Australian Institute of Landscape Architects

Thursday, 01 October 2020

Re: Victorian Government Inquiry into Environmental Infrastructure for Growing Populations

To Whom it May Concern,

The Australian Institute of Landscape Architects (AILA) welcomes the opportunity to prepare this submission into the Inquiry into Environmental Infrastructure for Growing Populations.

This inquiry is a critical first step in understanding and acknowledging deficiencies within our current approach to Environmental Infrastructure. From this basis, a greater level of discussion and review is possible, ultimately leading to reforms which will enhance and protect the provision, access and quality of our communities' Environmental Infrastructure, making more livable and healthy environments for future generations.

We welcome the opportunity to discuss our submission further with you and continue to work with you proceeding this inquiry to help shape the future positioning of Environmental Infrastructure within our communities. Should you require additional input from AILA, please contact AILA Victoria Chapter Manager, Martha Delfas at vic@aila.org.au or myself as per the details below.

Regards,

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Australian Institute of Landscape Architects

INQUIRY INTO ENVIRONMENTAL INFRASTRUCTURE FOR GROWING POPULATIONS

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Summary of Recommendations

The below is a collation of the recommendations listed throughout the submission.

The benefits of different types of Environmental Infrastructure

1. Develop a more comprehensive definition of Environmental Infrastructure, incorporating both social and environmental benefits of EI and acknowledging the integrated nature of these benefits in infrastructure of this kind, potentially adapting AILA's "Green Infrastructure" definition.
2. Develop an Environmental/Green Infrastructure Strategy and implementation plan that formally positions EI/GI and outlines how this notion will be embedded in policy and practice and the anticipated benefits and performance metrics. This strategy should be developed collaboratively with a multidisciplinary team and draw on the recommendations and findings outlined in the reports listed in section I. Reflect on the recommendations in this response through the lens of maximising ecosystem services. This would entail a paradigm shift in the hierarchy of decision making where 'green' is considered on an equal footing with 'grey' infrastructure, rather than the component to 'give' when conflicts arise. If the value of EI/GI and associated benefits were calculated, costed consistently and linked to property values another conversation may be possible.
3. As part of the development of this EI/GI strategy explore the applicability of the US model of landscape site commissioning (https://www.asla.org/2019awards/638111-Site_Commissioning_Proving_Triple_Bottom_Line_Landscape_Performance.html)
4. Provide clear targets by setting, coupled with specific evidence-based best practice standards and specifications, as well as evaluating success, to allow the Government to ensure they are not inadvertently enabling locational deficits before a development has even been built.

The impact of population growth in Melbourne and regional centres on the provision and preservation of Environmental Infrastructure

1. Include streets as Environmental Infrastructure. This would include the exploration of streets as Living Streets
2. Preserve the quality of existing EI through appropriate multi year funding and maintenance regimes that utilise innovating emerging research and evidence linked to clear performance metrics. These metrics could be set as part of exploring a site commission process as outlined in section II.
3. Review and standardise the way the Precinct Structure Plans (PSPs) specify and embed EI in growth corridors. Fund pre and post occupancy analysis as part of PSPs development, drawing on site commissioning philosophies and embed learnings in updates to the PSP process.
4. Standardise the placement of utilities looking from the lens of maximising the lifetime EI benefits, rather than the immediate cost of grey infrastructure placement acknowledging that the lifetime benefits of Green Infrastructure will outweigh immediate installation costs. This would include an agreement to place power lines underground as standard, not the exception.

Differences in the availability of Environmental Infrastructure between different suburbs and between different regional centres

1. Take a research based, equity, led approach to the provisioning of accessible EI to ensure that those who need it most and will obtain the most benefit have appropriate access. This may be through the use of modelling tools looking at a range of factors, but also drawing on recent research regarding park indexes as a network, for example, to ensure that decision making is based on sound analysis.

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The effectiveness of current legislation and planning provisions in securing Environmental Infrastructure

1. Review the approach to the development of PSP's and the EDCM for growth areas to ensure that the concept of EI is embedded.
2. Consider Streets as Living Streets and assess the policy around the development of townhouses and dwellings to ensure they enable the evolution of streets into EI

Existing delays or obstacles to securing Environmental Infrastructure

1. 'Ongoing' funding as part of development contributions is currently limited. For example the cost for transforming a typical street can be between $100-200 per 100 linear metres. Funds collected by Council typically are allocated to centralised projects, such as upgrades to existing parks or to built infrastructure such as libraries or community centres, not local streets. A mix of funding options need to be investigated and agreed based on ratified benefit benchmarks to deliver quality EI. This would likely entail a mix of developer contributions, council rates, state government investment through grants recouped by value capture (land tax paid by seller), alongside an exploration of innovative methods such as:
   - rate rebates (see Darebin Solar Scheme for a potential model framework);
   - Parks Foundations found in the UK and USA; or
   - partnerships with corporates as part of their corporate social responsibility or shared value strategies.

