

Pre-Budget Submission: Decarbonising Australia's Transport System

January 2025

Introduction

The Australian Institute of Traffic Planning and Management Ltd (AITPM) is the national association for traffic and transport professionals. AITPM represents practitioners working across transport planning, transport and traffic engineering, transport modelling, active travel, travel demand management, and travel behaviour change.

With a transport community of more than 6,000 industry professionals, our members work at all levels of government, consultancy, private sector and academia. They are integral to shaping the nation's transport systems to be sustainable, efficient, safe, and accessible.

AITPM is committed to educating governments and the community on the role of successful transport systems in ensuring healthy and prosperous outcomes for Australians. Minimising transport's contribution to climate change is a primary concern for our members and key stakeholders.

To address this challenge, AITPM has published its policy paper, [The Path to Net Zero: Decarbonising Australia's Transport System](#), which outlines 22 recommendations to achieve net-zero emissions in transport, and the evidence behind these recommendations.

In this pre-budget submission, we highlight the top five priority actions the Australian Government should take in the 2024-25 Budget to accelerate transport decarbonisation and enhance national sustainability and prosperity.

AITPM Recommendations to the Australian Government

1. Adopt the 'Avoid, Shift, Improve' framework to decarbonise the transport sector.
2. Instigate an 'Australian Roads Review'.
3. Allocate twenty percent of the transport budget to active transport.
4. Use all levers to maximise mode shift from driving to public transport.
5. Consider first no-build and low-build solutions to reduce embodied carbon.

Why This Matters

The Australian Government has enshrined in law the target of Net Zero greenhouse gas emissions by 2050 and an interim 2030 emissions reduction target of 43 per cent below 2005 levels.

Carbon emissions from transport account for nearly 20 per cent of Australia's total, making transport the second largest-contributing sector after energy. Just under two-thirds of transport emissions come from the use of cars, utes and vans.

Unlike other sectors, Australian transport emissions have stubbornly continued to rise even as internal combustion engines have become cleaner. Australia's fleet of 20 million vehicles is among the oldest and most polluting of the world's advanced economies.

It is also super-sized, with the trend towards larger and heavier vehicles contributing to the persistence of high transport emissions. In 2011 SUVs made up less than one in four of new car sales in Australia. By 2023 this had risen nearly 59 per cent and passenger sedans plummeted to 16 per cent. Australia's imports and taxation system has done little to address this growth in vehicle size.

Australian per-capita transport emissions are more than three times G20 average. In order for Australia's transport sector to stay aligned with this legislated target, it will need to avoid emitting a total of 1,330 MtCO₂-e between 2025 and 2050.

To do this, we need to act fast, act decisively, and work across all aspects of the transport sector.

AITPM Priority Recommendations

Recommendation 1: Adopt the 'Avoid, Shift, Improve' framework to decarbonise the transport sector.

The Australian Government, in partnership with state, territory and local governments, should adopt an 'Avoid-Shift-Improve' approach to decarbonise the transport sector. Planning and decision-making, coordinated across all jurisdictions to maximise impact, should follow this order of priorities:

1. Minimise the need to travel, and enable people to travel shorter distances for their daily needs.
2. Give robust consideration to no-build and low-build solutions.
3. Invest in, and promote, the shift to more sustainable travel modes.
4. Roll out low and zero-carbon fuels and technologies across the private and commercial vehicle fleet.

Our reasoning: Even under the most optimistic Shift-Improve scenarios, Australia will still need to reduce its reliance on driving to meet our targets. Modelling by the Climateworks Centre shows that, by 2035, Australia will need to reduce passenger kilometres travelled by 10 per cent and freight-tonne kilometres travelled by five per cent.

Avoid–Shift–Improve is a useful framework to encompass the suite of actions needed to reduce Australia’s transport emissions. It spans initiatives to be taken within different timeframes, under three categories:

- *Smarter land use and transport planning (such as compact, mixed use urban development) enables people to avoid the need to travel, as well as shortening their trips and reducing the distance that freight needs to be transported. Additionally, it avoids the need to build significantly more roads.*
- *When travel is required, the focus should be on enabling Australians to shift their transport mode of choice away from driving and towards sustainable public and active transport.*
- *We must concurrently improve the efficiency of vehicles – mainly through electrification of the fleet – and reduce the carbon emissions associated with the infrastructure that they use. Meeting this objective will require a mix of different interventions.*

Recommendation 2: Instigate an 'Australian Roads Review'.

