



POLICY PACKAGE

CHARGING AHEAD:

State and territory transport policy
recommendations to reach near-
absolute zero emissions



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CHARGING AHEAD

State and territory transport policy recommendations to reach near-absolute zero emissions.

As the fastest-growing source of emissions in Australia,¹ personal transport must be a focal point for state and territory emissions reductions plans.

OUR TRANSPORT SYSTEM HAS A TANGIBLE IMPACT ON THE LIVES OF EVERYDAY AUSTRALIANS

People should be able to expect frequent, safe, accessible and connected zero-emissions transport options.

The prevailing model of privately-owned vehicles is costly in terms of vehicle ownership and running expenses, ongoing investment in road capacity, congestion, transport disadvantage and increased greenhouse gas emissions.

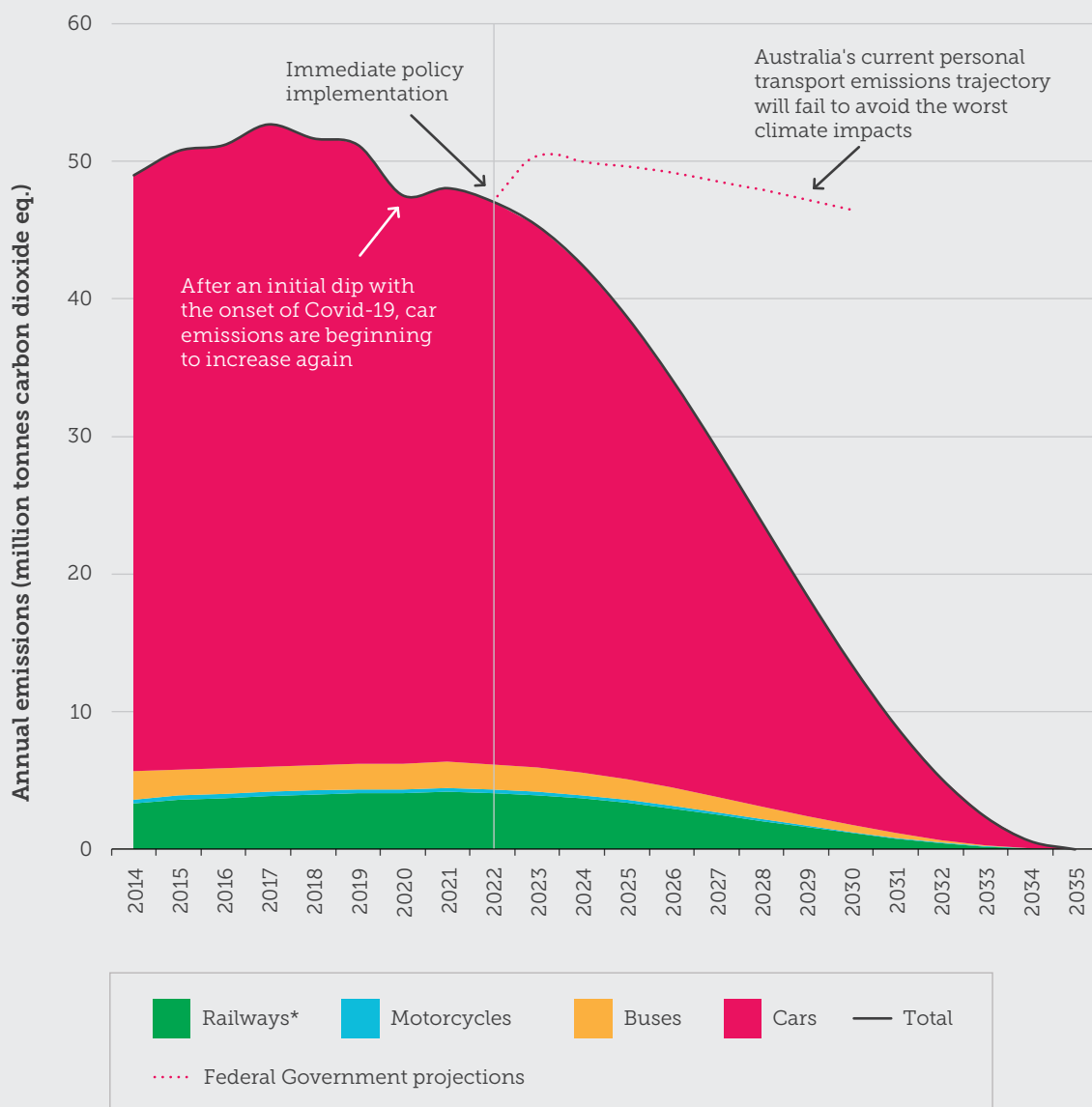
To better serve communities and achieve climate targets, Australia's personal transport system must shift from the current polluting, car-centric model to a sustainable, zero-emissions framework powered by renewable energy. States must move towards a transport system that prioritises active transport (walking and cycling) and public transport rather than cars used for personal transport - underpinned by a generous budget commitment. This policy package provides a number of policy recommendations in the urban setting that states can begin working on today.

