SUBMISSION ON DRAFT 30-YEAR INFRASTRUCTURE STRATEGY

Infrastructure Victoria

Australian Institute of Architects

VICTORIAN CHAPTER

Submission issued February 2021

30-YEAR INFRASTRUCTURE STRATEGY SUBMISSION

ABOUT THE INSTITUTE

The Australian Institute of Architects (Institute) is the peak body for the architectural profession in Australia. It is an independent, national member organisation with around 12,000 members across Australia and overseas.

The Institute exists to advance the interests of members, their professional standards and contemporary practice, and expand and advocate the value of architects and architecture to the sustainable growth of our communities, economy and culture.
The Institute actively works to maintain and improve the quality of our built environment by promoting better, responsible and environmental design.

PURPOSE

- This submission is made by the Australian Institute of Architects (the Institute) to the Victorian Department of Land Environment, Water and Planning. It responds to the request for submissions in relation to *the Planning for Melbourne's Green Wedge and Agricultural Land* consultation paper.
- At the time of this submission the National/Chapter President is Ms. Alice Hampson FRAIA[1] and the Victorian Chapter President is Mr. Bill Krotiris RAIA
- The Chief Executive Officer is Ms. Julia Cambage and the Victorian State Manager is Mr. Tim Leslie FRAIA.

CONTACT DETAILS

Australian Institute of Architects
ABN 72 000 023 012
2A Mugga Way Red Hill ACT 2603 +61 2 6208 2100
+61 2 6208 2100
policy@architecture.com.au
Contact
Name: Paul Zanatta | Advocacy and Policy Manager
Email: paul.zanatta@architecture.com.au

[1] Fellow of the Royal Australian Institute of Architects.

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1 INTRODUCTION

About us

The Australian Institute of Architects (the Institute) is the peak body for the Architectural profession in Australia, representing around 12,000 members. The Institute works to improve our built environment by promoting quality, responsible, and sustainable design. Architecture influences all aspects of the built environment and brings together the arts, environmental awareness, sciences and technology.

By combining creative design with technical knowledge, Architects create the physical environment in which people live, work and learn. Therefore, through its members, the Institute plays a major role in shaping Australia's quality of life.

The context of this submission

The Institute places a high value on our environment and matters impacting it. At a national level the Institute has a Climate Change and Sustainability Taskforce, and also a Sustainable Architecture Forums at each State /Territories Chapter. In addition, the Australian Institute of Architects is a full member of the Australian Sustainable Built Environment Council (ASBEC).

The Institute has formally adopted and is promoting a policy that the Australian Government establishes a national plan towards zero carbon buildings by 2030.

Our current policy positioning, as articulated in our 2021 Federal Pre-budget submission, strongly promotes better planning to foster thriving cities, urban areas and regions and to enhance liveability, wellbeing, sustainability and productivity.

The Institute, therefore, welcomes the opportunity to make a submission to the 5-year review of Victoria's 30-year Infrastructure Plan consultation.

Our submission has been prepared with the input of the Victorian Chapter of the Institute's Sustainable Architecture Forum.

Procurement of design services to support built infrastructure outcomes.

We note that many recommendations have the potential to result in the design and construction of new or majorly upgraded or repurposed buildings across many typologies such as housing, health facilities, schools, community and social service facilities, hospitality and recreational/tourism amenities.

The Australian Institute of Architects (the Institute) has identified the procurement process of Architectural services as a key policy priority in improving the quality of built outcomes.

Government agencies and institutions in Australia have adopted various methods of quality-based selection including Expressions of Interest (EOI), Request for Tenders (RFT), Request for Proposals (RFP) and Design Competitions. Each of these methods has merit and provides agencies with options to suit the burgeoning type of projects commissioned in the public sector. Thoughtful and thorough consideration of consultant procurement, at the early stage, maximises the possibilities for design quality, cost savings, and a productive working relationship between the client and consultant group.

Over time, variance and complexity of these methods has increased, as has the onus on Architectural practices to respond with more detail and take on greater risks associated with changing procurement models. The selection of an Architect through a process that matches submission demands with project complexity is a crucial early step in the delivery of a successful built form outcome.

The Victoria Office of the Government Architect[2] has further qualified the importance for governments of the procurement process,

> *A key legacy offered by any government is the quality of buildings, infrastructure and the public realm that they produce. Well-designed buildings and places promote community pride and identity and offer an enduring legacy. Over the life of a building, evidence shows that bad design ends up costing money, while good design ends up costing less and, at the same time, adds real value.*
>
> *Good design does not just happen: it is purposefully and carefully undertaken by skilled practitioners, valued by the client, and needs to be protected through delivery of the project.*
>
> *The method by which a building project is procured has a significant impact on the quality of the final building. While good design is able to be achieved with all procurement methods, some make it seriously challenging unless their potential threats to design quality are understood and well managed.* (p1, ibid)

Our Institute has undertaken research to investigate best practice Expression of Interest (EOI) and Request for Tender (RFT) methods in public sector and educational institutions that commission Architectural services. This has enabled the Institute to develop a set of Guidelines for Expressions of Interest (EOI) and Request for Tender (RFT) for Architectural

[2] Office of the Victorian Government Architect. (2013). Government as 'Smart Client': Guidelines for building procurement processes, the implications for design quality arising from these processes, and the recommendation of strategies to enable good design. August 2013. Office of the Victorian Government Architect, Melbourne.

services (the 'Guidelines')[3]. The objective of the Guidelines is for potential clients to review their own EOI and RFT methods and documents and align them with best practice to enable an effective and efficient process that maximises the potential for high-quality built outcomes and reduces bidding and assessment costs for all parties. The Guidelines have been endorsed by the Office of the Victorian Government Architect (OVGA).

In 2021 we have promoted to the Victorian Government (and in similar form to the Australian Government) in our pre-budget submissions[4] the following recommendation,

> *To ensure fair and open procurement for Architecture services that maximises economic benefits and creates a rich legacy of community and public buildings and urban space, the Australian Institute of Architects recommends that the Victorian Government:*
>
> - *references and advises use of the Australian Institute of Architects' Guidelines: Expressions of interest and Requests for Tender for Architectural services (the Guidelines) as an adjunct to its procurement policies,*
> - *extends this advice as a condition of funding to all relevant Victorian Government partnerships and funding agreements,*
> - *recommends to all Victorian Local Government Authorities to implement the Guidelines, and*
> - *promotes to other governments and agencies, by its own examples, fair and responsible procurement that improves the likelihood of improved built outcomes for the public.*

The Guidelines are able to be downloaded from our website[5].

In the interest of best design outcomes for many the initiatives recommended in Victoria's review of it 30-year Infrastructure Plan, we also encourage Infrastructure Victoria to promote use of the Guidelines in its own advice to government agencies on procurement or funding of infrastructure projects.

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[3] Available for free download from https://www.architecture.com.au/archives/policy_campaigns/procurement

[4] https://www.architecture.com.au/wp-content/uploads/Victorian-2021-22-State-Budget-Priorities_FINAL_20210129-2.pdf

[5] https://www.architecture.com.au/archives/policy_campaigns/procurement

2 DETAILED RESPONSE TO THE ISSUES AND QUESTIONS

SECTION 01 CONFRONT LONG-TERM CHALLENGES

2.1 Plan Subsection 1.1 Navigate the energy transition

1. Accelerate the uptake of zero emissions vehicles. Within the next five years, require all new public transport buses and coaches, and government vehicle fleets, to transition to appropriate zero emissions vehicles where available. Incentivise zero emission freight vehicles, and develop design standards and payment principles for charging infrastructure. Consider other policy levers to phase out all internal combustion engine vehicles during the next 30 years.

The Institute agrees in principle with the recommendation. Various policy levers and/or market responses will also need to be adopted to ensure that charging points are available to electric vehicle owners/users including shared parking areas in low, medium and high density residential as well as streetside or off-site parking where there is no on-site parking for a residential dwellings (e,g inner suburbs single fronted terrace).

2. Augment electricity transmission for renewable energy and resilience. Support augmentation of critical electricity transmission infrastructure by 2027 to accommodate new renewable energy generation and improve network resilience.

