Submission No 12

EMISSION FREE MODES OF PUBLIC TRANSPORT

Organisation: Climateworks Centre

Date Received: 4 July 2022

Climateworks CENTRE

Level 27, 35 Collins St,
Melbourne VIC 3000

[redacted]

[redacted]

climateworkscentre.org

Tim James MP
Committee Chair
NSW Legislative Assembly
Committee on Transport & Infrastructure
Parliament House, Macquarie Street
SYDNEY NSW 2000

Submitted online: www.parliament.nsw.gov.au/committees/inquiries/

4 July 2022

Dear Mr James,

RE: Inquiry into Emission Free Modes of Public Transport

Climateworks Centre welcomes the opportunity to provide input to NSW's Inquiry into Emission Free Modes of Public Transport and strongly supports the Committee's comprehensive approach to preparing NSW transport for a decarbonised future. Climateworks Centre develops expert, independent advice to assist the transition to net zero emissions for Australia, South-east Asia and the Pacific. A non-profit organisation, it was co-founded in 2009 by The Myer Foundation and Monash University and works within Monash Sustainable Development Institute.

We are now in the decisive decade for limiting global temperature rise to 1.5°C and transport has a key role to play. Transport is the fastest growing source of greenhouse gas emissions in Australia and is the second largest source of emissions in NSW. Despite the recent focus on private electric vehicles (EVs), public transport represents a critical service for millions of NSW residents whose daily commute, intercity trips and overall quality of life depend on the NSW Government's transport services and policies.

NSW is undertaking lead work in creating forward-thinking, ambitious opportunities to decarbonise its transport system as part of its broader investment in the green economy. To capitalise on this, Climateworks Centre has drawn on our decade of climate expertise, in-house modelling and international best practice to offer the Committee the following four recommendations.

1. Comprehensive fleet replacement targets

Change happens fastest with momentum. Governments are instrumental in building this momentum through strong public commitments and clear market signals that give investors, manufacturers and operators assurance about the future. When governments set a clear direction, this provides a signal to business for investment, creates new markets and boosts sectoral innovation.

The NSW Government has already demonstrated the effectiveness of setting strong fleet replacement targets through its Zero Emission Bus Transition Strategy. Climateworks recommends extending this approach by **nominating ambitious fleet replacement targets for all transport modes**. Strong targets would include:

- specific phase-out dates for new purchases of fossil-fuelled public transit vehicles (including hybrid vehicles); and
- deadlines for a 100% transition to a fully emission free public transport fleet.

Different targets would be tailored to different public transport modes, to account for the technological maturity of alternatives, import/manufacturing capacity and include consideration of the speed of deployment. We recommend commissioning mode-specific assessments to evaluate the transitional potential of NSW's rail, taxi and ferry services through case-by-case analyses. For example, while the NSW Government's plan to roll out diesel-electric passenger trains from 2023 will deliver cuts relative to existing rolling stock, care should be taken not to preclude a further transition to 100 percent emission rolling stock in the near term.

Modal replacement targets would mirror international best practice. California, for example, has nominated 2026 for a phase out of its fossil-fueled ferry services. The UK has similarly committed to sectoral pathways with a national rail strategy prioritising electrification and a phase out target for diesel-powered rolling stock by 2040.

NSW has already demonstrated leadership in Australia in setting targets for zero-emission buses. The Committee can now capitalise on this momentum with mode-specific fleet transition targets for the rest of NSW's public transport services.

2. Time is Ticking

NSW stands to gain from strong investment in the green economy and the Committee is right to investigate the shift to zero-emission public transport. Time is of the essence, however. Meeting NSW's target of a 50% emissions cut by 2030 requires decisive action that leverages the abatement technologies available now and front-loading ambition in the coming 1-3 years.

Uncertainty in the rollout between electric, hydrogen or alternatively-powered vehicles exists, although a large-scale shift to emission-free public transport is possible now with technologies that are known and already available, while some further investigation is needed to lock in all fit-for-purpose technologies. The shift towards emission free modes of public transport should focus on mature solutions that can be scaled up in the next 1-3 years.

Climateworks supports green manufacturing for Australia, acknowledging that it takes time to establish the necessary workforce, supply chains and technical capabilities (e.g. to build emission free public transport vehicles). Identifying the package of support needed to help the domestic industry to scale manufacturing will not only help NSW but also other jurisdictions to meet their net zero public transport targets. In parallel, it may be prudent to investigate import opportunities to fill some short-term gaps, while domestic manufacturing scales. Every year that fossil-fuel based transit vehicles remain in service not only increases NSW's cumulative GHG emissions but escalates the burden of change required in all subsequent years.

We recommend the Committee factors in deployment time and deliverability as a priority consideration in assessing submissions to this Inquiry.