To keep global temperatures below two degrees celsius above pre-industrial levels and avoid the worst climate impacts, Australia must reach net zero emissions by 2035.² This will require transport emissions to plummet by 6.2 million tonnes annually.³ Yet, if Australia is to merely reach its current target of net zero emissions by 2050, emissions in this sector must drop by at least 3.1 million tonnes annually - almost as sharp as the effect of COVID-19 on transport emissions in 2020.⁴ Policies and investments to reduce transport emissions are not only necessary, but are a relatively easy way for states and territories to make significant headway on their net zero targets. Importantly, with the relative ease at which this sector can be abated, a focus on near-absolute zero emissions with minimal off-setting will be key.



Image 1: If private car use was reduced by 16% in Brisbane alone, researchers from the the University of Queensland (UQ), University of Cambridge and Queensland University of Technology found there could be a reduction in heart disease occurrences by 45,000 and type two diabetes by 90,000 for adults living in Brisbane.⁵

RAPID POLICY IMPLEMENTATION IS REQUIRED FOR AUSTRALIA'S PERSONAL TRANSPORT EMISSIONS TO REACH NEAR ABSOLUTE-ZERO BY 2035



*Railways includes freight.

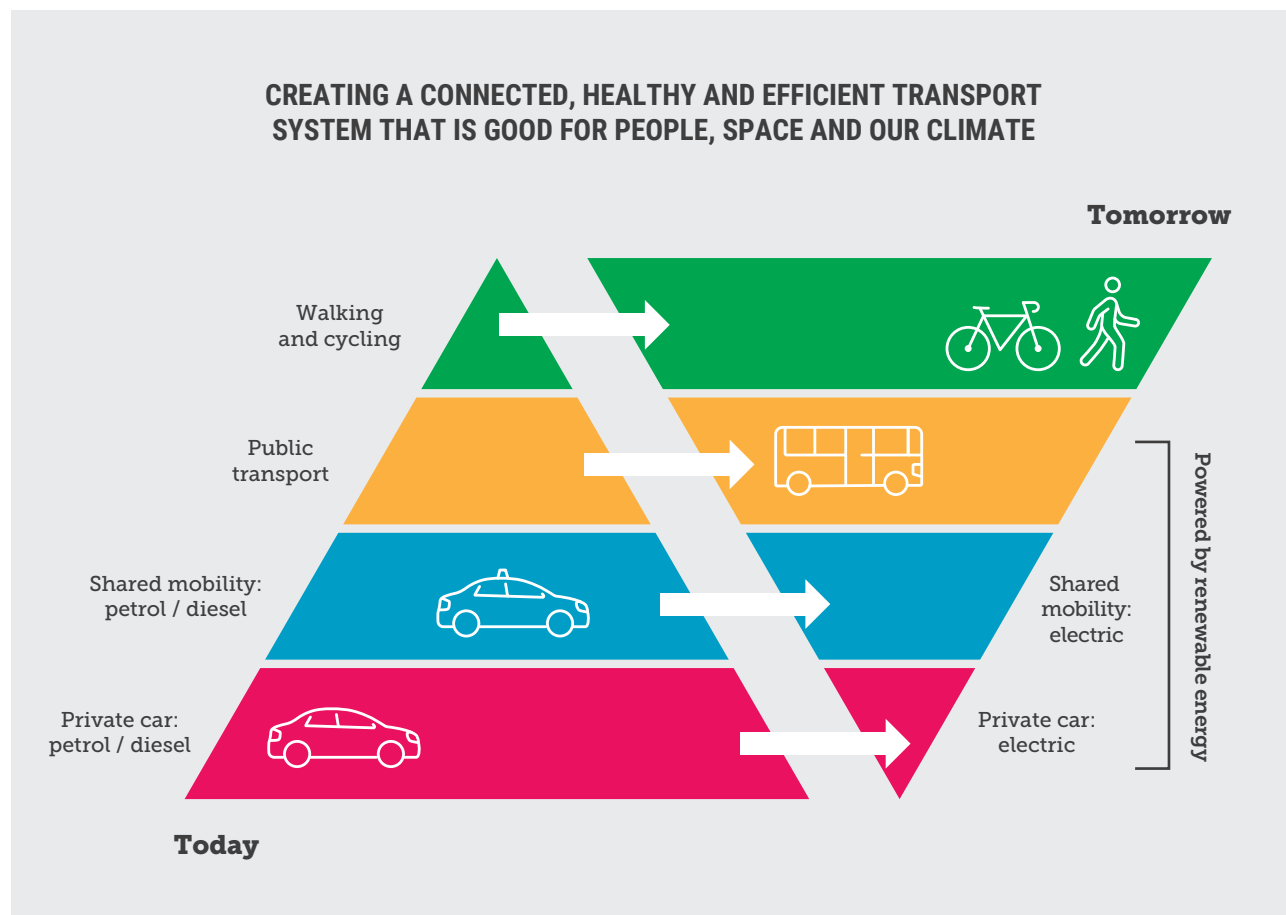
Figure 1

Personal road transport - being cars and other forms of road transport focussed on moving people, rather than freight - makes up around half of the transport sector's greenhouse gas pollution.⁶ Replacing polluting internal combustion vehicles with Electric Vehicles (EVs) is critical. However, this is just one piece of the puzzle. We need to move to a transport system that is dominated by active (walking and cycling) and public transport, rather than cars.