The Institute agrees in principle with the recommendation.

3. Identify and coordinate priority Renewable Energy Zones. Immediately identify and coordinate the development of priority Renewable Energy Zones, especially in the state's northwest and central north.

The Institute agrees in principle with the recommendation noting the rationale provided in the consultation paper that,

> *Renewable Energy Zones because they reduce the need to build transmission into new areas, cut project connection costs and risks, optimise the mix of generation, storage and transmission investment, realise benefits of scale, and promote regional expertise and employment.*

However, where there are zones that historically did not include the same transmission infrastructure, but are a good potential location for generation or storage (e,g. kinetic storage dams), then these locations should still be maintained as an option and the economic, environmental and social cost-benefit of additional transmission infrastructure to these areas should be evaluated.

4. Require 7-star energy-rated new homes in 2022, increasing towards 8 stars by 2025. Require all new homes to achieve a minimum 7.0 star NatHERS rating (or equivalent) by 2022, increasing towards 8.0 stars by 2025, either through the National Construction Code or Victorian regulations.

The Institute agrees in principle with the recommendation and further supports this be mandated nationally through the National Construction Code. A robust single standard may potentially be easier to work towards than multiple standards ensuring comparability.

5. Mandate a home energy rating disclosure scheme. In the next five years, develop an energy efficiency disclosure scheme for the sale or rent of homes, to overcome information barriers and encourage energy efficiency improvements to existing homes.

The Institute agrees in principle with the recommendation. However, it will require government support to ensure that it is not an overly expensive or cumbersome scheme for owners, purchasers, landlords and tenants.

A well-designed scheme must be understandable for consumers, valid and easy to complete. A simple descriptive checklist of a home's features that contribute to or reduce energy efficiency may be more straight forward. It is difficult to appraise or compare a house on the basis of outright consumption alone owing to numbers of occupants, and lifestyle patterns.

6. Make Victorian Government buildings more energy efficient. Immediately mandate stronger minimum energy efficiency standards in both owned and leased Victorian Government buildings, establish a dedicated retrofitting fund, and set and report against retrofitting targets.

The Institute agrees in principle with the recommendation. However, it is important for Government to also give consideration to the balance of priorities of environmental impact versus heritage controls and considerations including privately owned heritage buildings.

Our Institute submitted to the City of Melbourne in December 2020 in response to the Hoddle Grid Heritage Review that the scale of proposed building (and precinct) inclusions may mean that there is a tendency to overly include buildings whether or not they represent a good example of a specific architect's work, architectural design or even historic and innovative construction method of the day. This includes heritage buildings in the CBD whose energy efficiency may be poor, and a reasonable cost-effective retro-fitted efficiency upgrade that also retains the heritage elements that led to their heritage inclusion may not be feasible nor viable.

Underpinning this is the relatively poor build quality of these mid-century projects compared to today's requirements. Single glazing, inclusion of now defined hazardous materials, poor service infrastructure, and limited structural capacity (including non-compliance with current earthquake code requirements), may all be found in these buildings. Significant remedial action in many situations is not only required for improving energy efficiency but could include, and not be limited to, measures such as replacement of facades, strengthening of walls and columns, and enhancements to the building envelope.

In light of this there needs to be further research to fully consider the options for government buildings. A particular evidence gap in the Australian, and even local Victorian climatic context is the carbon payback period after the full demolition of an older low efficiency building and replacement with a new 7-star building. It has been suggested that this may be less than ten years. A dedicated retrofitting fund and retrofitting targets needs to factor into such evidence as well as assessments and projections about the feasibility

and viability of retrofitting older buildings balanced against other considerations of the asset, especially as heritage status.

7. Reduce peak electricity use with demand management pricing. In the next 10 years, optimise use of existing electricity infrastructure by encouraging demand management pricing.

The Institute agrees in principle with the recommendation and other mechanisms (both technical, such as local storage, and market mechanisms) which can reduce peak load should be supported.

8. Allow new gas-free housing estates and review current gas policies. Allow new developments to proceed without mandatory gas connection and review all gas policies to consider options for future mitigation or transition strategies.

The Institute agrees in principle with the recommendation. According to Ausgrid, Victorian households use 37% of energy on heating water and 22% on heating and cooling[6]. Many architects are already advising their clients to move to gas free buildings using the following solutions:

- Induction cooktop instead of gas cooktops
- Electrical Heat pumps instead gas or electric hot water heaters. Victorian government rebates are currently available. 'ENERGY STAR certified water heaters can use 50% less energy than equipment that meets the minimum federal standard '.
- Hydronic heating that uses a heat pump instead of gas as well as standard reverse cycle (also heat pump) heating /cooling) offset by photovoltaic (solar) panels.

A total reliance on electricity may still be perceived as a risk by some retail or business consumers fraught with concern should interruption in supply occur. Whereas electricity brownouts or blackouts do occur, especially in summer heatwaves, gas outages are rare. Consumers may require greater assurances about supply reliability as well as options to respond to outages for critical needs such as health care, linen services, hospitality and industrial food processing /manufacture where the default choice might be gas[7].

2.2 Plan Subsection 1.2 Respond to a changing climate

9. Specify climate scenarios and carbon value in assessing infrastructure. Immediately update and expand practical instructions on integrating climate-related risks into infrastructure assessment, including on future climate scenarios and valuing emission reductions.

The Institute agrees in principle with usefulness of considering risk scenarios and risk planning, but requires clarification as to whom practical instructions are intended to be provided to (e,g infrastructure providers or users such as industry?).

[6] https://www.ausgrid.com.au/Your-energy-use/Save-energy-at-home

[7] Vertical Transportation in Multi-res buildings will also be a critical essential service with an ageing population. New multi-res buildings of significant scale should include back-up power supplies as an Ambulance attending to an Apartment must have access via working lifts in the event of a black-out.

10. Strategically review climate consequences for infrastructure. Strategically review the climate change consequences for Victoria's infrastructure needs and priorities, commencing in November 2021 after delivering the first set of targets, pledges and plans under the Climate Change Act 2017.

The Institute agrees in principle with the usefulness of considering risk scenarios and risk planning, but requires clarification as to whom practical instructions are intended to be provided to (e,g infrastructure providers or users such as industry?).

11. Consider all water supply sources. Consider all water sources for supply augmentation, including identifying and addressing barriers to recycled drinking water within the next 10 years. When planning for future water supply, investigate all options including, but not limited to, recycled water, seawater desalination, stormwater harvesting and using water pipelines to move water between regions.

The Institute agrees in principle with the recommendation to consider all water sources, noting that architects usually specify rainwater tanks in building design to collect water as well as re-using grey water for flushing toilets and irrigation for gardens. The balance of options should consider the full economic, environmental and social impacts.

Desalination creates thermal pollutants that increase the seawater temperature (e.g. multistage flash *MSF* thermal pollution) as well as impacting salinity, water current and turbidity. These issues can harm the marine environment, causing fish to migrate while enhancing the presence of algae, nematodes and tiny molluscs.

The management of water consumption needs to be continuously reviewed by Water Supply authorities who should budget for advertising campaigns to promote appropriate water use. E.g permanent ban on hosing driveways.

12. Progress integrated water cycle management. Accelerate progress toward an integrated model of water cycle management, starting by clarifying policy settings to allow the better use of stormwater and recycled water within five years.

The Institute agrees in principle with the recommendation noting per our response to Recommendation 11 that architects usually specify re-use of grey water for flushing toilets and irrigating gardens in building designs. The cost and efficacy of some of these systems should be reviewed and Government subsidy for grey water recycling to offset costs could be considered.

13. Improve decision-making for urban water investment. In the next five years, clearly allocate the roles and responsibilities for urban water systems and major supply augmentation planning.

The Institute agrees in principle with the recommendation.

14. Strengthen agricultural water security by modernising irrigation. During the next 30 years, contribute funding toward planning and delivery of irrigation modernisation projects across regional Victoria.

The Institute agrees in principle with the recommendation.

15. Upgrade Victoria's emergency water network. Immediately assess the condition, capacity and security of Victoria's emergency water supply point network, and upgrade or replace inadequate supply points. Clarify ongoing responsibility for maintenance and funding to secure a resilient network.