3. Mode shift and demand management as well as switching energy and technology provides the optimal pathway

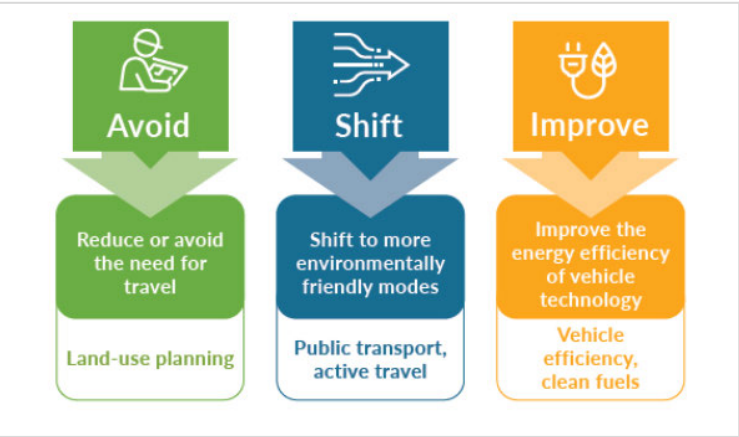
Making all buses, rolling stock and ferries emission free is a critical part in the shift to net zero; however public transport has a larger role to play in ensuring NSW meets its net zero goals. Mode shift to public transport and active transport provide an immediate option to shift to lower emissions transport, ahead of the transition to EVs. Even when NSW reaches its current goal of 50% of new car sales being EVs, the majority of the total vehicle fleet on the road will still be internal combustion engine vehicles. Public transport provides opportunities to reduce emissions now and throughout the transition, and it does so in a way that improves the overall operation of the transport network.

EVs are cheap to run and run the risk of encouraging more and longer trips by car. This could be compounded by a growing transport task that favours using private transport. Public transport can play a critical role ensuring the transition to EVs does not result in gridlock by doing more of the heavy lifting to service the growing transport task - both by providing lowest emission transport as well as an efficient transport moving people around which reduces congestion.

The transport task has been increasing nationally. With population growth averaging 85,000 new residents every year to 2041, NSW is no exception. Greater levels of investment are already needed to service growth in Australia's public transport networks and to provide transport options and accessibility. In Greater Sydney, less than 10 percent of statistical areas have 'moderate' or 'good' access to public transport; addressing this gap will also help to reduce emissions long term.

Climateworks' analysis shows that the fastest pathway to achieving net zero emissions requires large-scale shifts in the way people travel around the state and proactive policies to encourage mode shift and reduce travel demand. Every percentage increase in modal shift (from high-emission private transport to lowest-emission public transport options) or reduction in travel through demand management, decreases the net zero transition burden for the transport system overall. Without this, even more is needed to transition fossil-fuel fleets and more quickly.

The pandemic shift towards teleworking, 15-min city strategies, Transport Oriented Development and an overhaul of land-use planning frameworks will all play a role. Structural changes, such as the *Metropolis of Three Cities* blueprint, represent the scale of ambition that should be on the table. **Climateworks recommends the Committee considers the "Avoid-Shift-Improve" hierarchy** as a central principle, whereby fuel switching and technological improvements ('Improve') is the third focus area, alongside first seeking to tackle transport emissions through reducing transport demand ('Avoid') and shift to lowest emissions modes ('Shift'), as these first two options reduce total lifecycle emissions and have great efficiency benefits for the transport system overall.



Source: Government of Ireland, National Sustainable Mobility Policy, April 2022

Climate change is a structural issue that requires us to rethink our transport network. The Committee is uniquely placed to situate this public transport inquiry within a broader framework of restructuring transport demand.

4. Sharing the Transport Challenge

Responding to the challenge of climate change requires out-of-the-box thinking. To deliver the shifts required, solutions that go beyond public transport and electric vehicles will be required. Sharing vehicles - be they cars, motorbikes, e-scooters or bicycles - has the potential to contribute to a new type of mode-shift that a net zero pathway demands. A shared mobility approach underpins a net zero pathway by providing access to lower emissions modes earlier (e.g. replacing an internal combustion engine trip with an electric bike trip) but also by reducing total emissions, including embodied emissions in the manufacturing and lifecycle of a vehicle, by many people using the one car share EV rather than buying many privately owned EVs.

NSW has already recognised the benefits of electrifying shared car fleets. Climateworks recommends **that the NSW Government investigate shared mobility services that complement its existing public transport offering**, with an early focus on carsharing services. With a carefully designed approach, a private carshare operator/s could facilitate the rollout of charging infrastructure and target underserved parts of the existing transport network. In outer-suburban areas in particular, the impact could help to shift travel patterns and would provide a feasible option for many motorists to access zero-emission vehicles in the medium term.

Where shared mobility services are the purview of local/municipal governments (e.g. e-scooters or bike-sharing), the NSW Government could **provide detailed guidance on best-practice regulatory, contractual and data-processing requirements** from the wealth of international examples available.

The global explosion in shared mobility and micromobility service can make an important contribution to the step-change required to reshape transport in NSW and in so doing, reduce both emissions and the demands on the network.

The above recommendations form part of Climateworks' ongoing analysis to provide a credible pathway for achieving net zero emissions in Australian transport. This work centres on comprehensive modelling of all modal emissions, setting the ambition of 1.5°C-aligned abatement trajectories and evaluation of the suite of policy interventions needed to get us there. We would welcome any opportunity to brief the Committee further on the implications for transport in NSW.

On behalf of Climateworks Centre, we thank you for this opportunity to contribute to the Committee's Inquiry into Emission Free Modes of Public Transport. Please do not hesitate to contact us if you would like further information on any aspect of this submission.

Kind regards,

Helen Rowe
Transport Program Impact Lead