of Arthur Pigou's 'two-road model' (1920) in Button, K. 2020, 'The transition from Pigou's ideas on road pricing to their application', *Journal of the History of Economic Thought*, Vol. 42, No. 3, pp. 417-438.
22. US Department of Transportation - Federal Highway Administration, 2023, *HOT lanes, cool facts*, see https://ops.fhwa.dot.gov/publications/fhwahop12031/fhwahop12027/index.htm.
23. Transport for NSW E-Toll, 2023, *Calculating tolls*, see https://www.myetoll.transport.nsw.gov.au/help-and-faqs/calculating-tolls.
24. European Union, 2022, *Urban Access Regulations in Europe – Map*, see https://urbanaccessregulations.eu/userhome/map.

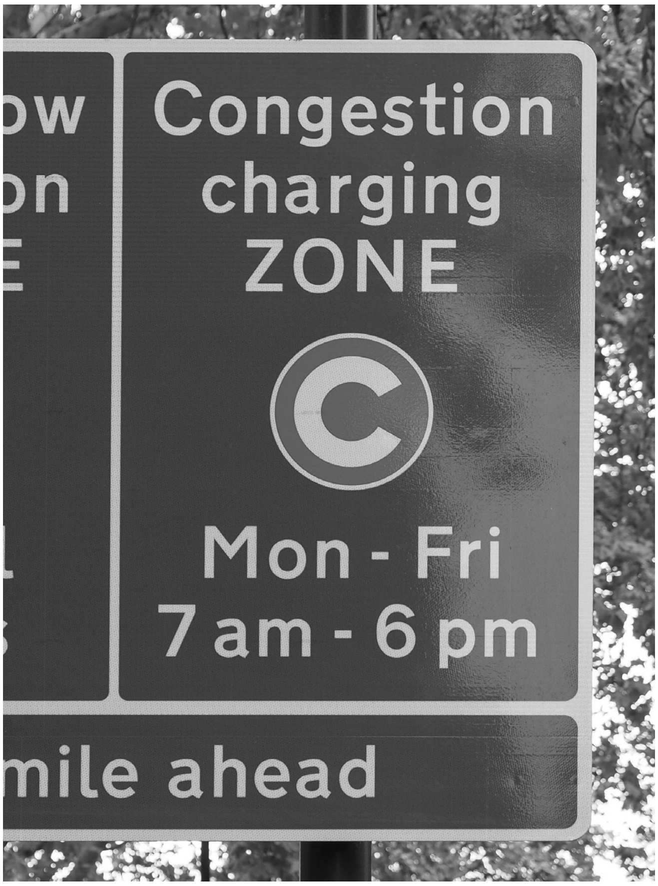
Naturally, the most effective forms of congestion pricing are the most far-reaching, but these are also the hardest to put in place. A lack of community support has meant many congestion pricing schemes have been developed with concessions and carve-outs to ensure support, and have become relatively piecemeal as a result. In New York, San Francisco, Manchester, and Beijing, among many others, community pushback has effectively shelved or seriously delayed proposed schemes. Even in Singapore, which first implemented its Electronic Road Pricing (ERP) scheme in 1998, the transition to dynamic, whole-of-network pricing through ERP 2.0 has faced delays and technological hurdles.

Australian governments should heed lessons from these experiences. Community support is an essential ingredient of congestion pricing reform, and most governments have not yet even started to sow the seeds of change. Australia is not ready for congestion pricing, but this needs to change. The reform process should commence with widespread consultation. Congestion pricing may never be a popular reform, but the community should at least understand the need for change, how it will be implemented, and have their concerns addressed before reform is initiated.

Taking a cautious approach to this stage of reform will also allow Australian governments to find the best solution for our cities. Congestion is widespread across many of our urban areas, meaning a cordon or zone-based approach may prove ineffective, or simply shift problems around each city. A whole-of-network model with dynamic pricing, mirrored nationally across major cities, would go far to address congestion and could adapt over time as cities and travel patterns change. This approach could also pave the way for discounts for travel outside urban areas, where a private vehicle is sometimes the only option and services are much further away. Australian governments should closely monitor outcomes from the system that has been put in place in Brussels,[25] as well as the next generation ERP in Singapore[26] and whole-of-network charge proposed to be implemented by 2030 in the Netherlands.[27]

Of course, the longer we debate congestion pricing, the worse congestion will get. In the near term, Australian governments should pull every lever they have to spread demand and reduce the impact of congestion. These measures should include:

- continuing to invest in public transport upgrades
- continuing to develop public transport pricing reform to boost ridership, reduce barriers to multimodal trips, and offer greater incentives for off-peak travel
- staggering school start times
- extending bus and transit lanes to preference high-occupancy vehicles
- removing on-street parking on arterial roads
- enhancing the efficiency and safety of active transport connections, and
- expanding park and ride facilities at strategic locations on urban rail networks.