The Institute agrees in principle with the recommendation adding to this that Victoria's Emergency Water Network should be *regularly reviewed on an ongoing basis* to ensure when an emergency arises the network can cope.

16. Invest in protecting Victoria's coasts. In the next eight years, invest in coastal protection upgrades and maintenance, including beach and dune protection and rehabilitation, and storm surge protection, particularly for coastal tourism assets in Barwon, Great South Coast and Gippsland regions.

The Institute agrees in principle with the recommendation.

2.3 Plan Subsection 1.3 Embrace technological opportunities

17. Prepare for increasingly automated vehicle fleets. Immediately begin updating transport regulations to allow automated vehicle operation on the road network. In the next 10 years, upgrade roads and communications infrastructure to help facilitate increasingly connected and automated vehicles, particularly for private and government fleets. Develop policy, business case and land use planning guidance to maximise the benefits of automated vehicles.

The Institute agrees in principle with the recommendation.

18. Facilitate integration of public transport with new mobility services. In the next five years, develop open access ticketing platforms to facilitate integration of public transport modes with new mobility services, incorporating better data sharing and collection. Remove public transport contract barriers to integration.

The Institute agrees in principle with the recommendation, subject to maintaining a system available to adopt changes in technology which may supersede open access ticketing platforms and as such financial commitment to one system should be adopted cautiously.

19. Incorporate personal mobility devices in regulation. In the next two years, incorporate nationally consistent rules for personal mobility devices in Victorian legislation, develop a standard and statewide regulatory framework for shared mobility schemes, and update existing active transport design standards to better accommodate devices.

The Institute is unable to make comment to the recommendation without better explanation of personal mobility devices, shared mobility schemes, and existing active transport design standards

20. Transform road network operations for all current and future modes. In the next five years, integrate management systems for different road-based transport modes. Allow for real-time management and communication, and prepare roads for emerging transport technologies.

The Institute agrees in principle with the recommendation.

21. Use innovation to deliver better models of health care. Within five years, help slow the growth in demand for hospital infrastructure by funding a comprehensive state-wide health innovation strategy to promote better models of health care.

22. Modernise courts through digitisation and contemporary shared facilities. Immediately increase court efficiency and meet demand by digitising suitable court systems and procedures. Invest in new contemporary, adaptable, multijurisdictional court facilities during the next 10 years.

23. Improve technology and infrastructure for a responsive police service. In the next 10 years, invest in technological capacity to better support a responsive police service, and deliver infrastructure to enable a contemporary hub-and-spoke policing model, co-located with health and human services where appropriate.

The Institute agrees in principle with these three recommendations (Rec 21- Rec 23). We note the potential role of architects to work with services agencies and professionals across health and justice systems (and consumers, where appropriate) to design facilities that help achieve the intended human and societal benefits.

2.4 Plan Subsection 1.4 Stay connected to global markets

24. Optimise capacity at the Port of Melbourne. Support efforts to progressively optimise the Port of Melbourne's capacity, and actively take steps to manage amenity implications for community acceptance, as identified in our Advice on Securing Victoria's Ports Capacity.

The Institute agrees in principle with the recommendation.

25. Act now to protect the future Bay West Port option. Immediately identify and secure land and apply planning protection for transport corridors and buffers for a future Bay West Port, particularly future road and rail connections within the Urban Growth Boundary, and commence environmental monitoring. Around 2040, begin detailed planning for the port.

The Institute agrees in principle with the recommendation noting that, if it is the best option, making provision in advance through planning should be a feature of all large-scale infrastructure development.

26. Purchase land for Melbourne's future freight terminals. In the next five years, buy the land and develop business cases for new interstate freight terminals at Truganina and Beveridge to deliver a terminal in time for the completion of the Inland Rail project.

Planning for such infrastructure facilities is supported. However, it must include planning for surrounding land uses. The Institute notes that in the case of Beveridge which abuts farming land to the north and the expanding residential areas from the south, that these freights terminals should not give rise to changing the Urban Growth Boundary which already spreads too far from the Metropolitan centre and is a generator of increased travel time, energy consumption and social disruption. Land use around such freight terminals must be suitable uses and not create detrimental impacts from 24/7 operation, noise, traffic of the operation and even safety of the various goods stored and transported.

27. Construct an outer metropolitan road and rail corridor. Within two years, determine staging for the outer metropolitan rail and road corridor. Construct the E6 motorway in the next 20 years, and progressively construct the outer metropolitan road and rail corridor in the next 30 years, including integrating a rail freight line, subject to detailed feasibility studies and business cases.

This goal should be reviewed in context of greater constraint in urban sprawl and increased regional centre development. Better environmental outcomes may come with containment of urban growth which, if realised, could mean existing infrastructure upgrades may satisfy long term needs and obviate need for an E6 with the obvious avoidance of major environmental impacts.

2.5 Plan Subsection 1.5 Build a circular economy

28. Facilitate improved recycling infrastructure for priority materials. Immediately focus efforts to increase and upgrade waste processing infrastructure on six priority materials. Facilitate increased recovery and reprocessing capacity and capability for paper and card, plastics and organics by 2025. Revisit funding mechanisms and align recycling infrastructure with land use planning.

The Institute agrees in principle with the recommendation and notes the context of buildings themselves. Currently Energy Rating of new buildings projects is increased by retention of existing building as much as possible, recycling of materials in the new building

works and management of demolished materials and works where there is separation into various categories for recycling as part of the construction process.

The availability and cost of recycled materials – such as concrete aggregate alternatives – should also be managed to improve selection by professionals in their project work.

Construction itself, even with new materials, results in waste such as plastic film and paper wrapping of bulk materials, plastic and steel strapping, off-cuts of timber, sarking, insulation, roofing, wall cladding, plastic waste from fasteners such as air nail strips, and caulking tubes. Schemes should be developed to more easily collect these materials for re/ up-cycling.

29. Strengthen end markets for recycled materials. Immediately accelerate market development for recycled materials by updating standards and specifications, and explicitly require the Victorian public sector to use recycled products where feasible. In the next five years, support research, development and demonstrations to build confidence and demand for recycled products.

The Institute agrees in principle with the recommendation, as in Item 28 above there should be increased production of recycled materials and even cost support by government to stimulate increased use of recycled materials in construction projects across government and private sectors.

30. Address barriers to recycling and reducing waste. In the next year, reduce recyclable material contamination by supporting greater consistency in kerbside and commercial collection and separation of glass, paper, cardboard and organic materials. Immediately define and implement behaviour change programs to reduce contamination, and consistently maintain these programs in the next 30 years.

The Institute agrees in principle with the recommendation and supports having more recycling centres around metropolitan Melbourne to accept materials for recycling of cardboard, paper, metal, building products for recycling (e.g. concrete, timber, glass) and these facilities be available free of charge.

31. Minimise waste and improve residual waste infrastructure planning. In the next two years, improve infrastructure planning for managing residual waste, and further clarify the role of waste-to-energy facilities. Over the next 30 years, consistently invest in waste avoidance through behaviour change programs, pricing, regulation and incentives.

The Institute agrees in principle with the recommendation noting that suitable locations for high temperature waste burning and co-related energy production should be incorporated into the metropolitan Strategy Plan and even co-located with the proposed freight terminal in Recommendation 26 above to efficiently use the transport and other infrastructure such as that required for subsequent electricity transmission.

SECTION 02 MANAGE URBAN CHANGE

2.6 Plan Subsection 2.1. Integrate land use and infrastructure planning

32. Produce public plans for priority infrastructure sectors. In the next five years, develop and publish long-term infrastructure plans for priority infrastructure sectors for which the Victorian Government maintains substantial responsibilities, including sequencing and timelines for investment.

The Institute agrees in principle with the recommendation and supports making provision for feedback, revision and adoption as approved land use plan under the metropolitan planning scheme.

33. Publish Victoria's transport plan. Immediately develop and publish Victoria's integrated transport plan. Require transport and land use plans to align with each other.

The Institute agrees in principle with the recommendation subject to including processes of community consultation and feedback before adoption. The issues of environmentally sustainable design which discourages urban sprawl, and that encourages regional centre development and improvements in planning management systems could change the current assessment of transport needs. As such the transport plan should be reviewed in the context of these changes.