Multiple cities and states around the world have experienced substantial and rapid success in shifting away from cars. Vienna,

Paris, London, Oslo, Prague and Geneva have all increased the share of journeys by public transport by 20% or more.⁷ These cities have achieved this by increasing public transport services and discouraging car travel, such as through parking restrictions and congestion charging. Seville, Spain increased cycling infrastructure from 12km of paths in 2005 to 120km in 2010, seeing a mode share shift from 3.2% to 8.9% in the same period.⁸ Bogota increased public transport use from 64% in 1999 to 70% in 2005 through extension of bus and rail lines, and changes to fares.⁹ Now is the perfect opportunity for Australian states and territories to do the same.

Figure 2



HOW VANCOUVER BECAME A PEDESTRIAN AND BIKE-RIDER CITY

The hierarchy of transport (as detailed by the inverted pyramid in figure 2) provides the foundation of Vancouver's *Transportation 2040* plan.¹⁰ This plan outlines the city's goal of two thirds of all trips to be walking or cycling by 2040,¹¹ up from 50% in 2020 and 40% in 2008.¹² Through targeted policies that prioritised pedestrians and cyclists, such as always including separated cycling facilities in new major roadway projects, the city achieved 50% of all trips being active transport by 2018 - two years ahead of schedule.¹³

Image 2: Vancouver's investment in quality active infrastructure is moving the dial on mode share. More people are opting to walk or ride more often, leading to compounding benefits for Vancouver residents.