25. Brussels Government SmartMove, 2022, *What is SmartMove?*, see https://smartmove.brussels/content/smartmove/be/en/what.html.
26. Government of Singapore Ministry of Transport, 2023, *Next generation ERP system*, see https://www.mot.gov.sg/what-we-do/motoring-road-network-and-infrastructure/Electronic-Road-Pricing/Details/how-erp-works-as-a-speed-booster.
27. De Telegraaf Parliamentary Editors, 2021, “New Cabinet paves the way to road pricing: ‘pay according to use’ from 2030,” *De Telegraaf*, 15 December 2021, see https://www.telegraaf.nl/nieuws/156523641/nieuw-kabinet-effent-de-weg-naar-rekeningrijden-vanaf-2030-betalen-naar-gebruik (original in Dutch; paywall).

More work is required to progress congestion pricing

Reform to tackle congestion undoubtedly has the highest degree of difficulty for governments. Despite the almost universal dislike of congestion and recognition of its corrosive impacts on economic and social factors, support for congestion pricing is far from universal. In a large part, this is because – to be effective – congestion pricing must go beyond a gentle 'nudge' of transport users' behaviour. Motorists who impose costs on other users must face sufficient disincentive for at least some to change how or when they travel, while compliance requires additional layers of surveillance.

Despite these challenges, congestion is too damaging to ignore. Australia's cities simply cannot develop as global powerhouses – facilitating innovation and productivity, attracting talent and tourism – if their residents are stuck in traffic jams and their air is thick with smog. Governments need to rise to the challenge, and argue the case for change. This means being clear about the potential benefits of change, and directly addressing any community concerns in relation to:

- **How congestion pricing works:** Governments should be clear on the model they want to put in place, how users will be charged, what technology is required, and what impact this will have on different kinds of motorists, including assurances that vulnerable transport users or those with few transport options will not be adversely impacted.
- **Data and privacy:** Notwithstanding the fact anyone with a smartphone surrenders huge volumes of personal data to global tech companies, Australian governments will need to establish a strong social licence to use licence plates, electronic tags or GPS data to charge users by time and location on the roads. This means being clear about what data is collected, how long it is stored, what it can be used for, what it *cannot* be used for, and what safeguards will be put in place to protect privacy, give users visibility and control of their data, and ensure cybersecurity.
- **Incentives for adoption:** Despite what some transport experts may believe, the benefits of congestion pricing do not speak for themselves. Governments should be clear on the benefits of change beyond reduced congestion. Measures could include incentives for off-peak travel, discounts for extra-urban and regional trips, reinvesting additional revenue in popular initiatives, or implementing the scheme as an extension of existing transport payment platforms (such as Opal, Myki and go card) to offer additional incentives for those who choose to switch from car to public transport.