34. Review Victoria's infrastructure contribution system to cover gaps. In the next two years, review Victoria's many infrastructure contributions schemes to create a consistent and efficient system that contributes to local and Victorian Government infrastructure costs. A revised infrastructure contribution system can apply more broadly, including in established suburbs, growth areas, peri-urban areas, and regional cities.

The Institute agrees in principle with the recommendation as all systems of land management should be reviewed regularly and with sufficient frequency (e.g. biannually) to ascertain if goals are being met.

2.7 Plan Subsection 2.2 Create thriving urban places

35. Support more homes in priority established places. In the next year, use Land Use Framework Plans to identify new priority locations in established suburbs for residential intensification to better use existing infrastructure. Following this, review planning settings in partnership with local government to allow increased housing density and establish design panel reviews for development applications.

The Institute agrees in principle with the recommendation contingent on the circumstances of the development. The process of land identification should initially be based on proximity to activity centres and public transport. It should subsequently also be associated with the development, for each site, of building envelopes that establish the extent of development on each site based on protection of surrounding development from overshadowing and overlooking. Development needs to incorporate other criteria beneficial to overall residential amenity including good sustainable design features.

An example is the Sandringham Urban Villages Study[8] undertaken twenty-five years ago by for the Victorian State Government. The basis of such plans is that, after consultation with community, they become incorporated into the Local Planning Scheme and provided greater certainty to the community and prospective developers. Compliance with the scheme/conditions with respect to building envelope, form, shape, extent of sustainable design features may reduce the need for design panel reviews.

In the context of well-developed Local Planning Schemes or precinct plans in greenfield developments, highly codified VPP Standards and Guidelines and other local schemes' provisions could even avoid permit applications or exempt the ability to lodge objections where the development complies to the highly codified requirements.

At present the State Government is pursuing in-fill development in middle-ring suburbs to help reduce urban sprawl and to gain the benefits of a 20-minute neighbourhood[9] Development comprising only one or two allotments may not work with highly codified guidelines or standards.

Moreover, the current guidelines see good designs frequently failing to pass a planning process delivered by local government authorities based on checklists of criteria, rather than a more wholistic appraisal that the design does realise the intent of the Victorian Planning Provisions (VPP) Guideline or Standard. In this situation, design review panels may be a cost-effective route to efficient and timely decision making and avoid costly and delaying determinations at the Victorian Civil and Administrative Tribunal (VCAT).

Establishing design review panels would require consideration of the model including:

- legal basis and governance (e.g legislation and ministerial oversight)
- business model – direct user pays, funded from development levies or state government output expenditure
- composition and operation, including potential consumer or community representation as well as matter experts from architecture, planning and landscape architecture

36. Deliver very low income housing with inclusionary zoning. Immediately change and actively apply planning rules to provide affordable rental housing for Victorians on very low incomes in places re-zoned for more intensive residential use.

The Institute agrees in principle with the recommendation and notes that it has an official position statement. Pertinent to this recommendation, our affordable housing policy recommends:

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[8] Sourced from: https://www.vgls.vic.gov.au/client/en_AU/vgls/search/detailnonmodal/ent:$002f$002fSD_ASSET$002f0$002fSD_ASSET:1266879/ada?qu=Traffic+calming.&d=ent%3A%2F%2FSD_ASSET%2F0%2FSD_ASSET%3A1266879%7EASSET%7E126&ps=300&h=8

[9] https://www.planning.vic.gov.au/policy-and-strategy/planning-for-melbourne/plan-melbourne/20-minute-neighbourhoods

- mandated targets for social and affordable housing and incentives for flexible and diverse housing types.
- that affordable housing should be sustainable, and of high amenity achieved through clever design strategies, including smaller, energy-efficient dwellings; cost-effective, space efficient and quality-controlled mass housing; and the adaptation of existing housing stock to accommodate multi-generational families, and support ageing-in-place
- a focus on multi-residential developments and urban consolidation as the sustainable and affordable solution to the increasing demand for housing in dense urban environments

We add that affordable housing, therefore, needs to be subsidised – especially for people on lowest incomes, (to ensure that the above requirements of the second dot point) are satisfied and that the housing is optimally located to amenity including community hubs, education and employment opportunities, and fundamental commerce activity (supermarkets, green grocer, pharmacy, clothing, post-offices, banks etc) to the extent that people can access this amenity using public or active transport.

The Institute promotes the Nightingale approach as an innovative scheme that government should investigate further. Government initiatives could be effectively combined with the Nightingale approach of housing development[10]. It sets aside 20 per cent of a development for Community Housing Providers and the housing can only be bought by people intending to be the occupants and if later on-sold, only on regulated terms to ensure the housing remains affordable. The development designs focus strongly on sustainability, utility and building community.

37. Develop an interconnected open space network. Immediately provide direct funding, and reform the developer open space contribution scheme, to create an interconnected open space network and extend Melbourne's urban tree canopy.

The Institute agrees in principle with the recommendation noting the potential role for architects when master planning large projects (shopping centres, retirement villages, hospitals, schools, universities, industrial and large retail parks) so that these open spaces and tree canopies on privately owned or controlled land on which development is occurring remain contiguous with adjacent public open spaces and tree canopies as they also form habitat bridges for wild life.

Many Councils already support 'green corridors' along their creeks and waterways and should be encouraged to enhance these spaces already in public ownership and /or reclaim/private land abutting such waterways with adequate compensation to owner. It would seem unreasonable to impose further costs on developers, beyond development levies which already exist for contribution to the public environment.

[10] https://nightingalehousing.org/nightingale-principles

38. Partner with local governments to fund pedestrian infrastructure. Partner with local government to fund pedestrian infrastructure upgrades to connect people to priority places, including central Melbourne, the Monash National Employment and Innovation Cluster, other activity centres and railway stations.

The Institute agrees in principle with the recommendation to interconnect pedestrian pathways and cycle ways with priority places and to provide funding to do so.

39. Transform cycling in Melbourne, Ballarat, Bendigo and Geelong. In the next five years, deliver separated cycle ways and invest in train station bicycle parking facilities to expand the cycling network in Melbourne, Ballarat, Bendigo and Geelong. Immediate priorities include connections within and between Melbourne CBD and surrounding suburbs, and connections to the Monash, La Trobe and Sunshine National Employment and Innovation Centres.

The Institute agrees in principle with the recommendation.

40. Improve walking and cycling data to better estimate travel impacts and benefits. Immediately begin developing better walking and cycling information and data. In the next three years, incorporate this data and information into Victorian Government transport models used for strategic and project planning, and project appraisal.

The Institute agrees in principle with the recommendation and, in particular, its direct application to designing and prioritising infrastructure upgrades for active transport including integration of public transport with walking /cycling.

41. Reallocate road space to priority transport modes. Within five years, identify and begin delivering road space reallocation initiatives, including projects to better support and enforce priority movement through streets and places. Legislate for faster, simpler, and more consultative road space reallocation in government decision-making.

The Institute agrees in principle with the recommendation and the important role of public consultation in government decision-making.

42. Redesign tram routes. Within five years, increase tram purchases, and reserve land for future tram depots. In the next 10 years, redesign tram routes, including short shuttle routes, for more capacity in fast growing inner Melbourne areas.

The Institute agrees in principle with the recommendation.

43. Activate urban renewal with new tram links. Immediately fund the northern Fishermans Bend tram connection for delivery by 2026. Within two to five years, commit to delivering a tram extension to Arden, and to the former defence site at Maribyrnong, if required.

The Institute agrees in principle with the recommendation. Such funding should be reviewed in a wholistic manner with other land use strategies so that the way forward is well staged and co-ordinated. An example is determining whether the Fishermans Bend tram connection is developed first or the underground rail extension to Fishermans Bend.

44. Plan for public transport accessibility, including tram stop upgrades. Release a new Accessible Public Transport Action Plan within one year and fund public transport accessibility upgrades, including priority tram stops, to achieve the legislated 2032 accessibility targets.

The Institute agrees in principle with the recommendation. We note our Institute standing position[11] that, ensuring a high level of accessibility within the built environment for people of all abilities must be a matter of priority for governments and the community as whole.