The impact of COVID-19 on the importance, use and design of Environmental Infrastructure

1. Proximity is important to ensure access to Environmental Infrastructure. The concept of a walkable city, developed for liveability and sustainability, applies equally to the post-COVID-19 city. Environmental infrastructure should be within 400 m of every home. On average, only 78% of Australians live within 400 m of public open space. https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf Within a country, access to public open space in larger cities is lower than in smaller cities. Thus, it is likely that Environmental Infrastructure is more accessible in regional towns than in Melbourne. Conscious effort must be made to ensure Environmental Infrastructure is accessible within 400 m of all Melbourne residents.
2. Space within Victorian cities and towns should be reallocated, improving access to Environmental Infrastructure. Streetscapes should be designed for more than just cars. UN reports that, in general, roads take up three times as much urban land compared with public open space. Changes in work practices may lead to permanent reductions in road traffic, although desires to maintain social distancing may reduce demand for public transport. The result could be greater reliance on "solo transport modes" https://www.indesignlive.com/the-ideas/urban-design-post-covid. Thus, current road space could be converted into footpaths, cycle paths, etc, to allow easy movement to Environmental Infrastructure. Design conventions will be re-assessed, e.g. footpaths will be widened to allow pedestrians to pass at a safe social distance. This reallocation, though, must involve extensive community participation to ensure that all benefit from it, especially the most vulnerable in our communities. https://www.foreground.com.au/culture/post-pandemic-landscapes-must-be-equitable-by-design/
3. Landscapes must be multifunctional landscapes, including Environmental Infrastructure, to support a range of different uses, simultaneously, by individuals spaced for social distance. Such uses need not be defined in advance but will arise from the flexibility of the designed landscape. Connectivity in these landscapes will be important. Such multifunctional landscapes will be mosaics of patches and corridors to allow ease of movement of humans but also to support biodiversity. 'Re-wilding' of our urban landscapes will be desirable, initially as a consequence of constraints on maintenance resources but subsequently contributing to urban Environmental Infrastructure. After an extended

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period of lockdown, nature might be revalued.
https://www.metropolismag.com/architecture/landscape/covid-19-landscape-architecture/ ;
https://www.architectureanddesign.com.au/features/comment/how-covid-19-will-change-landscaping-design#

4. Community spaces, including Environmental Infrastructure, must feel safe. Social interaction underpins, and energises all cities but, COVID-19 has diminished this in Melbourne and other Victorian towns. Post-COVID-19, community spaces must be designed and managed to ensure that users feel safe to participate in civic life.
https://worldlandscapearchitect.com/how-will-covid-19-change-our-perceptions/#.X1GYmotS-00
5. Equity to Environmental Infrastructure is all-important. As mentioned previously, residents of high-rise buildings and denser areas of Melbourne and regional settlements, single parents and those with less education have a greater need for easy access to Environmental Infrastructure. Equity extends also to quality and size of the accessible parks, open space, sporting fields, bushland and waterways.

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I. Introduction

Victoria, and in particular Melbourne, is experiencing unprecedented growth. By 2051 Victoria is predicted to grow to approximately 10 million residents, while at the same time Melbourne is set to reach 8 million (Growing Victoria's Potential Report). While rates of population growth may slow in the immediate term due to COVID, the fundamental drivers for Melbourens population growth remain intact and strong growth is likely in the future.

A range of key studies and strategies have investigated the benefits and challenges associated with the growth of Melbourne and Victoria, many of them prepared by or for the Victorian Government. These include, but aren't limited to:

- Living Melbourne Strategy
- Plan Melbourne 2017–2050
- Victoria's Climate Change Adaptation Plan 2017–2020
- Protecting Victoria's Environment – Biodiversity 2037
- Victorian Public Health and Wellbeing Plan 2015–2019
- Healthy Waterways Strategy 2018–28 and Integrated Water Management Framework 2017
- Water for Victoria

Findings from these reports will be integral to forming a plan for the future of Environmental Infrastructure in Melbourne and Victoria.

