



Ms Jo Hutchinson
A/g Assistant Secretary
Cities and Suburbs Unit
Department of Infrastructure, Transport, Regional Development, Communications and the Arts

4 July 2024

Dear Ms Hutchinson,

National Urban Policy consultation

Engineers Australia and the Institute of Public Works Engineering Australasia (IPWEA) congratulates the Australian Government on the release of the National Urban Policy consultation draft. It is vital that we continue to invest in our communities, and we support the approach of the National Urban Policy in planning for the right balance of future infrastructure.

A mission-based, not-for-profit professional association, Engineers Australia is constituted by Royal Charter to advance the science and practice of engineering for the benefit of the community. As Australia's national body for engineering, we are the voice and champion of around 127,000 members. We back today's problem-solvers, so they can shape a better tomorrow. This submission is made in collaboration with the Transport Australia society (TAs). TAs is a technical society for transport professionals in Australia. It focusses on key transport decisions affecting the wellbeing, productivity and sustainability of our cities and regions.

IPWEA is the peak association for the public works professionals across Australia and New Zealand whose mission is to lead public works and services, asset management planning, delivery and operations. Almost all of Australia and New Zealand's professional consultancy firms that specialise in public sector infrastructure – including roads, water, power, rail, ports and airports – have managers and staff who are members of IPWEA.

Australia's population is expected to increase by five million people over the next 10 years to 30.8 million, with approximately 68 per cent being located within capital cities¹. To meet the needs of a growing population, Australia's approach to planning will need increased support from the Federal Government. Many of the infrastructure projects foreshadowed in the National Urban Policy will become the responsibility of local government in the long term. State and local governments already endure financial and constructability challenges to deliver infrastructure, and these problems will be exacerbated if the model is not improved as the population grows.

The draft National Urban Policy sets practical and achievable recommendations to strike the right balance in planning and infrastructure investment to ensure the five key goals and six objectives are met and no future community gets left behind.

The five key goals – Liveable; Equitable; Productive; Sustainable; and Resilient – are supported by our organisations. The six objectives and associated key urban challenges help build an understanding of the factors required to achieve the different goals, as well as some of the complexities and inter-relationships that exist.

¹ [Australian Bureau of Statistics, Population Projections Australia](#)

It is understood that the approach has been taken of defining liveability as a combination of factors, including “safe”, that contribute to people’s quality of life and wellbeing. One of the benefits of this approach is a move away from a silo approach where safe and liveable are considered as separate goals to a more integrated approach. As stated in the policy. “Liveable cities, offer a high quality of life, and are socially inclusive, affordable, accessible, healthy and safe.” Engineers Australia agrees with this definition but cautions that this could lead to a deemphasising of safety. It is possible that safe could be added as a sixth goal in future.

There is a risk that these important key goals will not be met if all levels of government are not held to account for establishing future urban planning and infrastructure investments that are in accordance with principles of the proposed National Urban Policy. Failure on this front will likely result in Australia not fulfilling its potential and creating an unsustainable and inequitable future for many communities.

Consideration must also be given to ongoing maintenance of projects. Too often the infrastructure planning is limited to delivering new projects and doesn’t include support for ongoing long-term work of local governments to maintain infrastructure assets.

To address this risk, a national governance framework may be required for managing Federal Government funding of urban area infrastructure. This would be done on the basis that the infrastructure proposal and associated strategic urban planning is fully compliant with the principles of the National Urban Policy.

Housing

Addressing both housing availability and affordability is important, and there must also be greater alignment between federal and state governments on building standards to provide high quality housing for all Australians.

In recent years, questions have arisen about the capacity of the building industry to deliver on time, cost and quality, with particular concern about defects in multi-storey apartment buildings (NCC² Class 2 buildings). This has occurred at a time when the building production process has become more complex and productivity in the industry has been dropping. The root causes of these problems are not simple, and include systems failures, loss of skills, multinational supply chains, ineffective regulation and business expediency. Nevertheless, good buildings are being delivered on time and on budget.