2.8 Plan Subsection 2.3 Steer changes in travel behaviour

45. Adopt peak and off-peak public transport fares. Immediately introduce peak and off-peak fares on public transport and discontinue payment options that undermine their demand management effects.

The Institute agrees in principle with the recommendation.

46. Price each public transport mode differently. Immediately introduce different fares on each public transport mode to reflect their different costs and benefits and to encourage their best use.

The Institute agrees in principle with the recommendation.

47. Abolish the free tram zone. Immediately abolish the free tram zone to improve safety and access for those who need it most.

While noting the evidence provided in the consultation paper, the Institute does not strongly support the recommendation to abolish the free tram zone, while we do support enhancing safety and access for those who need it most.

Careful consideration needs to be given to the needs of non-tourist visitors to the city and daily users of the city who may benefit from the free team zone to explore the city and use amenity across the full extent of the Hoddle Grid. This includes avoiding the need to use taxis for travelling from one end of town to the other for meetings, where time does not permit a walking journey.

We note the rationale, as put in the consultation paper, to abolish the free tram zone in order to encourage healthier modes of transport, such as walking or cycling. While there are increasing road reconfigurations in the Hoddle Grid for bike lanes, not all roads are sufficiently well managed. An example is the choke spot at the top end of Collins St (near the Treasury Building) where the bike lane narrows to some 300mm wide. Not all cyclists, or people who aspire to cycle in city traffic are sufficiently well acclimatised to cycling in traffic and obeying road rules and cycling safely among cars, buses and trams. What this indicates is the lack of coordination between transport organisations. All too often the super stops for trams are not aligned carefully with other infrastructure such as bike paths and even precinct nodal points for buildings. This is where infrastructure planning is not aligned with building planning.

Similarly, there are a significant proportion of motor vehicle drivers who display a disregard and even contempt for cyclists. There is a gap in public education on these issues in terms

[11] https://www.architecture.com.au/wp-content/uploads/Universal-Access-Policy.pdf

of encouraging safer road user behaviour and developing competency among cyclists, motor vehicles and users of other personal vehicles such as motorised skateboards. The introduction of a 1m separation law in Victoria is welcomed however there is much more to be done to improve this gap in public education.

The City of Melbourne has insufficient secure bike parking at the scale seen in cities such as Amsterdam or Copenhagen. Public end of trip facilities and free underground public bike parking were removed when the City Square (and below ground car park) were excavated for the new rail link construction. Bicycle vandalism including deliberate buckling of wheels and removal of bicycle components associated with on-street parking are among the issues which still need to be addressed to render the city more amenable to large scale cycling as a sought for change that the recommendation might imply.

We note the concern about public transport densities and Covid-19 risk. This situation needs to be monitored and the risk re-evaluated as the Covid-19 vaccine is rolled out.

At present, the city is relatively inactive. There is no foreseeable return in 2021 of international tourists or students at scale, and even many local students (RMIT, Melbourne University) are attending these institutions online. A free tram zone may, in the shorter-term, play an important role in helping to re-activate the city.

48. Remove annual charges and introduce distance-based pricing for electric vehicles. Remove annual up-front charges, such as registration fees, and introduce a distance-based road user charge for electric vehicles in the next two years. Consider extending this to other types of vehicles on an opt-in basis, allowing for expansion over time.

The Institute agrees in principle with the recommendation which enhances uptake of electric cars in a fair manner. Electric vehicles are still expensive to acquire (and require electrical works on premises to install chargers that have a large current draw). As with solar panels and batteries, people on lower incomes are unlikely to be early adopters, and it may be at least a further decade before serviceable used electric vehicles trickle down to them in the second-hand market with the average vehicle age in 2020 reported at 10.4 years[12] Furthermore, people on low and medium incomes residing in outer commuter suburbs with insufficient public transport compared to middle and inner suburbs may be further disadvantaged road use charges are insufficiently equitable or well-designed.

49. Appoint an independent transport pricing adviser. Immediately appoint an independent body to advise on and monitor transport prices.

The Institute agrees in principle with the recommendation.

[12] https://www.abs.gov.au/statistics/industry/tourism-and-transport/motor-vehicle-census-australia/latest-release

50. Increase and extend the Melbourne Congestion Levy on parking. In the next two years, review the Melbourne Congestion Levy on parking to increase its value, expand the properties it applies to, and cover a wider area including Richmond, South Yarra, Windsor and Prahran. Consider applying a similar levy to other highly congested parts of Melbourne which have good public transport alternatives.

51. Incorporate congestion pricing for all new metropolitan freeways. Apply congestion reducing tolls to all new metropolitan freeways, including the North East Link.

52. Trial full-scale congestion pricing in inner Melbourne. In the next five years, trial full-scale congestion pricing in inner Melbourne.

53. Trial demand-responsive pricing on parking in inner Melbourne. Trial demand-responsive pricing on street and council-controlled parking in inner Melbourne in the next five years.

54. Price parking at major public transport hubs, all train stations and park-and-rides. In the next five years, introduce pricing of parking at major public transport hubs, followed by all train stations and park-and-rides, to help encourage using public and active transport for access.

55. Phase out fixed road user charges and introduce user pays charging. In the next 10 years, replace fixed road user charges with variable distance-based and congestion charges. Ensure user pays charging reflects the relative costs of providing roads, and encourages drivers to change their behaviour.

The Institute agrees in principle with the recommendations 50-55 conditional on:

- the re-investment in infrastructure that provides people across metropolitan Melbourne with increasing scale of efficient and feasible public transport choices. We note our response to Recommendation 48 about the risk of adding to financial disadvantage for people with low to medium incomes who reside in outer commuter suburbs with insufficient public transport compared to people residing in well-serviced middle and inner suburbs, particularly those with lower levels of disadvantage (as measured through SEIFA indexes[13]).

- recognition that tradespeople, older people, people with disabilities or illness may be restricted to varying degrees from using public transport for a range of obvious and less well understood reasons and are penalised equally with the 'average' commuter who may have fully discretionary choice at their disposal to use public transport. Whereas a tradesperson may pass this on to a customer as an increased cost of doing business, other people may not. This may require various mechanisms to provide for equity an offset unreasonable disadvantage.

These exemption provisions should be subject to community consultation and acceptability modelling for incorporation into levy management. The current Victorian Patient Transport Assistance Scheme (VPTAS)[14] primarily intended to financially assist people living in rural areas who need to frequently attend Melbourne hospitals in the congestion levy zones might be able to be adapted to provide cost offsetting reimbursements for people in

[13] https://www.abs.gov.au/ausstats/abs@.nsf/mf/2033.0.55.001#:~:text=SEIFA%202016%20has%20been%20created,of%20Economic%20Resources%20(IER).

[14] https://www2.health.vic.gov.au/hospitals-and-health-services/rural-health/vptas-how-to-apply

metropolitan areas who regularly need to use non-public transport means to access treatment in the congestion levy zones.

2.9 Subsection 2.4 Adapt infrastructure for modern needs

56. Require accessible buildings for public services. Immediately establish an accessibility upgrade fund to contribute towards priority building upgrades to meet contemporary accessibility standards. By 2032, require all Victorian Government provided and funded services to be delivered from premises meeting contemporary accessibility standards.

The Institute agrees in principle with the recommendations. We advise Infrastructure Victoria on the recommendation put in our 2021 Federal pre-Budget submission[15] as follows,

> ***Recommendation 6.4*** *Following the review of the Disability (Access to Premises – Buildings) Standards 2010, investigate the options for subsidy or incentive programs to enable all public and certain classes of private buildings to be retrofitted to meet the revised standards.*

57. Rapidly renew old public housing. Rapidly renew dilapidated public housing properties, with a priority to renew at least half of all older low-rise apartments and older three-bedroom detached dwellings by 2031.

The Institute agrees in principle with the recommendation, noting our response provided to Recommendation 36. We particularly draw attention to ensure upgrades achieve performance outcomes such as NaTHERS 7 Star, and designing for accessibility and adaptability using the Liveable Housing Design Guidelines[16], ideally at their platinum standard.