Environmental infrastructure is an integral component of city liveability and climate change responses in any location. Given the many and varied social, environmental and financial benefits Environmental Infrastructure can deliver, and the pressing imperative of climate change, we cannot afford to lose opportunities to integrate this infrastructure into priority settings.

We understand the Terms of Reference for this Inquiry are framed around community access to parks and open space, sporting fields, forest and bushland, wildlife corridors and waterways. For the purpose of this submission, references to Environmental Infrastructure can be taken as being all of the above, but also includes streets and other public spaces where nature can be found or supported. We understand the focus of the Inquiry is primarily around "parks and open space" but hope that a broader appreciation of the role all components of the public realm have to play in the future provision of Environmental Infrastructure infrastructure will also be considered. AILA has also defined 'Green Infrastructure' through a Position Statement discussed in this submission

AILA supports the designation of open space and related infrastructure as 'environmental' or 'green' infrastructure. Planning for this infrastructure needs to lead conversations around liveability alongside more traditional 'grey' infrastructure. 'Green infrastructure' must be placed on an equal footing with 'grey', not managed as an 'optional extra' to be included once other 'more important' infrastructure decisions are made. If policy makers are to enable, enact and embed this paradigm shift it must be unequivocally reflected in policy and practice.

There is much room for improvement in how Environmental Infrastructure is promoted within policy and delivered in practice. Importantly, infrastructure that enables health and wellbeing is often not as accessible for those living in growth corridors as established suburbs (ABS, 2016). However, established areas also face challenges as densities increase. The importance of this Environmental Infrastructure has been highlighted by recent events, not just in these outer suburban areas but across metropolitan and, to a lesser degree, regional areas as well.

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II. The benefits of different types of Environmental Infrastructure

Defining Environmental Infrastructure

Environmental Infrastructure is defined in the Terms of Reference for this inquiry as parks, open space, sporting fields, bushland and waterways. AILA supports a broader definition of Environmental Infrastructure to encompass not only the assets noted above but importantly also our streets which have a strong role as Environmental Infrastructure alongside their role as movement corridors. These 'road' corridors, if integrated with broader networks of open space can fulfil a number of the recreational roles more traditional parks play, such as facilitating informal exercise. Environmental Infrastructure provides a wide and diverse range of benefits, including cultural, social and recreational benefits, as well as the health benefits, both mental and physical.

Green Infrastructure (GI) is defined in AILA's Green Infrastructure Position Statement as strategically planned networks of natural and semi-natural areas in our cities and regional settlements. It contrasts with grey infrastructure, traditional pipe and concrete infrastructure. Governments and the community rely on access to urban nature, such as parks and public spaces to improve the social and environmental conditions of our built environment. AILA's experience shows us that the challenge of growing populations, global warming, and environmental decline, require new forms of infrastructure and new approaches to landscape planning and management in our urban and regional settlements. Many of our urban environmental and social issues require strategies and interventions that are multidisciplinary and collaborative, crossing jurisdictional boundaries and involving a broad range of stakeholders, particularly community organisations, property owners and the private sector. Thinking of the assets noted in this enquiry as GI provides a framework for delivering more comprehensive and multi-functional benefits to society. (https://www.aila.org.au/AILAWeb/Advocate/Position_Statements/AILAWeb/National_Policy_Statements.aspx?hkey=3c5e5a73-3dae-428d-8cbc-ef93c812edc9&WebsiteKey=44fe2fe0-5560-4283-981a-c15fe691b1d1) Such infrastructure can provide much more than open space and parkland to Victoria's urban and regional communities. GI can contribute important economic, social and environmental benefits to growing communities.

Beneficial Functions of Green Infrastructure

GI performs certain functions in the same way that other forms of infrastructure contribute to the functioning of our urban and regional settlements. For example, a constructed wetland is part of a city's water management and treatment infrastructure. A wetland captures and retains stormwater and removes excess suspended nutrients such as nitrogen and phosphorus along with inorganic pollutants and heavy metals. The wetland performs other roles beyond improving water quality. It enhances biodiversity by providing habitats for a range of organisms, from bacteria to birds, reptiles and mammals. The urban park that hosts the wetland also provides educational and recreation opportunities, encouraging positive experiences with nature and improving mental and physical health outcomes. GI should not be thought of as individual elements in the landscape (a tree, a wetland, a park or a garden). Rather it should be treated as components of an infrastructure system that interacts with a range of other urban systems (transport, stormwater, ecological communities) that perform certain functions and provide ecosystem services that contribute to the sustainable operation and enhancement of urban and regional settlements.