Future home and building owners deserve to know they are buying a quality design and expert construction that is protected by strong building laws. The evidence in NSW from the Fair Trading Occupation Certificate audits is that many apartment buildings have significant defects, related to general quality as well as safety. Research commissioned by the NSW Office of Building Commissioner and Strata Community Association NSW found that 39 per cent of Strata buildings in the sample had experienced serious defects in the common property. The majority of serious defects related to waterproofing (23 per cent), fire safety systems (14 per cent), structure (9 per cent), enclosure (9 per cent), key services (5 per cent) and non-compliant cladding (6 per cent). Most of these defects (51 per cent) were identified through independent assessment by experts³. There are similar stories from across all jurisdictions.

While individual businesses and industry associations are all looking at the causes of failure and working to address them, the lead in building industry reform comes from governments. Building regulation is primarily a matter for the states and territories but there is little consistency in the way they each identify the key problems and set out to address them.

While there is one National Construction Code, there are eight different Building Acts, each one establishing different requirements in areas such as inspections and certification. Additionally, states and territories self-determine when the National Construction Code is applied within their legislative instruments.

² National Construction Code

³ [Construct NSW, Improving Consumer Confidence, Research report on serious defects in recently completed strata buildings across New South Wales](#)

While Building Acts will need to vary to account for differences in topography, density, climate and planning, inconsistency in inspections and certification causes confusion to both regulators and professions. Inconsistency and fragmentation in regulation causes a number of problems, including unjustified compliance burden and cost, impediments to information sharing and national initiatives, and confusion about who to approach.

National consistency, therefore, should be one of the goals of building regulation.

Through the Building Ministers Forum (BMF) certain states are establishing benchmark legislation which others can adapt. The most recent example of this is the creation of legislation on building product safety. Established in Queensland, NSW has recently created similar legislation with several parts of the new Act borrowing from the Queensland Act. It is envisaged by the BMF that all states and territories will follow suit and a set of near uniform legislation will exist. It is also envisioned that all jurisdictions will implement the recommendations from the Building Confidence Report.

The National Urban Policy must consider the discrepancies between each jurisdiction's Building Act and contain actions to greater align building regulation across federal, state and territory, and local governments.

Sustainability

Engineers Australia and IPWEA supports the sustainability outcomes outlined in the National Urban Policy draft. Climate change is a complex and multifaceted problem. It requires an ambitious and effective national strategy for emissions reduction and to fundamentally decarbonise our economy through design processes and technical innovations.

Our organisations call on governments, investors, the private sector and the wider community to work with the engineering profession to accelerate engineering innovation for a swift transition to a sustainable economy. Initiatives must include:

- The principles of near zero emissions, climate resilience, and a circular economy in all policy, regulations, standards and technical specifications applicable to engineering.
- A standardised means of calculating the emissions footprint of engineering works, products and services across the entire project and product lifecycle.
- A mechanism to factor external costs including GHG emissions into product design, use, maintenance and project feasibility assessments.
- A means of assessing the exposure of new and existing engineered systems to climate disruptions to inform and motivate mitigation and adaptation responses.
- A means of monitoring and measuring progress to inform learning and improvement actions needed for climate change mitigation and adaptation.
- Improved education and training of members of the engineering team and the wider community on climate change, resilience and sustainability.

Skills

Engineers Australia considers that the Australian Government should adopt a target of 60,000 additional engineers graduating over the next ten years, or it will not have the engineering workforce needed to support its ambitions for Australia, including the National Urban Policy.

There is an increasing global demand for engineering skills, at the same time as our domestic production of engineers is not keeping pace. The current domestic pipeline of engineers is insufficient - Australia must urgently secure the pipeline to meet the rise in engineering skills needed, driven by national priorities such as the clean energy transition and net zero emissions targets, securing supply chains and the emergence of new technologies such as AI.

During a time of rapid technological advancement and evolving geopolitical challenges, strengthening the pipeline of domestically trained engineers will bolster our national capability.

Engineers Australia's *Strengthening the engineering workforce report* conservatively estimated over 50,000 additional engineers were to be needed over the five-year period to 2025/26. This was supported by Prof Robin King who predicts the need for approximately 100,000 more engineers being needed by 2030.⁴

Research by the Australian Council of Engineering Deans in 2021 showed that a 10 per cent per annum (compounding) increase of domestic graduates was needed at a minimum.⁵ Analysis of the 2021 census data shows up to 70,000 engineers are estimated to retire over the next 15 years.