The benefits of moving towards a transport system that prioritises active and public transport include:

- › **Growing the economy:** The economic multipliers of walking, cycling and EV infrastructure are high. It is estimated there are \$2 in returns for every \$1 of public funding invested in active transport infrastructure.¹⁴ Further, every \$1 of public funds invested in transport could unlock \$0.5 in private co-investment.¹⁵
- › **Creating new, high quality jobs:** Modelling consistently identifies investment in sustainable transport as a major job creator, with an estimated 12-15 jobs created per \$1 million investment in active transport and EV charging infrastructure.¹⁶ Supporting Australian electric cars, train, tram, bus and truck

manufacturing has the potential to create substantial manufacturing jobs, and stimulate domestic use of our critical mineral deposits. Active transport is already a major job creator. Almost 35,000 people are directly employed in the cycling industry alone¹⁷ - that's close to the 39,000 individuals employed in coal mining.¹⁸

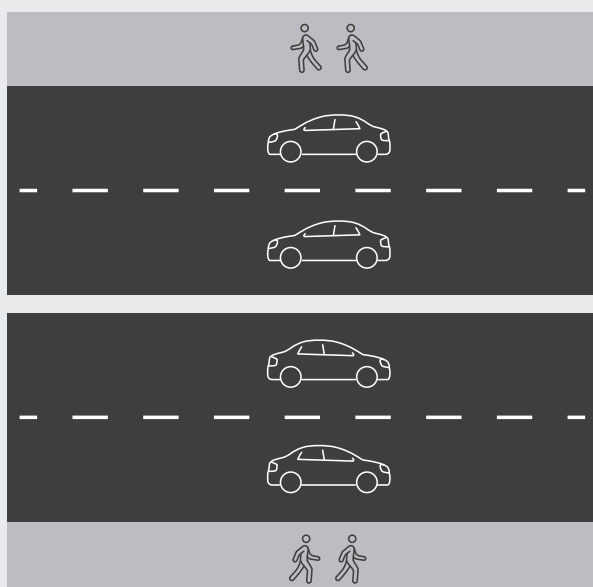
- › **Saving taxpayer dollars:** A 2021 Deloitte report showed that increasing public bus usage to 20% of the transport mode share, and transitioning to EVs by 2035, would save the Australian economy a staggering \$492 billion.¹⁹ This figure accounts for the health and societal costs arising from air pollution, GHG emissions, noise and water pollution.²⁰ Without policy guidance, the costs of our transport sector on our health system will total \$864.9 billion by 2050.²¹

Figure 3

MOVING PEOPLE, NOT CARS

20th Century:

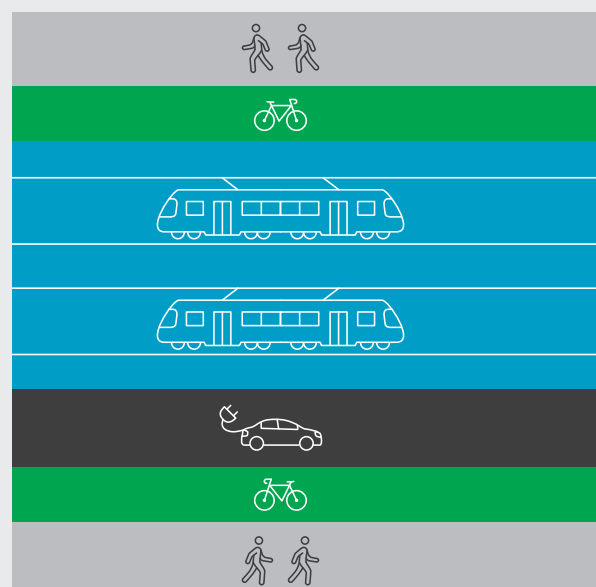
How many **cars** can we move down the street?



**Change
the
question**

21st Century:

How many **people** can we move down the street?