Green infrastructure is identified as one of nine key sectors in AS 5334-2013 'Climate change adaptation for settlements and infrastructure—A risk based approach'. AILA supports the formal recognition of Green Infrastructure in contemporary national and state environmental policy and its implementation in Victorian cities and regional areas. Management of Victoria's Environmental Infrastructure as GI would improve the liveability and sustainability of urban and regional settlements and mitigate the impacts of climate change. (AILA Position Statement - Adaptation to the Changing Climate: Building Resilience)

GI can deliver provisioning, supporting, regulating and cultural ecosystem services (Figure 1). Examples of provisioning ecosystems services are food and water. Regulating ecosystems are such things as flood and

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disease control. Supporting services maintain environmental conditions that support life, e.g. nutrient cycling. Cultural ecosystem services include recreation, aesthetic values, sense of place, spiritual and religious values, knowledge systems, and education and inspiration. Thus, the benefits of accessing and using Environmental Infrastructure as Green Infrastructure are clear.

Increasing Importance Under Climate Change

Environmental Infrastructure will also become increasingly critical to the effective functioning of our cities as climate change impacts begin to be felt. These assets will play a crucial role not only in preserving the ecological balance and related services, but also in ensuring our urban spaces remain 'livable' in the truest sense. The delivery of Environmental Infrastructures will become increasingly critical as the climate gets hotter and will have an important role in cooling our urban areas, increasing ecological resilience and mitigating the effects of sea level rise. These emerging roles as 'adaptation' responses also need to be better integrated into planning, implementation and funding mechanisms. Heat island effects are a mounting issue in our cities, felt disproportionately by the most vulnerable: the elderly, infirm, very young and economically disadvantaged. This issue is exacerbated by climate change, a reduction in canopy cover and an increase in hard surfaces that accompany increased development. Residential streets are not evolving. The importance of EI in supporting a response to the biodiversity crisis currently facing Victoria and the rest of the nation should also not be understated. Adopting a more nuanced and connected approach to the delivery of I will have benefits far beyond the local human communities.

Cultural and Social Benefits

Cities and their growing populations have always relied on the ecosystem services that the environment provides: the provision of fresh water from local waterways and reservoirs, and of food from nearby agricultural and horticultural districts; nutrient cycling to support continued production on farms; regulation of water quality and flood mitigation by wetlands. The value of these services can be readily determined. However, there is growing evidence for the benefit of cultural ecosystem services, less easily quantified and valued. There is much research to show that access to nature, whether it is *bona fide* natural areas, urban parks or even green views, improves psychological and physical health and social functioning. Increasing access to views and natural landscapes brings health benefits such as better cognitive functioning, greater self-discipline and impulse control, improved mental health overall, and greater resilience in response to stressful life events. (AILA Livable Cities Healthy Communities-Healthy Living Landscape Solutions Position Statement: https://www.aila.org.au/documents/AILA/Advocacy/National%20Policy%20Statements/3.%20Healthy%20Communities_Nov%202016.pdf)

Specifically, research has demonstrated the importance of public green space to the quality of life of Australian residents. There is a positive correlation between residents' life satisfaction and the percentage of public green space in their local area. Importantly, the relationship is not linear: as urban population density increases, the value of the public green space increases. Single parents, those with lower education and living in high rise dwellings derive a greater benefit from the provision of public green space than the general population. Thus, public green space enhances the welfare of urban residents and adequate allowance should be made for its provision when planning urban areas. https://www.semanticscholar.org/paper/Public-Greenspace-and-Life-Satisfaction-in-Urban-Ambrey-Fleming/3c4a59afffa683d9dac8aa5bbfb57a67d24c02c1

Further, where people feel more aware of and connected to EI assets they are more likely to feel ownership over, and take stewardship of, their surrounding environment.

Equitable Distribution of Benefits

An important consideration, however, is equity. Access to and use of different types of Environmental Infrastructure, or GI, must be equitable. Thus, in any Victorian city or regional settlement, all different types of Environmental Infrastructure, whether parks, open space, sporting fields, bushland, waterways or something

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else, must provide equity in access to all, regardless of race, ethnicity, socioeconomic status or any other personal variable. In fact, the research quoted above suggests that residents experiencing social disadvantage need access to more Environmental Infrastructure than others, and derive more benefit from it.