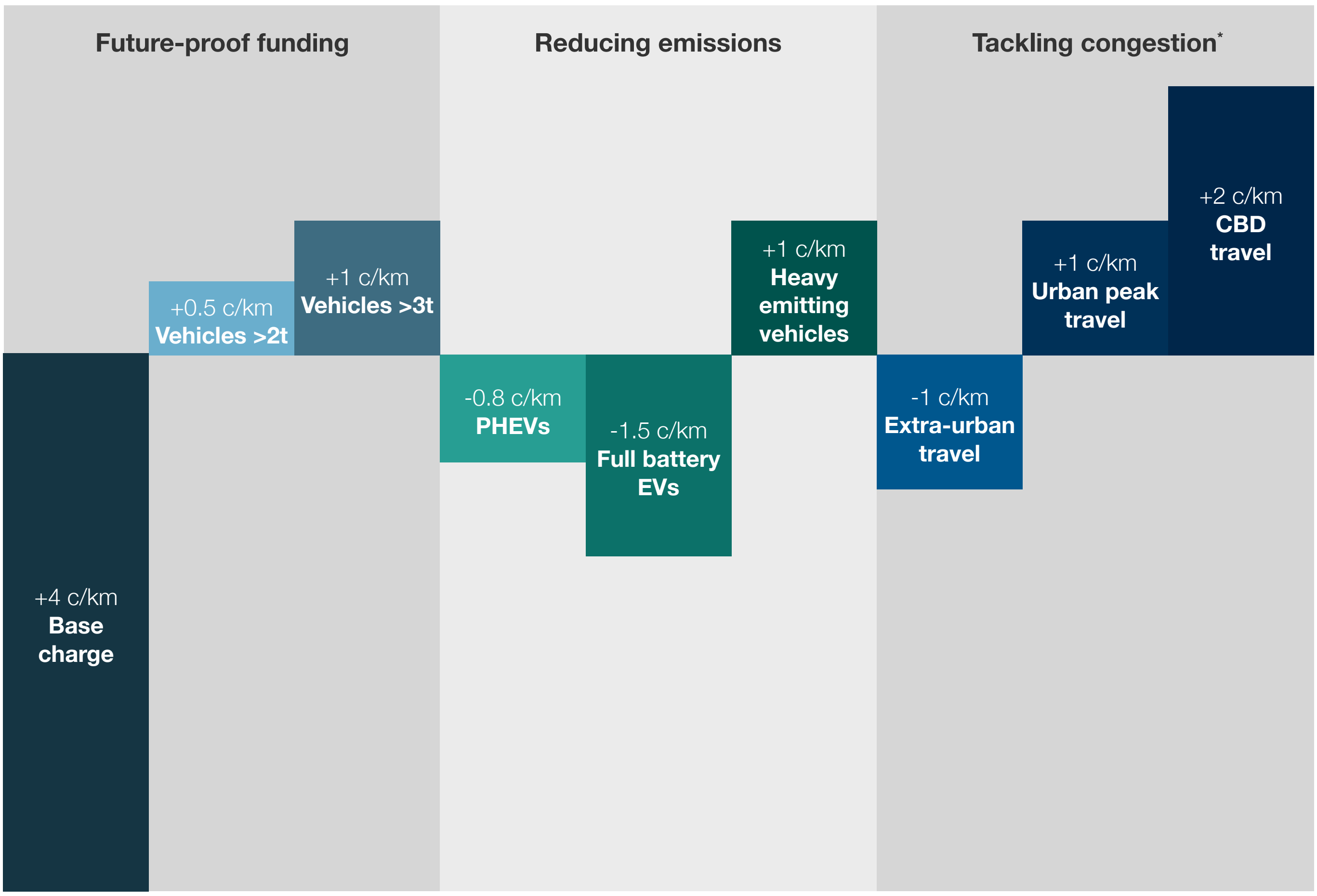
A simple RUC will be most effective

One of the biggest barriers to road reform is complexity. Governments need to have an open discussion with motorists about how much they pay now, how that will change under a new approach, and why. The more rules, conditions and exemptions governments attach, the more difficult this discussion becomes.

Despite the thousands of pages of policy and technical analysis published on road reform over past decades of inaction, the solution need not be complex. A simple RUC would see a base charge per kilometre, with additional per-kilometre charges or discounts based on the cost or benefit of different kinds of travel:

- those who drive a ZLEV can receive a clear incentive for doing so, but still pay more than those who do not drive
- those who drive heavy or heavy-emitting vehicles pay for the costs they impose on the environment, and
- when congestion pricing becomes viable, users who contribute to congestion can pay more, while those who do not pay less.

Figure 4: An indicative model for road user charging to address funding, emissions and congestion



* Further development required to enable this stage and refine design

Revenue raised across each of these components of the RUC should be quarantined for public investment in transport. This need not only be for roads, enabling governments to apportion revenue to road-adjacent infrastructure, such as charging stations, or for initiatives like transit lanes, walking and cycling infrastructure or public transport upgrades, which improve outcomes for motorists and other transport users alike. Governments may also choose to earmark funds raised from emissions-related charges for investment in emissions-reduction initiatives, such as electrification and decarbonisation of public transport.

THE ROAD TO REFORM IS CLEAR

Much has changed since 2019, when Infrastructure Partnerships Australia first proposed this model of reform. Now the way forward is clear. The High Court case has shifted the balance more towards the Federal Government to take the lead on delivering a fair, efficient and sustainable way of platform for Australian roads before the current approach – already well beyond its ‘best before’ date – completely expires.

Unless simple tweaks to state-based RUC legislation would enable the states and territories to implement a model that does not fall foul of the High Court’s interpretation of the Constitution, national agreement is the essential next step. There are a number of avenues open to achieve this but the clearest road ahead will be one where the Federal Government agrees on key tenets of reform, resolves which levels of government collect and distribute revenue, and clears the way for legislative reforms in each jurisdiction. To be clear, Federal Government leadership does not automatically mean Federal Government implementation. We have shown that the least friction pathways include the Federal Government working with the states and territories to efficiently and effectively implement the reform, rather than trying to act unilaterally.

Governments should sign an agreement through National Cabinet to ensure changes are resilient to electoral cycles and embed this reform in reality. Collaboration must be a core principle within this Federally-led reform model, and there are options for how responsibility for these changes are enacted.

Every major tax reform – from the shift to a single income tax in the decades following federation to the introduction of the GST – has been a truly national effort, with the Federal Government taking the lead and working closely with states and territories to ensure all parties receive a fair slice of the pie.

Ultimately most taxpayers do not care which level of government handles the charges they pay for road use – they just want good quality roads and transport services and for any charging system to be user-friendly and easy to understand. Nobody benefits from politicising of this reform.

The end destination is clear. A lower-carbon, sustainably-funded transport network with less congestion awaits. And the sooner these reforms get us there, the better for all Australians.

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