- › **Improving health outcomes for communities:** In Australia, an estimated 1,700 deaths occur every year due to air pollution from cars, trucks and buses - larger than the national road toll.²² Deloitte modelling shows that an increase in mode share to 20% for buses and a transition to EVs by 2035 (as in the scenario described previously) would prevent 2,624 deaths between 2021 and 2050.²³
- › **Boosting productivity:** According to Infrastructure Australia, road congestion costs the Australian economy \$38.8 billion annually.²⁴ Numerous studies have shown that transitioning people towards active and public transport, and away from private vehicles, is a more effective solution to congestion and associated costs than road expenditure.^{25, 26}
- › **Reducing the cost of living:** Australians are reliant on cars because our public and active transport infrastructure is inadequate, raising the cost of getting around for households.²⁷ Walking and cycling, followed by public transport, are the cheapest mobility options, and improved infrastructure allows more Australians to experience these benefits.
- › **Creating consumer choice:** Quality urban design and investment that prioritises active and public transport will empower individuals to have more autonomy over their travel journeys.²⁸ State and territory governments need to invest in improving infrastructure in order for people to have a real choice of how to get around.
- › **Improving accessibility:** Improving active and public transport can help increase the mobility of Australia's most vulnerable and marginalised groups, including older people, people living with a disability, people on low incomes and migrant communities. Transport accessibility is a socio-economic issue: wealthier people are able to live closer to the city, and therefore have access to greater transport options.²⁹ Those who would most benefit from the cost savings of not using a car, on the other hand, often have the lowest access to alternatives.
- › **Gaining public support - investment in public and active transport is backed by voters:** Better infrastructure for public and active transport has a huge impact on the day-to-day lives of suburban Australians. Since 2010, the University of Sydney's annual Transport Opinion Survey has found that investment in public transport infrastructure has been the highest priority transport issue for Australians - above road expenditure.³⁰ Although COVID-19 safety-related issues overtook public transport improvements in the most recent 2021 survey, public transport investment is still preferred over roads³¹ Investment in active and public transport by state and territory governments is politically popular and seen as an investment in the future.

POLICY RECOMMENDATIONS

To achieve emissions reduction targets, the Climate Council recommends state and territory governments take the following actions:

1. PLAN FOR ZERO-EMISSIONS PERSONAL TRANSPORT:

- › Establish mode shift targets for walking, cycling and public transport across all transport strategies.
- › Develop an ambitious and fit-for-purpose transport strategy that sets out infrastructure priorities into the future, underpinned by a target for zero emissions, fossil-fuel free transport sector by 2035, in line with the science.
- › Ensure that all cost-benefit analysis for transport infrastructure projects incorporates environmental and social impact components (such as greenhouse gas emissions locked in by the project).
- › Establish a working group to minimise embodied emissions in new infrastructure projects through deliberate procurement strategies.³²
- › Ensure that at least 50% of all transport infrastructure spending is directed to public and active transport, including at least 20% on active transport, as is recommended by the United Nations and has been legislated by Ireland.^{33, 34}
- › Collaborate with local governments to plan ahead for all major new and emerging suburbs on the urban fringe to be self-sufficient. This means ensuring essential services are localised to minimise the need for commuting to CBDs. Prioritise high quality, safe and accessible active and public transport infrastructure within suburbs and connecting to the CBD.

Immediate actions to get started:

- › Fast-track public and active transport infrastructure projects, as well as EV charging infrastructure.
- › Halt road transport development that would increase the vehicle kilometres travelled for petrol and diesel vehicles, and favour developments that will lead to a mode shift to active and electrified public transport.
- › Mandate climate and sustainability education programs in transport and infrastructure departments for relevant staff.

2. INVEST IN ACTIVE TRANSPORT:

- › Invest in more and higher quality bike infrastructure including wide, connected bike paths separated from motor vehicles and parked cars. Identify key parking and road space to be reallocated for active transport use.
- › Help people connect their trips by prioritising bike and walking routes within two kilometres of every train station, and every kilometre of bus and tram stops. Provide bicycle parking and end-of-ride facilities (covered and secure bike storage and lockers) at train stations. Wherever possible, introduce designated bike spaces on buses and trains.
- › Reduce the road speeds of residential areas to a default 40km/hr, and determine the appropriate application of 30 km/hr speed limits in CBDs, major activity areas, near schools and residential areas through conducting trials.
- › Invest in ensuring every state school is easily and safely accessible by foot, bike and public transport.
- › Ensure buses and trains facilitate active transport use by including bike racks.
- › Work with councils to ensure pedestrian and bike paths are fit-for-purpose and there is sufficient greenery and shade. This can be achieved by increasing 'green corridors.' Green corridors are interlinked cycle and walking paths running through a city that are rich in trees and plants, benefiting residents and wildlife.³⁵ While common in European cities, Australia has few dedicated green corridors; there is an opportunity for Australian states and territories to become a leader in this space.