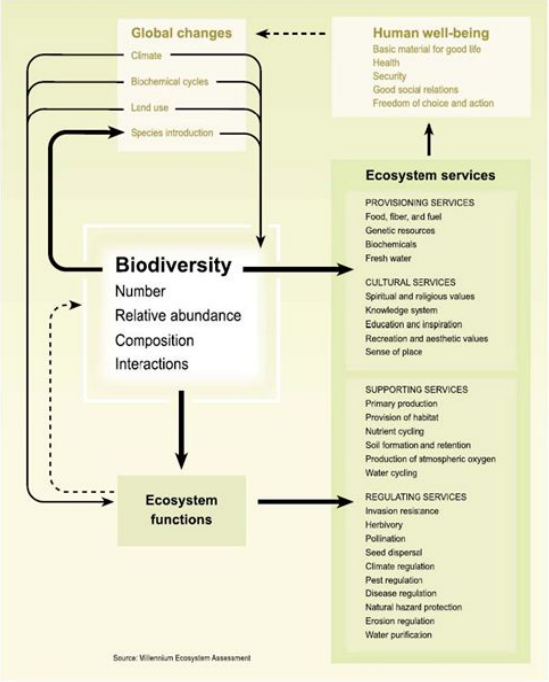

Figure 1. Millennium Ecosystem Assessment's overview of ecosystem services (Source: https://www.environment.gov.au/biodiversity/publications/ecosystem-services-key-concepts-and-applications)

Benefits of a Strategic Approach to EI/GI

For the purposes of this submission, we have adopted an expanded definition of EI to include aspects of GI as defined in AILA policy, again to introduce a more comprehensive and multifaceted set of benefits delivered through the provision of such infrastructure. Developing an Environmental and Green Infrastructure Strategy helps us to understand what the ecological and biological components of urban systems are, to prioritise the preservation and the enhancement of those green structures and to engage in cross-disciplinary dialogue about how to achieve more sustainable and resilient urban systems. An EI/GI strategy adopts an ecosystems management approach to urban planning and design and landscape management. It can provide ecosystem services that can be measured, evaluated and deployed at a landscape scale, transcending private and public land and geographic and municipal boundaries. Quoting from the Australian government's website, "ecosystem services and their continued provision underpin human existence, health and prosperity". (https://www.environment.gov.au/biodiversity/publications/ecosystem-services-key-concepts-and-applications)

Recommendations

1. Develop a more comprehensive definition of Environmental Infrastructure, incorporating both social and environmental benefits of EI and acknowledging the integrated nature of these benefits in infrastructure of this kind, potentially adapting AILA's "Green Infrastructure" definition as discussed above.
2. Develop an Environmental/Green Infrastructure Strategy and implementation plan that formally positions EI/GI and outlines how this notion will be embedded in policy and practice and the anticipated benefits and performance metrics. This strategy should be developed collaboratively with a multidisciplinary team and draw on the recommendations and findings outlined in the reports listed in section I. Reflect on the recommendations in this response through the lens of maximising

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ecosystem services. This would entail a paradigm shift in the hierarchy of decision making where 'green' is considered on an equal footing with 'grey' infrastructure, rather than the component to 'give' when conflicts arise. If the value of EI/GI and associated benefits were calculated, costed consistently and linked to property values another conversation may be possible.

3. As part of the development of this EI/GI strategy explore the applicability of the US model of landscape site commissioning (https://www.asla.org/2019awards/638111-Site_Commissioning_Proving_Triple_Bottom_Line_Landscape_Performance.html)
4. Provide clear targets by setting, coupled with specific evidence-based best practice standards and specifications, as well as evaluating success, to allow the Government to ensure they are not inadvertently enabling locational deficits before a development has even been built.

III. The impact of population growth in Melbourne and regional centres on the provision and preservation of Environmental Infrastructure

While the unprecedented growth in Victoria and Melbourne in particular, delivers a range of recognised benefits there can be no doubt this growth has put significant pressure on existing Environmental Infrastructure. Equally, and for a variety of reasons, the increase in population within Melbourne has not been met with an equal increase in provision of Environmental Infrastructure (Living Melbourne Strategy, 2019). Indeed, considering just one component of EI (canopy vegetation) mapping across metropolitan Melbourne undertaken by the Government has identified an alarming decline as a result of the intensification of development.

Urbanisation and the demand for development is one of the most significant threats to our environment (Hot Cities: battle-ground for climate change, 2011). Urban densification and greenfields development throughout Victoria has seen the loss of existing Environmental Infrastructure (EI) with most showing little regard for existing landscape systems. The meaningful integration of 'replacement' EI is not occuring. With a further 1.6 million dwellings required for the current rate of growth, Melbourne is predicted to continue to expand and densify (Living Melbourne Strategy, 2019). If we continue on the current trajectory there will be further loss of valuable existing Environmental Infrastructure, and we will continue to see a lack of new, high quality Environmental Infrastructure to ensure sufficient provision and equitable access.

