Transport and Infrastructure Net Zero Consultation Roadmap

Take the survey

Department of Climate Change, Energy, Environment and Water

Response received at:
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Yes

2 Please indicate how and if you want your submission published.
Public

3 Published name
John Morandini

4 Confirm that you have read and understand this declaration.
Yes

5 First name
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9 Who are you answering on behalf of?

Individual or individuals

10 Organisation name

Not answered

11 What best describes you or your organisation?

Not answered

12 What sector do you represent?

Not answered

13 What state or territory do you live in?

New South Wales

14 Postcode

2227

15 What area best describes where you live?

City

16 1. Do you support the proposed guiding principles?

Yes

17 1.1 Please add details to your response.

Not answered

18 2. Do you support the use of the avoid-shift-improve framework as a tool to identify opportunities for abatement?

Yes

19 2.1 Please add details to your response.

Not answered

20 3. Do you agree the development of a national policy framework for active and public transport will support emissions reduction?

Yes

21 3.1 Please add details to your response.

Not answered

22 4. What should be included in a national policy framework for active and public transport and how should it be developed?

See my submission

23 5. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the movement of people contributes to transport emissions reduction?

See my submission

24 6.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure that the movement of goods contributes to transport emissions reduction?

Not answered

25 6.2. How would these actions address the identified challenges and opportunities for emissions reduction in the movement of goods?

Not answered

26 7. Do you agree with the proposed net zero pathway for light road vehicles?

Yes

27 7.1 Please add details to your response.

Not answered

28 8. The Australian Government is currently developing an Australian New Vehicle Efficiency Standard and has already begun to implement actions in the National Electric Vehicle Strategy.8.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce light vehicle emissions?

Not answered

29 8.2 How would these actions address the identified challenges and opportunities to reduce light vehicle emissions?

Not answered

30 9. Do you agree with the proposed net zero pathway for heavy road vehicles?

Yes

31 9.1 Please add details to your response

My submission highlights opportunities for a major upscaling of the bus sector.

32 10. The proposed pathway for heavy road vehicles relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels.Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.

Not answered

33 10.1 Please add details to your response. Why did you rank them in that order?

Not answered

34 11. What role should low carbon liquid fuels play in the heavy vehicle

decarbonisation?

Not answered

35 12. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce heavy vehicle emissions?

Not answered

36 13. Do you agree with the proposed net zero pathway for rail?

Not answered

37 13.1 Please add details to your response.

Not answered

38 14. The proposed pathway for rail relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels.Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.

Not answered

39 14.1 Please add details to your response. Why did you rank them in that order?

Not answered

40 15. What role should low carbon liquid fuels play in rail decarbonisation?

Not answered

41 16. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce rail emissions?

Not answered

42 16.1 How would these actions address the identified challenges and

opportunities to reduce rail emissions?

Not answered

43 17. Do you agree with the proposed net zero pathway for maritime?

Not answered

44 17.1 Please add details to your response.

Not answered

45 18. The Australian Government is engaging in consultation as part of the development of the Maritime Emissions Reduction National Action Plan and those consultations will also inform the final Roadmap and Action Plan. 18.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce maritime emissions?

Not answered

46 18.2 How would these actions address the identified challenges and opportunities to reduce maritime emissions?

Not answered

47 19. Do you agree with the proposed net zero pathway for aviation?

Yes

48 19.1 Please add details to your response.

My submission identifies opportunities to improve the capacity and affordability of regional aviation services.

49 20. The Australian Government has already engaged in consultation on aviation decarbonisation through the development of the Aviation White Paper and those consultations will also inform final Roadmap and Action Plan.

Not answered

50 20.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce aviation emissions?

Not answered

51 21. Do you agree with the proposed net zero pathway for transport infrastructure?

No

52 21.1 Please add details to your response.

My submission identifies opportunities to mitigate transport issues largely through operational strategies, with less emphasis on new infrastructure as the preferred strategy.

53 22. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce transport infrastructure emissions and ensure that transport infrastructure is ready for and enables low-emission transport modes?

Road productivity of the existing road infrastructure needs to be at the core of actions taken, as explained in my submission.