The Australian Government should:

- Establish a national carbon budget for the transport sector and measure the extent to which proposed projects will reduce the remaining budget as well as their value for money compared to alternative transport investments.
- Develop a target-based framework to guide transport decarbonisation, with specific, time-based targets for mode shift and vehicle kilometres travelled (VKT) reductions.
- Ensure a consistent approach to transport decarbonisation through standardised policy, guidance, and appraisal methodologies covering the whole emissions life cycle, including user emissions and uses a consistent set of emissions factors.
- Instigate a review of the Australian Government’s investment in road projects, leveraging the recent [Independent Strategic Review](#) and factoring the new legislated carbon reduction targets.

In doing so, the Australian Government should lead other levels of government, and involve the broader community, in developing a target-based framework to guide the decarbonisation of transport. This framework should:

- Be founded on a science-based carbon budget
- Set specific, time-based targets for the implementation of actions, and the measurement and achievement of outcomes
- Among these, set targets for mode shift and reductions in VKT (both total and per capita)
- Specify monitoring mechanisms and periodic reporting

Our reasoning: The scale of road building in Australia is large by global standards. Over the next five years, the Australian Government has budgeted nearly \$100 billion on roads, an average of \$714 per person. Likewise, in 2022-23 the capital expenditure by Transport for NSW totalled \$21.3 billion, or \$2,608 for each person in the state. Victoria, Queensland and Western Australia also continue to invest heavily in road building even in urban areas.

In contrast, Transport for London's capital budget was equivalent to about \$393 per person.

Road building is a carbon-intensive activity in itself, and by enabling rates of private motoring to continue or even increase, road building at the level seen in Australia generates carbon emissions incompatible with Australia's legislated reduction targets. It reveals governments to be missing the opportunity of a more balanced approach that could deliver a range of sustainable transport choices, from intercity high-speed rail to the integration of first and last-mile public and active transport networks.

Australian jurisdictions should follow the example of Wales, which reviewed its entire proposed road-building program in 2023 and concluded that most major road schemes in the pipeline were incompatible with national policies for decarbonisation and the wellbeing of future generations. This review highlighted that many projects had failed to establish a robust business case or demonstrate value for money. As a result, many previously proposed Welsh road projects have been cancelled or modified, with associated funding reallocated to active and public transport.

By diverting investment away from major road-building and road-widening works, we can avoid the need for carbon-intensive infrastructure building, and instead focus on sustainable transport and 'sweating' our road assets.

Recommendation 3: Allocate twenty percent of the transport budget to active transport.

The Australian Governments should allocate at least 20% of its transport budget to walking and cycling infrastructure, in line with world's best practice.

In its national land transport funding to state and local governments, the Australian Government should ensure that the planning, funding, delivery and maintenance of active transport infrastructure is prioritised in accordance with these outcomes:

- Improved access to public transport and key destinations
- Footpath and cycling networks that are safe, direct, connected, comfortable to use,
- attractive and adaptable to change
- Facilities that are fully separated from high-speed and high-volume traffic
- Extensive bicycle parking and shared mobility facilities.

Our reasoning: The previous Labor Government, under Anthony Albanese as the then Transport Minister, released the first ever national active transport policy titled [Walking, Riding and Access to Public Transport](#) which gave the evidence for the Australian Government to

invest more heavily in active transport. The primary reason was that 75% of the economic benefits of active transport are in health, the cost of which falls mostly on the national health system.

The Australian Infrastructure Priority List includes Cycling Superhighway network plans for the four largest capital cities (Sydney, Melbourne, Brisbane and Perth) yet these have not yet been funded. A larger budget allocation would ensure these are delivered for Australia's most congested cities, while helping with transport affordability and access.

Walking is particularly overlooked as a mode of transport, and passed on to local governments to fund, deliver and maintain without adequate resourcing. In order for walking and cycling infrastructure to be easily used by people of all ages and abilities, it needs to be safe, fully connected, direct, attractive, and comfortable.

Electric-assisted micromobility (such as e-bikes, cargo bikes and e-scooters), as well as share bikes, is proving to be a game-changer for personal travel and last-mile goods delivery.