Preservation/Conservation of EI

First and foremost, emphasis should be placed on conserving existing Environmental Infrastructure wherever possible. Existing, developed, integrated landscape systems have significant and complex environmental benefits. It can take tens to hundreds of years for these benefits to be re-established, with no guarantee they will ever match the original ecological or social value.

Conservation of landscape systems is most important in peri-urban areas that continue to experience significant development. Greenfield developments often do not do enough to preserve the value of the landscapes they are replacing. These landscapes can be highly important ecosystems and homes for threatened native flora and fauna. It does not need to be this way. Environmental infrastructure is considered to be beneficial and often increases property values. There needs to be clearer, stricter and more specific policy earlier in the planning phase (at the Precinct Structure Plan phase) that requires development to respect and work with and conserve the existing landscape. Further, this needs to be closely monitored and enforced by relevant government agencies, with penalties to be enforced when requirements are not complied with.

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As outlined in the *Melbourne 2030: Planning for sustainable growth* document it is imperative that the growth of Metropolitan Melbourne is better managed, with clear limits set to avoid urban growth boundary 'creep', and protect green wedges. These green wedges contain key Environmental Infrastructure and play an essential role for Victoria. Urban expansion beyond its current footprint threatens existing vegetation and natural values. This is already happening across the city (Living Melbourne). These same strategies need to be implemented to manage the growth and sprawl of Victoria's regional centres.

Beyond designated 'growth areas' the conservation of existing Environmental Infrastructure is also important. Development trends have seen larger houses, less trees and more impervious surfaces replace smaller houses with lawns/gardens with an increase from 30% hard coverage in the 1990s to 65% today (Living Melbourne). This is a two-fold issue in that it reduces the contribution to our urban forest by private dwellings, while also increasing pressure on public open space in compensation for reduced private open space. Large driveways with impervious treatments impact on the streetscape but also the opportunity for street plantings.

Another key threat to Environmental Infrastructure is the placement of utilities. As our cities grow, so does our need for services, and the requirements of the offset distances for these services pose threats to existing and proposed vegetation. Currently, these offsets are too general and inconsistent, employing a 'better safe than sorry' approach, where a more nuanced approach that understands and respects the value of EI could result in a significant reduction in lost vegetation.

Environmental infrastructure within cities - both private and public - needs to be retained wherever possible. A reconsideration of the current approaches to managing private development and the delivery of infrastructure to include greater consideration of EI could assist in prioritising 'retention' rather than 'replacement'.

Provision of New EI

To date, Environmental Infrastructure has not been provided in line with the growth in population leaving some communities with limited access to EI, and negatively impacting our environment. EI must not suffer as a result of population growth. Where conservation is not possible and in areas of increased densification new, high performing EI must be provided. Importantly, any new EI must not be considered in isolation, but rather understood as a part of a larger system and network. By understanding that each asset contributes to a larger system it is possible to identify gaps in that system, and determine what role each new piece of EI can and should play. The Metropolitan Open Space Strategy which is currently in development, along with individual Local Council Open Space Strategies have the potential to play an important role in this process. It is imperative that government and other relevant agency bodies work together in developing these documents and determining existing gaps.

> *All open space planning processes need to include some assessment of the current and likely future demand for open space. This will typically include existing demand and use, analysis of possible changes in the population from projections, demographic and socioeconomic profile, cultural mix and review of dwelling densities/development pressure, determination of the likely participation in organised sporting activities and demand for these and other types of facilities and open space. (PPN70 Open Space Strategies, 2015)*

It is important that all new EI is of a high quality, that it responds to existing landscape systems and conditions, that it provides a high biodiversity value, and that it understands and is considerate of and engaged with traditional owners and other community groups. The provision and/or design of new EI is complex and must be understood as such. This requires appropriately qualified professionals to be involved from planning through to delivery of any new EI. It also requires sufficient funding.

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Opportunities to Address Current Issues

Significant work has been done to understand the potential future shape of Melbourne and Victoria. It is clear that we will continue to see significant growth, although COVID will most likely slow the predicted trajectory in the short term. This should be seen as an opportunity to reset some existing practice and to 'catch up' on best practice outcomes. Environmental infrastructure plays a significant role in the identity of evolving suburbs because of the ability to support a diversity of programs.(Open Space Strategy: Planning For Future Growth, City of Melbourne, 2012) In order to ensure that through this growth EI is conserved (firstly and most importantly), and expanded to support this growth and strengthen our environment a collaborative and holistic approach will be required. The Resilient Melbourne's strategy - Living Melbourne is a great reference and starting point for this. The document was prepared in collaboration with a number of local councils, state government bodies and other relevant organisations. One of the actions from the strategy is to collaborate across sectors and regions with the understanding that collective action offers greater benefits, opportunities and efficiency. It also allows for knowledge and information sharing.