54 22.1 How would these actions address the identified challenges and opportunities to reduce transport infrastructure emissions?

If the productivity of the existing road network is improved, that can reduce emissions through higher capacity, e.g., more people movements on existing roads mitigating the need to build so much new infrastructure, as explained in my submission.

55 23. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the energy mix is ready to support transport emissions reduction?

Not answered

56 24. How should the use of low carbon liquid fuels (LCLFs) be prioritised

across different transport modes over time to achieve maximum abatement?

Not answered

57 25. What are the best ways for the Australian Government to work collaboratively with industry, business, governments and communities to implement the proposed pathways?

Not answered

58 25.1 What are good domestic or international examples of partnership and collaboration on transport and transport infrastructure emissions reduction that could inform the final Roadmap and Action Plan?

Not answered

59 25.2 What opportunities can Government leverage to show leadership in Australia and internationally?

See my submission.

60 26. What measures and metrics should be used to evaluate the final Transport and Infrastructure Net Zero Roadmap and Action Plan?

Not answered

61 26.1 What other data and evidence could governments use and how could this offer further insights on the pace, scale and location of transport emissions reduction pathways?

Not answered

62 27. Do you have any feedback on the proposed review process?

Not answered

63 28. Do you have any further feedback on the Consultation Roadmap and proposed pathways?

Not answered

64 28.1 Is there anything missing? Are the sections appropriately integrated? Is the Roadmap appropriately ambitious?

Not answered

65 29. Is there any further information or documentation that you wish to be considered with your submission?

Yes, see my submission.

66 Would you like to upload a document?

Yes

67 Have you removed any identifying information from your submission?

Yes

68 Upload a submission

2024AustGovDITRDCA_NetZeroConsult_jm.a26a2ff1_Redacted.pdf

69 Upload a submission

Not answered

70 Upload supporting file

Not answered

71 Upload supporting file

Not answered

Transport and Infrastructure Net Zero Consultation Roadmap

Australian Government Dept of Infrastructure, Transport, Regional Development, Communications and the Arts

Submission by [redacted], 18 July 2024

I refer to routinely overlooked ideas that can contribute much to the Net Zero Roadmap.

Roads are by far the biggest component of transport infrastructure and cater for the lion's share of travel demand within Australia.

The uptake of low or zero emissions vehicles is on the rise, while other road operation ideas can further support that transition and improve transport and infrastructure plans, policies and priorities more generally.

My submission focusses on New South Wales as a case in point and explains how relatively simple changes to road operations can address issues of car dependence, traffic congestion, public transport shortfalls and value for money questions.

All these issues have a bearing on transport and infrastructure related emissions.

City size and city-building dynamics are also influential, and this raises further ideas.

I have advocated similarly in public, government, industry and academic contexts, and after a career in NSW agencies (working on infrastructure related policy, planning and operations, including for the year-2000 Sydney Olympic roads and transport arrangements, and on the operation and regulation of regional aviation services).

I am happy to answer any questions arising.

Yours sincerely,

[redacted]
[redacted]

OVERVIEW

Far more people travel by car than by any other means of transport, across NSW in general and within Sydney too.

Sydney suffers seriously from ever-rising traffic congestion, a product of project selection decision-making and cities policies that fuel Sydney's growth without enabling enough car-alternative transport.

Worldwide, travel delays per person are lower in smaller than in larger cities. Delays are also lower in cities with more public transport services than in cities of similar size with less public transport.

So, Sydney and NSW as a whole stand to gain by:

1. Boosting public transport widely across Sydney, sooner rather than later, by operating road systems more productively with comprehensively expanded net-zero bus fleets and services, and fortifying the transition to zero or low emitting vehicles; and

2. Shifting growth more to other NSW towns and cities, by giving a high priority to net-zero transport and infrastructure development for those places, to stimulate their growth and take some of the pressure off Sydney.

Achieving the changes would see an unprecedented turn for the better.

Change processes would need to address related challenges including the development of local bus sector capacity, and funding, which would bring prevailing infrastructure priorities and associated evaluation and project selection arrangements into consideration.