Renewal of older housing stock may not be as economical as demolition and construction of new housing. However, given that renovation of existing properties can bring a higher star rating to a dwelling, it would be beneficial for the Victorian Government to use public housing renewal as an opportunity to undertake local Victoria research and cost-benefit analyses, sampling a cross section of dwelling sizes, into the comparative emissions of demolition (with waste recycling) and construction of a brand new dwelling build versus the renovation and retrofitting an existing dwelling to achieve the best accessibility, liveability and emission performance outcomes.

The findings could be published to also provide important information for private owner-occupiers to consider if they are making decisions about a major home upgrade and whether to renovate or demolish and fully re-build.

[15] https://www.architecture.com.au/wp-content/uploads/Institute-of-Architects-2021-Federal-Pre-budget-submission_VFINAL_20210129B.pdf
[16] http://www.livablehousingaustralia.org.au/59/about-lha.aspx

58. Upgrade and rebuild public hospital infrastructure. Upgrade and rebuild ageing public hospitals to meet future health care demand, starting with renewal of at least one of the Alfred, Royal Melbourne and Austin Hospitals in the next 10 years.

The Institute agrees in principle with the recommendation, and similar to our response to recommendation 57, highlights the need for research that considers the environmental impacts, performance outcomes, end-user benefits and financial viability of upcycling infrastructure.

59. Build back better after emergencies. In the next year, consider policy changes and funding mechanisms so high priority public infrastructure destroyed by emergencies is built to a more resilient standard or in less vulnerable locations.

The Institute strongly agrees in principle with the recommendation supported extensively by the recommendations made by the Institute in 2020 in our submission to the Royal Commission into National Natural Disaster Arrangements[17] (see also Appendix I). Many of the twenty-four recommendations in our submission to the Royal Commission addressed the detail of "build back better" while Recommendations No. 12 and 13. of our submission addressed the importance of assessing vulnerability arising from location.

60. Expand the legislated definition of critical infrastructure and improve information flows. Immediately consider expanding the Victorian definition of critical infrastructure beyond energy, water and transport. Expand information sharing capabilities across and beyond critical infrastructure sectors.

The Institute agrees in principle with the recommendation.

61. Incorporate lessons of emergency reviews. Incorporate and act on emergency management and infrastructure resilience recommendations from current bushfire and pandemic inquiries and other reviews underway.

The Institute agrees in principle with the recommendation and refers to our response to Recommendation 59.

SECTION 03 HARNESS INFRASTRUCTURE FOR PRODUCTIVITY AND GROWTH

2.10 Subsection 3.1 Shape the transport network for better access.

62. Reshape the metropolitan bus network. By 2025, reshape the metropolitan bus network in Melbourne's north-west and south-east in time for the opening of the Melbourne Metro tunnel, including by delivering premium bus services that offer increased frequency and faster travel times. In the next 10 years, continue these reforms elsewhere, including revising the coverage standard and using more flexible bus services in lower demand areas.

The Institute agrees in principle with the recommendation.

[17] https://www.architecture.com.au/wp-content/uploads/20200504-Australian-Institute-of-Architects-Royal-Commission.pdf

63. Connect suburban jobs through premium buses and road upgrades. In the next five years, create new premium bus services and better roads to connect outer and new growth suburbs to National Employment and Innovation Clusters and major employment centres. Consider using a premium bus service instead of trams on the Wellington Road corridor to Rowville.

The Institute agrees in principle with the recommendation noting it should be expected that location of National Employment & Innovation Clusters and major employment centres be located on principal roads or at least distributor roads.

64. Increase suburban rail corridor services and capacity. Immediately revise metropolitan train timetables to increase service frequency. Develop and progressively deliver a prioritised, 15-year network service upgrade program for Melbourne's suburban train corridors, including track, signalling and train carriage projects that expand services and help encourage development in locations able to manage extra population growth.

The Institute agrees in principle with the recommendation and notes that the need for corridors and capacity to be reviewed in an integrated way with proposed housing development and densities so that optimum investment decisions are made and large scale developments are not left un- or under- serviced[18],[19] The Institute also recently made a submission[20] to the Victorian Department of Environment Land, Water and Planning's consultation on Green Wedges and Agricultural Land Use Planning. In our submission we highlighted an underlying driver to green wedge encroachment,

> *One important measure to address competing land uses and prevent residential urban sprawl and encroachment into Green Wedges is to review the permissible residential dwellings densities in our cities and suburbs. For example, where many current developments seldom result in greater than 20 dwellings per hectare, consideration could be given to mandating minimum density in new developments of 40 dwellings per hectare.*
>
> *Careful and considered master planning and high-quality design of built form is critical to ensure that higher densities are accompanied by high levels of liveability, amenity, sustainability, commodity that promote physical and mental wellbeing, social inclusion and cohesion*. (p. 6)

65. Reconfigure the city loop for cross-city train services. Immediately after the Melbourne Metro opens in 2025, reconfigure the city loop to allow for more cross-city train services.

The Institute agrees in principle with the recommendation and notes the need to ensure that these train services are either integrated with bus routes and timetables or of such frequency (e.g every 5-10 minutes) that highly synchronised timetables are not as critical.

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[18] https://www.abc.net.au/news/2018-10-16/what-its-like-to-live-in-australias-fastest-growing-suburb/10343110?nw=0
[19] https://theurbandeveloper.com/articles/keep-up-infrastructure-fails-to-keep-pace-with-new-housing-growth
[20] https://www.architecture.com.au/wp-content/uploads/Australian-Institute-of-Architects-Submission-to-DELWP-GWAL-Consulation_20210209.pdf

66. Prepare for Melbourne Metro Two. Within five years, complete the Melbourne Metro Two business case to protect the land required to construct it. To manage and grow demand along the proposed corridor, introduce premium bus services between Newport and Fishermans Bend, and between Victoria Park and Parkville, within five years.

67. Protect a future option for a new cross-city motorway. Within five years, determine an updated future alignment and preserve the option for constructing, if required, a new motorway linking the Eastern Freeway and CityLink.

The Institute agrees in principle with both Recommendations 66 and 67 if they are well supported by traffic studies, and social and environmental cost-benefit analyses. Overall, encouraging public transport facility development in place of car usage is beneficial for the majority and better for the environment, while recognising there is still an important role for passenger and commercial vehicles. Critical missing links may substantially reduce transit times and consequently reduce emissions associated with traffic congestion and inefficient stop/ start traffic flows.

2.11 Plan Subsection 3.2 Plan for growth areas

68. Prioritise and oversee infrastructure delivery in growing communities. Within two years, empower an appropriate government body to monitor infrastructure delivery in new growth areas and priority urban renewal precincts, and proactively advise on delivery sequencing and funding. In the next five years, develop program business cases for growth areas and precincts that consider the timing, sequencing and funding of necessary infrastructure.

The Institute strongly agrees with the recommendation and notes the first paragraph of our response to Recommendation 64. To add emphasis, such infrastructure should be developed in advance of residential development – ie schools, public facilities should be ready to use as the new communities acquire possession of their housing and settle in the new developments.

69. Expand rail access in outer suburbs. In the next five years, complete plans to progressively expand access to rail services in growth areas and purchase remaining land required for rail corridors and stations. Immediately introduce premium bus services toward Clyde, Wollert and the Mornington Peninsula. Develop business cases to examine the feasibility of extending rail towards Clyde, Wollert and Baxter.

The Institute agrees in principle with the recommendation noting that cost benefit modelling should demonstrate feasibility of expanding services within existing urban growth boundary and not rely on residential development beyond those boundaries except within existing towns. For example, the northern growth corridor further residential development beyond the current boundary would mean expansion to Kilmore. We therefore also note the second half of our response to Recommendation 64 in relation to the prevention of urban sprawl.

70. Expand and upgrade Melbourne's outer suburban road network. In the next five to 15 years, deliver a program of upgrades to Melbourne's arterial road and freeway network beyond what is currently funded, focusing on congested roads and corridors in outer metropolitan and growth suburbs council areas.

The Institute agrees in principle with the recommendation based on projected target populations and densities so that road reserves and layouts are effectively future-proofed. If the urban growth boundary is to remain stable, then the conditions should promote a

longer term approach that can accommodate increasing population densities and population numbers.