Victoria's growth areas provide real opportunity to improve Environmental Infrastructure. Developments that are replacing rural land, some of which has limited environmental value and little to no canopy cover, have the potential to provide significant improvement to EI (Living Melbourne, 2019). Streetscapes, green open space and riparian corridors incorporated into development plans can make a significant contribution to the Victorian EI network. However, currently these opportunities are being missed. Greenfield developments see limited space for tree planting and other vegetation in streetscapes. Where trees are included in street spaces, utilities requirements (which are often in competition for space in streetscapes) override requirements for soil volumes.

Within Melbourne and Victorian regional centres it is integral that Environmental Infrastructure is provided as suburbs desify. There are many ways to increase provisions of EI within built up areas. Upgrades to existing streets and open space assets provide opportunities to enhance EI. Stricter rules around EI provisions in infill developments and developer contributions through initiatives such as the Apartment Design Guidelines can ensure new housing provisions are also accompanied by increased EI. Requirements for EI in all new government developments, such as schools, can ensure increased provision within the same manner. However this will only be possible if all levels of government work together to ensure high quality, sustainable EI is required and provided as a part of upgrades within Melbourne and regional centres.

> *Our current fragmented approach to managing the urban forest increases its vulnerability. Investing in the protection, strengthening and expansion of the urban forest will bring many opportunities, including better management of our water resources, higher quality and better-connected natural habitat, and easier access to green space for all Melburnians (Living Melbourne, 2019)*

Evaluation and Monitoring

The best planning for EI is likely to be aided by the development of a strong evidence base and monitoring of outcomes, for example through the research, innovate, trial, evaluate and integrate cycle. As part of the proposed EI strategy develop and monitor 'lead and lag' success indicators supported by targets. Lead indicators provide insight into an area before a result, such as # trees specified in landscape plans, versus a lag indicator, which provides a view on the result, for example # large trees planted. This monitoring could be supported by 'process' and 'post occupancy' evaluation, to ensure opportunities to maximise the benefits of EI are identified and realised.

A funded post occupancy evaluation as standard within the Precinct Structure Planning (PSP) planning process could be a starting point. Develop an outcomes framework for the PSP and undertake an 'As built post occupancy' case study analysis to determine how often a build deviates from the PSP. This would operate akin to the process undertaken by Wyndham City Council for their *Habitat and Urban Forest Strategy 2017-2040*. The evaluation could analyse the requirements and guidelines (intent)

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outlined in the PSP, versus functional layouts, master plans and landscape plans compared to the 'as built' result. The results would be published and integrated into subsequent PSPs and supporting documentation. Importantly this would require provision of sufficient funding and resourcing.

Living Streets

'Living Streets' reallocate underutilised greyscapes to a green purpose, using the street reserve as recreation space. They reduce heat, treat water and air pollution, and provide connection to our environment, which is so critical for health and wellbeing. 'Living Streets' prioritise pedestrians and cyclists with connected tree canopy overhead and permeable greenery at ground level. It achieves this by adopting innovative street designs and reconfiguring a standard street layout. This innovation is accompanied by a commitment that moves beyond a statement of intent. This commitment takes the form of challenging decisions to carve out usable green space in every street by reducing parking and pavement widths, addressing services, changing standard gutter details and tree locations, slowing and redirecting traffic, implementing sustainable water solutions, amongst others.

COVID 19 brought us out of our houses, into our neighbourhoods and streets, seeking green space. This presents a challenge for the Government; to provide incremental green areas for a growing population in a rapidly densifying city. The Living Streets concept is one way of reducing pressure on defined 'open spaces' by further diversifying the areas which deliver the benefits of EI.

Recommendations

1. Include streets as Environmental Infrastructure. This would include the exploration of streets as Living Streets
2. Preserve the quality of existing EI through appropriate multi year funding and maintenance regimes that utilise innovating emerging research and evidence linked to clear performance metrics. These metrics could be set as part of exploring a site commission process as outlined in section II.
3. Review and standardise the way the Precinct Structure Plans specify and embed EI in growth corridors. Fund pre and post occupancy analysis as part of PSPs development, drawing on site commissioning philosophies and embed learnings in updates to the PSP process.
4. Standardise the placement of utilities looking from the lens of maximising the lifetime EI benefits, rather than the immediate cost of grey infrastructure placement acknowledging that the lifetime benefits of Green Infrastructure will outweigh immediate installation costs. This would include an agreement to place power lines underground as standard, not the exception.