BOOSTING SYDNEY'S PUBLIC TRANSPORT WIDELY AND QUICKLY

People are open to using public transport more but require better service levels to reduce car dependence. That is a basic, yet largely unfulfilled need, which can be addressed.

Giving top priority to major capital-city infrastructure (as we do) means other critical needs become secondary by default, because public funding only goes so far. A better bus network approach would enable public funding to go further and be more proportionately allocated.

Bus services upgrades and walking and cycling get less attention, less priority and much less funding than the major infrastructure programs, and the potential for buses to provide whole-of-city road and transport solutions remains largely untapped.

Buses account for less than 1% of all road-vehicle-kilometres travelled in greater Sydney.

That is a telling fact and a game changing opportunity to rapidly expand public transport services enough to trigger a traffic-shrinking effect, saving road space, uplifting road productivity, lowering traffic congestion, enabling many people to leave their cars behind more often, and reducing emissions.

The 2000 Olympics demonstrated what major bus upgrades can do across greater Sydney.

Albeit short-lived, Sydney got the best out of its existing road and transport infrastructure. Around 5,000 extra buses were hired from outside Sydney, more than doubling Sydney's bus fleet, widely boosting public transport, and helping to (dramatically) reduce traffic congestion while more people than ever before travelled across Sydney during that time.

Many questioned "Please, can this be done all the time?" It wasn't, but the point is any city can permanently replicate the traffic-shrinking effect by design, and upscale public transport capacity, with a better bus network, by comprehensively increasing bus fleets, and then:

- Raising service levels on existing bus routes; and
- Providing high-frequency (10-minute) bus services to all business districts, other activity centres, busy corridors, and residential areas; and
- Overlaying cross-city bus routes (crisscrossing the whole urban area, using the main-road system), with limited-stops, high-frequency, and interconnected services.

The traffic shrinking effect is the key to success, freeing up traffic flows, enabling the buses to run on existing roads and avoiding major infrastructure works.

Cross-Sydney buses would create an easy-to-understand express bus network and a widely available alternative to using cars so much. They would bring good public transport to all areas including lower density suburbs and complement Sydney's rail service network which is largely CBD centric.

An existing B-Line Bus route (Mona Vale-Sydney CBD) already operates and is a model for other cross-Sydney bus routes (noting the Council for the City of Sydney's wants the B-Line route to be extended out of the City, to improve cross-Sydney connectivity and reduce road safety risk, around having buses terminating, turning and manoeuvring in the CBD, when simply stopping in and transiting through the CBD can further improve the B-Line services).

Separately, the NSW Government's Bus Industry Taskforce in its February 2024 report highlighted bus-system shortfalls and proposed 40 new rapid bus corridors, 80 frequent all-day services and 1000 improvements to local feeder services. Of these, the Taskforce suggested that 10 rapid and 27 frequent routes can proceed in the short to medium term.

All these ideas compel further development and assessment as a matter of priority.

Largescale better bus service improvements would not only mitigate the perceived urgency for so much new road and transport infrastructure, but also invigorate the bus sector, including local bus manufacturing, operations, and maintenance.

New bus-stops and bus-stopping bays can be built off-lane where practical and affordable, to keep through-traffic flowing past the bus-stops. New or expanded bus depots would be required. New buses powered by net-zero fuels would contribute to making the road system more sustainable, as would more walking and cycling.

This would optimise road productivity, get the most out of the road system first and provide surer ways of easing traffic congestion as quickly as possible.

It is plainly doable and a positive pathway to sustainability.

Sydney could take its 2000 Olympic transport success into the realm of a more liveable city, all the time, and turn its unenviable position on traffic around. Other cities can do likewise.

DYNAMICS OF CITIES, GROWTH, INFRASTRUCTURE AND OPERATIONS

Globally, as reported by the Organisation for Economic Co-operation and Development, large cities with 1.5 million or more inhabitants typically generate proportionally more economic output (Gross Domestic Product per person) than their nations as a whole.

Yet OECD cautions that when cities grow to megacity proportions, size threatens their economic advantage. Usually, bigger means richer until a certain threshold, suggested by OECD at around a population of 7 million.

Traffic congestion is identified as one of the principal negative consequences.