There will need to be an increase of domestic graduates entering the labour force in an engineering capacity to maintain current workforce levels. This supply can come from Australia's two main supply channels – Australians who choose engineering for their tertiary education and career, and skilled migrant engineers.

Australia is highly reliant on migrant engineers (with 60 per cent of engineers born overseas) and those born overseas made up over 70 per cent of the additional engineers added to Australia's stock in the five years to 2021.

To ensure we increase our capability to deliver on critical priorities, such as the National Urban Policy, we need to increase the pipeline and supply of domestic engineering graduates. Adopting this target is a starting point to increase the size of the engineering skills pipeline itself and ensure Australia remains a liveable, equitable, productive, sustainable and resilient place to live.

Transport

Engineers Australia's Transport Australia Society has developed a policy and planning advice paper on [Urban Transport Systems](#). Many of the recommendations in this paper support a move away from the predominant urban transport planning policy and investment strategy that has existed for over three decades – that of increasing road capacity to accommodate population growth of the low-density suburban sprawl form. This is largely because urban growth of this form induces demand for car-based travel, requiring improved road sections that in turn spills travel over onto adjacent roads and streets. The result being the additional traffic increases congestion at a systems level.

Network impact of induced demand



⁴ [Prof Robin King, Working Paper: Shortages of Engineers and Supply Projections \(2021\) Australian Council of Engineering Deans](#)

⁵ *ibid*

Engineers Australia advocates for an alternative approach to urban transport planning that is based on reducing traffic on the road network and balancing traffic across all modal networks rather than concentrating travel on already congested streets. To achieve this, there is a need to reduce the dependence on cars for urban travel by:

- Increasing and improving alternative travel options – walking, cycling, scooter travel and public transport;
- Managing the demand for car travel through land use planning where more people live in mixed use centres and corridors and by behaviour change and parking policies designed to discourage excessive car driving; and
- Ceasing to cater for peak demand by low efficiency high space per person car traffic and by giving priority to the most space efficient transport modes whenever corridors are approaching capacity (light rail, bus lanes, bicycle priority).

As well as reducing congestion on a sustainable basis, this approach will:

- Reduce greenhouse gas emissions from the transport sector.
- Reduce vehicle emissions that are harmful to health.
- Improve community health and fitness.
- Improve amenity and the local environment (e.g. noise reduction).
- Improve equity by improving accessibility for everyone, including those without access to a car.
- Contribute to quality of life and liveability by providing more options for travel and by providing more liveable streets and places.
- Reduce government transport infrastructure costs by reducing high-cost urban road expansion projects that increasingly require tunnelling or additional land to construct.
- Make transport more affordable for those who are able to reduce the number of cars in their household.

There is a growing consensus, supported by Engineers Australia, IPWEA, Infrastructure Australia and others, that Australia needs to re-assess its approach to transport policy and infrastructure delivery to ensure that:

- Infrastructure expenditure is sustainable, provides good value for money and is appropriately targeted to meet the current needs of Australia.
- We are making a significant contribution to cost-of-living pressures by reducing transport user costs.
- Our transport investment strategy is supportive of sustainable solutions rather than projects with short term benefits.

It is likely that current expenditure on transport infrastructure is unsustainable.

- Australia spends 1.5 per cent of its GDP on transport infrastructure – the highest of any western OECD country.⁶
- The Government Infrastructure Investment program (IIP) tripled in 7 years to 2022 and there are projects in the IIP that do not demonstrate merit and lack strategic rationale.⁷

⁶ [International transport forum statistics brief, July 2023](#)

⁷ [Independent Strategic Review of IIP, August 2023.](#)

The views that the Transport Australia Society and Engineers Australia have expressed on funding and delivery of urban transport infrastructure are consistent with and support the National Urban Policy consultation draft.

If you wish to discuss this further, please contact Adam Lee at alee@engineersaustralia.org.au.

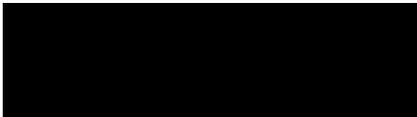
Regards,



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