Image 3: Electric bicycles have made active transport much more convenient, and have been shown to produce only a tenth the greenhouse gas emissions of electric cars.³⁶ E-bikes enable riders to overcome some barriers of conventional bikes, including distance, gradient and physical effort. This means e-bikes can be used by more social groups (including women, children, people over 40 and people in outer suburbs and regions that are typically motorised).³⁷



Image 4: Improved on-road safety is a key motivator to encourage more people to ride, including women and children. The 'Everyone from 8 to 80' principle means that cycling infrastructure should be designed for people of all backgrounds and ages.³⁸

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- › Increase uptake of e-bikes via an e-bike library scheme. If successful, the program could be broadened to include a no-interest loan scheme.
 - › Partner with councils to increase charging infrastructure and operate e-bike borrowing programs. Provide incentives to businesses to encourage the installation of end-of-trip facilities and charging for e-rideables.

Immediate actions to get started:

- › Collaborate with local governments to kick-start shovel-ready active transport projects including installing bike lanes, adding shade and greenery to transport corridors and bus stops, and improving crossing safety. This should include funding and collaboration on infrastructure shared between different tiers of government, such as ensuring bike lanes are connected despite moving between local and state managed roads.
- › Identify car-heavy routes for conversion to public and active transport, and set funding aside for a pilot scheme to test public and active transport on these routes.
- › Launch a new project focussed on making state schools and public transport hubs (like train stations) more accessible by foot and bike with a special emphasis on safety.
- › Pilot a program to increase uptake of e-rideables (whether through rebates, council support or loan program).



Image 5: Completed in 2021, the Singapore Green Corridor was a disused railway track transformed into a community space for people to walk, run or cycle. The 24km Green Corridor also serves as a transit route for goods, connecting Singapore to the rest of the Malay peninsula. The corridor also provides a home to 96 species, including sun skinks and white-throated kingfishers.³⁹

CANBERRANS ARE INCENTIVISED TO BUY E-BIKES

ACT residents can try an e-bike before they buy, thanks to the Canberra Electric Bike Library (supported by the ACT Government).⁴⁰ Within 12 months of launching, several hundred Canberrans had participated in the trial, with 82% indicating their intention to purchase an e-bike, and 37% buying one almost immediately after their loan period.⁴¹ Due to popular demand, the library service has been extended twelve

months, with e-bike hire times necessarily reduced from fourteen days to eight.⁴² Each e-bike prevents up to 50 kilometres of car trips a week per rider, demonstrating a simple and effective way the ACT can significantly reduce congestion, pollution and emissions.⁴³

Image 6: Canberran bus with bike storage.





Image 7 (left) and 8 (right): Reinforcing COVID-19 safety measures is likely to encourage people to jump back on public transport as they return to their workplace following the easing of restrictions.⁴⁴



3. BE A LEADER IN LOW-EMISSIONS PUBLIC TRANSPORT:

- › Complete a comprehensive review of existing public transport infrastructure and use to identify inefficiencies and key areas for growth. Use this research to invest in lengthening and connecting infrastructure where it is needed, updating outdated infrastructure and increasing the frequency and reliability of services.
- › Power the public transport network with 100% renewable energy as soon as possible, prioritising all metro trains and trams, and all new buses to run on renewable energy by 2025 (in line with Victoria's commitment) and the entire public transport network to be zero emissions by 2030.⁴⁶
- › Commit to transitioning the bus fleet to 100% electric by 2030. Electric buses not only reduce emissions and improve local air quality, but provide a smoother and quieter ride for patrons.