The World Economic Forum advises it is up to cities to mitigate their negative effects, indicating (among other things) that governing authorities need to solve chronic problems like congestion and the unmitigated growth of very large cities.

By international comparison, Australia is highly urbanised (urban population as a proportion of total population). We also reside proportionally much more in large (1.5 million or more) than in medium (0.5-1.5 million) or small (0.1-0.5 million) sized cities, by comparisons across cities in the U.S., the U.K., Germany, Switzerland and in most other nations.

Our largest cities, the greater urban areas of Sydney, Melbourne and Brisbane, are on course to become megacities unless their growth rates are mitigated.

Of all the travel by people across Australia (in person-kilometres travelled), around 64% is by car, 17% by airline, 4% bus, 3% rail and 12% other modes, including walk, cycle and ferry.

For travel within towns and cities, including greater Sydney, the car share is much higher than the 64% statistic above (due partly to air travel not counting).

By contrast, public transport dominates in and around Sydney's CBD.

Cross-city travel on tolled motorways has become extraordinarily costly, as have taxpayer funded projects to expand road and transport infrastructure networks.

Current cities policies assume higher density development along the main transport corridors, mainly railways, will help to solve traffic and other issues in Sydney. However, that still leaves most Sydney residents, who live in less dense areas, highly car dependent.

And high-density dwellers remain largely car dependent too when accessing many destinations across greater Sydney, which will add to traffic congestion, both in higher density and lower density areas. Clearly, this policy will only work if good public transport reaches all parts of the metropolis, and a better bus approach can meet that need.

With the pandemic came higher than normal car share and lower public transport share. Working from home, online shopping and other factors altered travel patterns and raised questions about the prevailing capital-city centric focus.

Other than Sydney, all NSW cities are small to very small by international comparison. And in Sydney, massive infrastructure projects continue to be rolled out, including motorways, a new airport (Western Sydney International), light-rail lines and railways (one metro project now nearing completion from Sydney's north-west to the inner south-west via the CBD is reported to cost taxpayers $21 billion, for that one railway line).

Through country NSW, the Hume Highway (Sydney-Melbourne) and Pacific Highway (Sydney-Brisbane) are substantially upgraded after many decades of staged reconstruction.

Other long-term road upgrading endeavours, including the Great Western Highway (Sydney-Bathurst) and the Princes Highway (Sydney-NSW far south coast) are under way.

So too is the inland rail line, to create a new rail-freight corridor serving South-Eastern Australia (Melbourne-Brisbane via Parkes). Construction is progressing, despite difficulties including massive cost blowouts.

However, the modernisation of the four main railway lines out of Sydney (which encounter mountainous terrain, outdated track alignments, and slow speeds), remains uncertain due to the enormous funding commitments required.

Still, Australia's policymaking processes persist with the Melbourne-Sydney-Brisbane high-speed rail concept, when improving our overall regional air, road and rail connections first is arguably deserving of priority in the national interest.

REGIONAL AVIATION

More than twenty NSW towns and cities have daily air transport links with Sydney, nearly all serviced by commercial operators using predominately turbo-propellor aircraft fleets.

A small number of those routes are serviced by larger domestic jet aircraft. Some NSW cities also have interstate flights, in an evolving market.

As a rule, lower air fares are available on the domestic jet services due to economies of scale attributed to operating larger rather than smaller aircraft.

So, higher-volume regional aviation routes that are currently serviced by smaller turbo-propeller aircraft would likely be better off if larger jet aircraft operated instead.

In most of those cases this would require airport runway and terminal facilities upgrading, if not possibly relocating and rebuilding the airport in one or two cases.

Even so, jet services are likely to be a relatively expedient means of stimulating connectivity and growth for NSW regional cities, recognising that modernising regional, rural and remote area roads and railways will take much longer and require much more funding than bringing selected regional airports up to jet service standards.

Expanding regional aviation services would also be an important nation building step, with better air links for regional, rural and remote areas, including improved access to the very high-volume services connecting capital cities.

And it is in step with Australia's endeavours towards Net Zero aviation services, as that work is focussed on domestic (shorter haul) routes, which hold greater prospects for early success than do international routes.