71. Target 30% tree canopy coverage in new growth areas. Achieve 30% tree canopy coverage in new growth areas by mandating coverage during precinct development. Fund relevant Victorian Government agencies and local government to plant, replace and maintain canopy trees.

The Institute agrees in principle with the recommendation. Trees in public reserves should be indigenous species and also selected to promote flora and fauna habitat. Promoting or mandating the planting of required numbers of mature height indigenous trees (subject to safety considerations, allotment area, etc), across rear boundaries may give effect to creating a linear spine of indigenous trees as part of neighbourhood level tree canopy development.

2.12 Plan Subsection 3.3 Align social infrastructure with better service delivery

72. Co-design an Aboriginal Community-Controlled Infrastructure Plan. Immediately commence a co-design process with Aboriginal Victorians to develop a plan to guide investment in Aboriginal community-controlled infrastructure to meet current and future social, economic and cultural needs.

The Institute agrees in principle with the recommendation.

73. Set targets to grow social housing. Immediately set a transparent social housing growth target to reach at least the national average of 4.5 social housing dwellings for every 100 households by 2031.

The Institute agrees in principle with the recommendation and notes our response to Recommendation 36 in relation to targets.

74. Build new hospital capacity. In the next five years, reserve land for future hospital sites. Over 30 years, build new public hospital capacity to meet Victoria's future needs, especially demand increases from Melbourne's rapidly growing outer northern and western suburbs.

75. Deliver infrastructure for a better mental health system. Immediately establish a dedicated infrastructure fund to support a better mental health system, building on the Royal Commission's interim priorities of 170 additional acute mental health beds by mid-2022, new co-designed residential mental health services, a Collaborative Centre for Mental Health and Wellbeing, and a new Aboriginal Social and Emotional Wellbeing Centre.

76. Plan and consistently deliver corrections and youth justice infrastructure while managing demand with policy settings. Plan and consistently deliver corrections and youth justice infrastructure while managing demand. By 2023, undertake long-term corrections and youth justice infrastructure planning, alongside policy measures that reduce short-term volatility and prison demand. In the next 15 years, consistently deliver a pipeline of corrections and youth justice infrastructure to meet long-term demand.

The Institute agrees in principle with the recommendation and notes our response to Recommendations 21-23. There is a potential advantage of bringing architects together with services agencies and professionals across health and justice systems (and consumers, where appropriate) to design facilities that help achieve the intended human and societal benefits.

Forecasting should take into account changing population needs associated with demographic change such as population ageing. For example, a hospital located in an area

with young families will benefit from obstetric, peri-natal services and paediatric facilities, while a campus in an ageing suburb may require facilities for geriatric evaluation and management, restorative care and treatment and management of age-related morbidities, or palliative care.

Good design of facilities, requires an optimum 'future proofing' approach that includes the ability to adapt or remodel facilities to adjust to changing population needs and to accommodate new / additional technologies and health care delivery (e.g. space and structural requirements for MRI and PET scanners, or day treatment and rehabilitation areas). This may include location and siting as well as the ability to re-develop in-situ.

SECTION 04 DEVELOP REGIONAL VICTORIA

2.13 Plan Subsection 4.1 Enhance market access and productivity

77. Deliver funding certainty for regional road maintenance and upgrades. Within two years, specify clear levels of service for each type of regional road and bridge. Following this, dedicate an ongoing program to fund regional road and bridge maintenance and upgrades to meet these service levels. Funding should be prioritised based on improving safety, decreasing vehicle emissions, and lifting economic productivity.

78. Revise the Murray Basin Rail project plan. Immediately revise the Murray Basin Rail project plan, informed by a published business case review.

79. Fund an ongoing regional rail freight maintenance program. Immediately fund an ongoing periodic regional freight rail maintenance program, informed by a publicly available network asset management plan.

The Institute agrees in principle with Recommendations 77, 78 and 79 on the premise of and of achieving reduced road congestion, improving road safety and reducing greenhouse gas emissions. Further possibilities for these schemes to be expanded should be investigated and supported by social, economic and environmental studies.

There can be disbenefits or unintended consequences to any major change (e.g specific job losses or impacts of proposed routes on towns including those towns that are not located on these routes). If these potential unintended consequences are identified early, then mitigation strategies can also be developed.

80. Co-invest to bring faster broadband to regional business precincts. In the next five years, create a regional broadband fund to co-invest in bringing high speed broadband to strategic business precincts in regional cities, informed by independent assessments.

The Institute agrees in principle with the recommendation.

2.14 Plan Subsection 4.2 Unlock regional economic growth opportunities

81. Upgrade power supply for agriculture and regional manufacturing. In the next five years, contribute toward strategic power supply infrastructure upgrades for agriculture and regional manufacturing, where an independent assessment demonstrates significant potential for increased productivity, competitiveness and growth.

The Institute agrees in principle with the recommendation.

82. Invest in regional nature-based tourism infrastructure. In the next five years, invest in nature-based tourism infrastructure at Mount Hotham, the Grampians, Wilsons Promontory, and East Gippsland. Develop a Victorian nature-based tourism strategy to guide industry development and prioritise further investments.

The Institute agrees in principle with the recommendation.

83. Develop a Victorian Aboriginal tourism strategy. Partner with Traditional Owners to develop a Victorian Aboriginal tourism strategy in the next five years to guide future Aboriginal tourism investments, including through Joint Management Plans.

The Institute agrees in principle with the recommendation. We fully support a partnering approach with traditional owners noting our Institute's professional commitment to engage and act meaningfully through reciprocal partnership and relationships with Aboriginal and Torres Strait Islander peoples[21].

84. Boost tourism infrastructure by allowing more national parks to grant long leases. Attract investment in Victoria's regional tourism industry by immediately allowing more national parks to grant leases for up to 49 years for infrastructure proposals that meet specific criteria and complement environmental and heritage values.

The Institute agrees in principle with the recommendation subject to those requirements set out in the detailed explanation of Recommendation 84 that only suitable developments would be granted long leases (up to 49 years) subject to benefits to the community, economy and environment; that proposals are supported by the community and Traditional Owners; that they meet the government's Biodiversity 2037 guidelines; and that the proposals address place-based risks (e.g. bushfires); and that facilities are accessible and adheres to universal design principles.

2.15 Plan Subsection 4.3 Connect the regions to help strengthen wellbeing

85. Reform regional public transport to meet local needs. In the next five years, gradually redirect some regional transport funding to redesigned, integrated local transport services, based on regional needs assessments, and incorporating flexible services that meet local needs.

The Institute agrees in principle with the recommendation.

86. Improve resilience of regional telecommunications infrastructure. In the next 10 years, develop more resilient regional telecommunications infrastructure so communities can stay safe during emergencies, including greater network redundancy and back-up power supply. Continue co-funding mobile black spot projects with industry and the Australian Government.

The Institute agrees in principle with the recommendation.

87. Fund regional libraries to provide better internet access. Immediately provide funding for regional and rural libraries to improve community access to fast, free internet services, leveraging existing library infrastructure.

The Institute agrees in principle with the recommendation.

[21] https://www.architecture.com.au/about/national-council-committees/first-nations-advisory-working-group-and-cultural-reference-panel

88. Use rural schools for children's specialist and allied telehealth services. Retrofit or better use selected rural school infrastructure for children's specialist and allied telehealth services to improve children's health and development. Immediately begin with a trial in Wimmera Southern Mallee.

The Institute agrees in principle with the recommendation subject to retrofitted areas being designed to be fit for purpose (e,g, suited to telehealth consultation including privacy and space requirements and being psychologically safe for children).

2.16 Plan Subsection 4.4 Foster regional Victorians' health, safety and inclusion

89. Deliver multipurpose shared social service facilities in the regions. Immediately undertake collaborative inter-agency planning for regional social services to identify opportunities for multipurpose shared facilities, then deliver them where appropriate in partnership with local governments and community organisations.

The Institute agrees in principle with the recommendation, and notes that the comment made in the consultation paper's detailed explanation that planning, delivery and managing shared facilities is more complex than for single purpose facilities and that shared facilities will not work in all circumstances and must incorporate an appropriate mix of services.