Image 9: Renewable energy is offsetting 200,000 tonnes of carbon emissions from the tram network, giving Melbournians a clean energy travel option as they return to public transport.⁴⁵



Image 10: Bike paths in Perth by Swan River, WA. Active transport infrastructure such as separated bike lanes and pedestrian paths encourages more people to walk and ride more frequently - leading to health benefits and fewer emissions.⁴⁷

- › Review existing bus routes with an aim to holistically update the system to serve the greatest number of people possible and increase the connectivity of routes.
- › Set aside adequate funding to ensure public transport adheres to the Disability Standards for Accessible Public Transport (DSAPT) as soon as possible. Although the standards have been operational since 2002, a number of pre-existing public transport services still fail to meet minimum accessibility requirements.⁴⁸
- › Run a communications campaign designed to increase public and active transport use, reinforcing COVID-19 safety precautions taken to address hesitancy.
- › When appropriate, increase off-peak services and consider incentives to increase public transport use outside of peak periods to reduce crowding.
- › Commission research into the viability of trackless trams where existing public transport infrastructure can't be extended appropriately.

Immediate actions to get started:

- › Commit to a fully-electric bus fleet by 2030, including adding additional services to the network.
- › Bring forward targets for powering public transport by 100% renewable energy.
- › Investigate how to increase public transport use in the wake of COVID-19.
- › Establish a program of ongoing consultation with people with disabilities and key disability advocacy groups to plan, implement and review the development of accessible public and active transport infrastructure.

A PUBLIC TRANSPORT ROUTE THAT SERVES PEOPLE: REIMAGINING THE NETWORK

In 2015, the city of Houston overhauled its public transport system in response to a 20% decline in ridership over four years.⁴⁹ Overnight, METRO's bespoke routes were replaced with a simple, grid-like transport map that captured more high-frequency journeys. Routes were simplified and a number of transfers were eliminated. With the newly established 22 bus routes and three light rail lines, a service arrives at every station in fifteen minutes intervals from 5am to 8pm. Less than ten months into the new network, METRO reported an additional 4.5 million trips across its local bus and light-rail networks - a 6.8% increase.⁵⁰ Over the next three years from July 2016 to July 2019, total METRO trips increased by 7.79%.^{51, 52} National press celebrated the redesign, setting Houston apart as a leader in innovative transit.⁵³

Image 11a: The original METRO network Image.



Image 11b: The redesigned map.



4. PHASE OUT INTERNAL COMBUSTION VEHICLES AND DRIVE UPTAKE OF EVS:

- › Consider policies or pricing which better reflects the cost of greenhouse gas pollution so that transport users bear the cost, or reap economic benefits based on emissions associated with their travel mode.
- › End government subsidies, incentives and support for fossil fuel use in the transport sector.
- › Reduce the space dedicated to car parking (preserving car parks for people living with a disability) by amending planning laws so that car park space for new developments is limited, reduce funding for public car parks and direct revenue from car park fares and fines towards active and public transport. Where off-street parking is required for multi and mix-use dwellings, ensure parking is built EV-charging ready.
- › Collaborate with local governments to resource the electrification of council car and truck fleets (ie. garbage trucks) serving to make neighbourhoods cleaner and quieter.
- › Ban the sale of cars with internal combustion vehicles by 2030, in line with similar commitments by the UK, Japan, France and as proposed by the EU.^{54, 55, 56, 57}
- › Increase the uptake of EVs through:⁵⁸
 - A target of 100% of state government vehicles to be EVs by 2030 or earlier.
 - A target of 100% of new car and rigid truck sales to be EVs by 2030.
 - Reduce the purchase price of EVs through targeted rebates for car owners and businesses including for the private sector to lease EVs to employees.
 - Mechanisms that reward users for off-peak charging and vehicle-to-grid (V2G) technology that enables EVs to act as batteries. This will allow EVs to optionally feed unused energy back into the grid, supporting supply during peak periods.⁵⁹ Subsidise businesses to install EV charging infrastructure so employees can charge during the day, when ample renewable energy is available.
 - Invest in additional public charging infrastructure, including in partnership with local governments.



Image 12: Our homes need to be ready for the shift to electric vehicles.

Immediate actions to get started

- › Ensure quality active infrastructure accompanies all new major transport projects.
- › Introduce rebates for EVs where they don't already exist to stimulate the early-adopter transition. Where rebates are already in place, investigate increasing their quantum.