Governments in many nations, from Ireland to the Netherlands and Sweden, invest up to 20 per cent of their transport budgets in walking and cycling, while in Australia investment sits around one per cent or less across most jurisdictions. This under-investment is resulting in significantly constrained levels of walking and cycling in our urban areas, with consequences for emissions, health, equity and basic accessibility.

Recommendation 4: Use all levers to maximise mode shift from driving to public transport.

The Australian Government, in partnership with other levels of government, should use all levers at their disposal to enable maximum mode shift from driving to public transport, including through:

- Growing public transport services faster than road networks
- Reducing the overall costs of public transport use compared to driving, for urban trips of different lengths
- Improving public transport travel times and ease of use relative to car travel.

Our reasoning: The current 5-year land transport budget for the Australian Government allocates 24.8% of total investment to rail projects, with the remaining 75% for roads.

This is in contrast with many cities globally that aim to ensure that public transport capital works and services keep up with population growth. In China and India, investment programs are developing metros, mass transit systems and active mobility infrastructure in all main metropolitan areas as a matter of urgency. Likewise, in Indonesia and Singapore new housing developments are planned to integrate with light rail, bus rapid transit and metro.

Complementing these capital investments are incentives such as making the cost of public transport travel lower than car use and ensuring that the frequency and quality of services out-compete driving.

This is often not the case in Australia, with public transport services lacking flexibility due to long-standing contractual obligations, and a lack of investment in capital works and services in comparison with road infrastructure investment. In many locations, particularly outer metropolitan locations and regional towns, public transport is largely absent, and unlikely to be sustainable in the future.

Recommendation 5: Consider first no-build and low-build solutions to reduce embodied carbon.

The Australian, state and territory governments should address the significant embodied carbon cost associated with transport infrastructure, particularly road building, and transparently confront the decarbonisation challenge, including by:

- Consistently challenging the need to build new transport infrastructure
- Instead, looking to low-build and no-build solutions that optimise the use of existing assets
- Adopting the Infrastructure Sustainability Council's infrastructure sustainability ratings scheme for all major transport projects
- Providing funding and other resources to support research into ways of reducing embodied emissions.
- Support research into ways of reducing embodied emissions in transport infrastructure.

Our reasoning: A 2023 analysis by the Institution of Structural Engineers on materials decarbonisation found a significant gap between the decarbonisation trajectories for key materials – including steel and concrete – and the trajectories required to achieve Net Zero by 2050.

In the case of road building, carbon savings of approximately 10 per cent are possible through more efficient design while a further saving of this order is possible through the use of new technology and lower-carbon concrete and other construction materials. Additionally, resheeting existing roads may provide the opportunity for the use of innovative lower-carbon pavement.

This could be particularly beneficial where pavement maintenance is undertaken in preference to building new infrastructure. Overall, a carbon saving of around 20 per cent compared to 'business as usual' is theoretically achievable before significant additional costs begin to be incurred.

However, even if all roads were being constructed in Australia using these best-practice methods – and they most certainly are not at present – a 20 per cent reduction in embodied carbon does not come close to the required Net Zero pathway. It is therefore not surprising that IStructE's Hierarchy of Net Zero Design emphasises that 'using less stuff, (i.e., 'reduce') is the first recourse if we are to achieve the recommended IPCC emissions reduction trajectory.

This principle does not just relate to more efficient design; according to the IStructE hierarchy, the first question that should be asked by a structural engineer is: 'Is construction the answer?'

This approach is consistent with PAS2080 – the world’s first specification for managing whole-life carbon in infrastructure.

In road building, as in most sectors, we cannot rely on technological innovation to bring emissions down at the rate required. We must challenge the need to build in the first place.

By ‘sweating the assets’ and diverting investment from major road-building projects to sustainable transport solutions, Australia can achieve its legislated emissions reduction targets while enhancing mobility, reducing congestion, and lowering household transport costs.

Transport professionals strive every day to shape safe, sustainable, and liveable communities by championing integrated, forward-thinking transport solutions to influence and shape cities and regions as they grow into great places to live, work and play. As the leading national body representing these professionals, we stand ready to assist the Australian Government through the recommendations outlined herein.

Regards,



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AITPM

ATTACHMENT

AITPM Decarbonisation Policy Issues Paper _FINALv2_ Dec2024