We therefore recommend the use of architectural services to ensure that the physical design of the facilities is responsive to the intended services model and co-location arrangements, as well as undertaking master planning when services hub develop takes place as part of larger precinct planning in any town or regional centre.

90. Support regional councils to update, repurpose or retire outdated community infrastructure. Fund regional councils in the next five years to update, repurpose or retire outdated community infrastructure for better service delivery.

The Institute agrees in principle with the recommendation. The role of architectural master planning and design should also support regional councils to achieve sustainable design including options to redevelop based on an existing conditions analysis and subject to optimum location requirements.

91. Create climate-adapted facilities for rural communities. In the next five years, fund local governments to plan and help deliver a network of designated, accessible climate-adapted community facilities, to manage the health impacts of extreme heat and bushfire smoke.

The Institute strongly agrees in principle with the recommendation supported extensively by the recommendations made by the Institute in 2020 in our submission to the Royal Commission into National Natural Disaster Arrangements[22] (see also Appendix I) and as per our response in this submission to Recommendation 59.

Of particular relevance in our recommendations to the Royal Commission recommendation for this Recommendation (91) are recommendations 5 and 6 about sustainable buildings

[22] https://www.architecture.com.au/wp-content/uploads/20200504-Australian-Institute-of-Architects-Royal-Commission.pdf

that address the impacts of more extreme climate and weather events and include heat resistant design; and recommendations 23 and 24 which address bunkers and using community buildings as 'safer-place' refuges.

92. Build regional residential alcohol and drug rehabilitation facilities. Within five years, build residential detoxification and rehabilitation facilities in regional Victoria to provide equitable access to alcohol and other drug treatment.

The Institute agrees in principle with the recommendations and notes the potential to co-locate these facilities with, or in close proximity to, other services.

93. Fund more Youth Foyers in regional Victoria. Fund more Youth Foyers in regional Victoria, beginning with Geelong, Wodonga and Bendigo by 2026, to build on existing education infrastructure and support vulnerable young people.

The Institute agrees in principle with the recommendations noting that a beneficial feature of Youth Foyers, which address homelessness or homelessness risk for young people, is the co-location of accommodation with education facilities.

94. Expand social housing in regional centres, in locations with good access. Focus social housing investments in regional centres, near access to transport and services, to contribute to a target of 4.5% social housing dwellings for every 100 Victorian households by 2031.

The Institute agrees in principle with the recommendation and aligned to our responses to Recommendation 36 and 73 to particularly endorse targets for housing.

95. Make social housing suitable for changing local climates. Prioritising northern Victoria, immediately begin a long-term program of modifying social housing to be climate resilient by improving the energy efficiency and energy affordability of residences.

The Institute strongly supports this recommendation and restates, here, from the introduction section of our submission that, the Institute has formally adopted and is promoting a policy that the Australian Government establishes a national plan towards zero carbon buildings by 2030.

We advise that, in building modifications, the starting point is improving wall and ceiling insulation and subfloor insulation, working progressively through fixed window shading, replacing windows, when needed, with double (or even triple) glazed units and establishing door closers to external doors and more. It is also important to provide occupants with education/introduction programs to outline how best to get best use of their environmentally efficient houses and therefore enjoy the financial and comfort benefit of their refurbished home.

We note the work currently underway by the Nationwide House Energy Rating Scheme through its NatHERS Whole-of-Home initiative that will continue to provide information and a star rating of a home's thermal performance, and in future will also provide information

about the energy performance of heating and cooling appliances, hot water systems, lighting and cooking and plug-in appliances[23].

23

3 APPENDIX I

Summary of Recommendations from Australian Institute of Architects' submission to the Australian Government Royal Commission into National Natural Disaster Arrangements

1. The Australian Government must ensure we meet our international Paris Agreement obligations to reduce greenhouse gas emissions by 26 - 28 per cent from 2005 levels by 2030.

2. A national crisis response framework led by the Australian Government requires detailed consideration with clear roles, expectations and funding at all levels of government.

3. A new national disaster monitoring facility should be established to fill data gaps related to past natural disaster events in Australia and provide modelling on future scenarios to underpin evidenced based policy and regulation development, alongside climate change resilience, adaptation and mitigation initiatives.

4. Australian Government sponsored rebuilding projects following natural disasters and designed as stimulus in response to the Covid-19 pandemic should be mandated to comply with net zero emissions which can be achieved through the appropriate choice of complying building materials and construction processes.

5. Built environment professionals must be supported to design more sustainable buildings that address the impacts of more extreme climate and weather events, are responsive to local conditions and produce locally based solutions.

6. The National Construction Code should be amended to ensure that overall energy efficiency is balanced alongside the need for heat resistant design, limiting indoor heat stress for occupants during heatwaves.

7. The concept of a "building control zone" in the Northern Territory must be removed and all construction must be compliant with the National Construction Code.

8. A detailed and considered review of options to upgrade both infrastructure and housing in remote communities in response to the effects of climate change must be undertaken.

9. Australian Government building projects following natural disasters or designed as stimulus in response to the Covid-19 pandemic, should be used to upgrade both infrastructure and housing in remote communities as a priority.

10. Australian Government initiatives following natural disasters or designed as stimulus in response to the Covid-19 pandemic, should support people to upgrade the energy efficiency of their homes to prepare for, and create additional resilience to, the impacts of climate change in our built environment.

11. When rebuilding after disasters we must ensure we "build back better". It is possible to design much better, more fire resistant, more resilient, sustainable and climate responsive houses than what was there before. We must ensure this occurs.

12. Rebuilding in bushfire affected zones is appropriate when designs are well located and compliant with Australian Standards and use best practice planning principles.

13. Remote locations with a single access approach, surrounded by bush and without any support infrastructure or any potential for a fire break, should be considered unsuitable for reconstruction and seen as inherently vulnerable.

14. Effective solutions to the creation of disaster resilient communities will require a wide range of people, including built environment professionals, working together. Where a settlement has been affected, for example by bushfire, communities can and should be part of the future planning and decision-making process to ensure investment and reconstruction benefits the broader community.

15. Australian Standard AS3959-2018: Construction of buildings in bushfire-prone areas is guided by 2009 Forest Fire Danger Index (FDI) data. The Standard should be updated in line with modelling that includes data from 2019/20 fire events to allow bushfire risk to be appropriately quantified and mitigation actions appropriately identified.

16. Post fire analysis is extremely important, and we should seek to understand if the cost of building destruction in bushfires is greater than the costs of putting in place more stringent building requirements and regulation. Where required, regulation should be altered in response to relevant findings.

17. The use of Australian Standard AS 1530.8.2: Methods for fire tests on building materials, components and structures by each regulator in each state and territory should be reviewed and processes streamlined.

18. Where possible, products deemed acceptable as an "Alternative Solution" in one jurisdiction should be able to be used in like situations in another jurisdiction without further product testing or expert reports.

19. A detailed and considered review of options to upgrade existing housing stock in bushfire prone areas must be undertaken. If necessary, government incentives and

regulatory assistance should be provided to support homeowners to upgrade property to enhanced safety levels.

20.Australian Government sponsored rebuilding projects following natural disasters should include opportunities for homeowners who have not lost their homes to access support to upgrade their properties to enhanced safety levels.

21. Economic stimulus in response to the Covid-19 pandemic to support the building and construction sector should consider government incentives and regulatory assistance to homeowners to upgrade property to enhanced safety levels, in response to both bushfire threat and other natural disasters.

22. Evidence collected from the 2019-20 Bushfire season must be used to revise Australian Standard AS 5414-2012: Bushfire water spray systems. This should include a reassessment of the regulatory and practical benefits of installing water spray systems on both new and existing dwellings in both residential and commercial settings and seek to remove the regulatory limitation stating that water spray systems are only suitable for use in situations up to Bushfire Attack Level BAL-19.
23. A detailed and considered review of options to bring a wider array of accredited bushfire bunkers to the market should be undertaken.

24. The Building Ministers Forum and Australian Building Codes Board should consider the merits of approved bunkers within bushfire prone areas for both private and public use including using community buildings as ‘safer-place’ refuges.