TRANSFORMING CAR PARKS INTO VALUABLE ACTIVE TRANSPORT INFRASTRUCTURE

From 2005 to 2010, Seville expanded its share of separated bike paths from 12km to 120 km. With former parking lanes converted into bike paths, bicycle trips increased from 3.2% to 8.9%, public transport trips increased 4%, and private car trips reduced 11%.⁶⁰ Further, from 2006 to 2017, the percentage of female riders rose from 25% to 36%.⁶¹ Following the success of the paths, city planners continued extending the paths; the cycle route extends over 180km today.

Similarly, Paris more than doubled its number of bike trips between 2001 and 2007 as a result of a range of policies boosting active transport infrastructure including tripling the bike lane network and bike parking, designating car free zones, narrowing roadways and widening sidewalks, establishing six “civilized travel corridors” of restricted motor vehicle access.⁶²

Image 13: In 2014, Salt Lake City converted nine blocks of street parking into protected bike lanes along its historic downtown business corridor. The new bike lanes saw an 8.79% increase in local retail sales compared to the city-wide increase of 7%.⁶³



ON THE MOVE:

AUSTRALIAN STATES & TERRITORIES ARE GIVING ZERO EMISSIONS TRANSPORT THE GREEN LIGHT

There are fantastic opportunities for states and territories to replicate the sustainable transport initiatives being shown across the country:

NORTHERN TERRITORY



NT will offer reduced registration and stamp duty fees for EVs from-mid 2022, as well as develop grants for home, workplace and public EV chargers.⁷⁶

QUEENSLAND



QLD has invested \$7 billion in 65 new trains to be built in regional Queensland ahead of the 2032 Olympic Games.⁶⁴

NEW SOUTH WALES

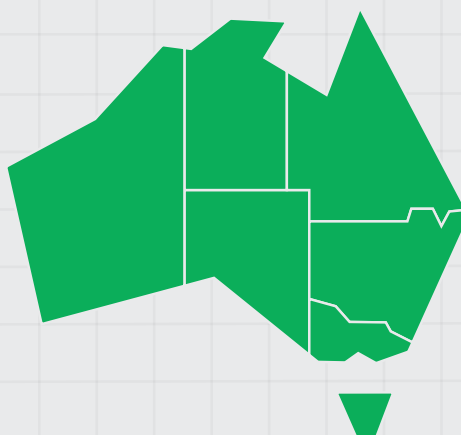


Greater Sydney's bus fleet will be transitioned to zero emission by 2035.⁶⁸ The NSW Government's recent \$500 million rail investment will ensure faster and more reliable services connecting Sydney, the Central Coast and Newcastle.⁶⁹

WESTERN AUSTRALIA



WA has allocated a record \$265 million for a new shared path along the eastern side of Mitchell Freeway, providing cyclists and pedestrians a safer, uninterrupted journey into the Perth CBD.⁷⁷



ACT



ACT has invested \$1.4 billion to extend its light rail and improve bike and footpaths,⁷³ and has set a target for all vehicle sales to be zero emissions by 2030.⁷⁴

SOUTH AUSTRALIA



SA has committed \$99 million for a train station refresh program⁷⁰ and \$12 million towards improving cycling infrastructure and north-south connectivity.⁷¹ SA will target EVs as the default choice for private passenger vehicles by 2035.⁷²

VICTORIA



VIC has committed to mode shifts for passenger and freight transport, with a goal of 25 per cent active travel mode share by 2030.⁶⁵ It is also aiming for all public bus purchases to be zero emissions from 2025,⁶⁶ and has committed \$1.85 billion towards 100 Next Generation Trams, supporting up to 1,900 jobs.⁶⁷

TASMANIA



TAS has pledged that its entire government fleet will be battery-electric, plug-in hybrid or hydrogen vehicles by 2030.⁷⁵

Figure 4

CHARGING AHEAD

It's time for Australian states and territories to be leaders in zero-emissions transport - or risk missing the bus on emissions reductions and economic outcomes for communities.



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The Climate Council acknowledges the Traditional Custodians of the lands on which we live, meet and work. We wish to pay our respects to Elders past, present and emerging and recognise the continuous connection of Aboriginal and Torres Strait Islander peoples to Country.

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