IV. Differences in the availability of Environmental Infrastructure between different suburbs and between different regional centres

20 percent of Melbourne's urban fabric is considered to be public open space, compared to Sydney's 57 percent, and Perth's 40 percent. Further, green open space is not equally accessible to all Melbournians or Victorians.

Availability - Proximity

The recent COVID lock-down restrictions has highlighted the inequities in access to green open space, particularly within Melbourne. Approximately 135,000 homes (340,000 Melburnians) have little or no access to parkland within 5km of their home. During the initial stage 4 lockdown this left them with little to no access to parks for exercising, and revealed that outside of lockdown they would likely usually access parkland by car. This interactive map developed by Griffith and LaTrobe Universities demonstrates the number of square kilometers of parkland available to residents of Metropolitan Melbourne within a 5km radius based groups of

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approximately 30-60 homes (The Conversation). This mapping clearly demonstrates a disparity in access to parkland depending on your location within Melbourne. It supports the previously mentioned assertion that urban growth areas with large zones of greenfield developments are severely lacking in provision of Environmental Infrastructure. The study Griffith and LaTrobe Universities found that, “on average, residents in Cardinia, Mornington Peninsula and Melton have the least parkland within a 5km radius, whereas those in Knox, Yarra and Banuyle have the most " (The Conversation).

Globally, there is a strong correlation between low green space access and coverage, and low socioeconomic status (Challenges and strategies for urban green-space planning in cities undergoing densification, 2015). This is also true in Victoria. This needs to be recognised and rectified by prioritising the provision of new EI in these areas. The following must be considered in this process:

> *One challenge to balancing [social] inequalities by greening dis-advantaged areas is the risk that increasing green space area in neighbourhoods can lead to higher housing prices and thus a shift to residents with higher income (Wolch et al., 2014). Dale andNewman (2009) confirm this in their study from Toronto, Vancouver and Victoria (Canada), where densification projects on brownfield sites with green neighbourhoods led to less affordable housing for lower income groups. (Challenges and strategies for urban green-space planning in cities undergoing densification, 2015)*

The Greening the West project is a useful example of a multi-agency initiative that is committing to tackling the insufficient provision of accessible Environmental Infrastructure in an area containing suburbs with higher than average unemployment, and lower than average household incomes (Economic Social and Environmental Profile Western Metro Region, SGS, 2019).

Proximity to Environmental Infrastructure is integral. The Heart Foundation suggests that ‘good access’ means that “most homes in a neighbourhood are within easy walking distance of a green public open space” (Heart Foundation, Healthy Active by Design). It further explains that street networks that provide access to these spaces need to be connected, convenient and feel safe in order to encourage people to use active transport such as cycling and walking. Research shows that people are most likely to walk to access green open space if it is within 400m (a five minute walk). Living within walking distance of parks, and in neighbourhoods with more public green open space is also shown to have significant health benefits (Heart Foundation, Healthy Active by Design).

> *In Australia, a longitudinal study found that adults spent around 18 additional minutes a week walking for recreation for every additional green public open space within 1.6km of their home. Similarly, another Australian study found that living within 1.6km of attractive, green public open space was associated with participating in some recreational walking. (Heart Foundation, Healthy Active by Design)*

What is ‘Available’?

Conscious effort must be made to ensure Environmental Infrastructure is accessible within 400m of all Victorian residents. A key component of this accessibility is not just ‘theoretical’ access derived by a computer model, but considers the ‘on-the-ground’ conditions which may affect access such as freeways, creek bridges, and even steep topography. All these factors can influence the ‘real life’ proximity of open spaces for Victoria's communities. It is also important to note that to be truly accessible to a community, equitable access routes to and within green open space need to be provided to ensure that these spaces can be used by elederly and disabled people. (The Conversation).

Another critical factor, and one where differences can be seen across various metropolitan and regional areas is not just the ‘proximity’, theoretical or real, but also the quality of the EI. There are very significant differences in the quality of built infrastructure, planting, maintenance and programming across open spaces. The issue of quality is important as well as proximity.

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Recommendations

1. Take a research based, equity, led approach to the provisioning of accessible EI to ensure that those who need it most and will obtain the most benefit have appropriate access. This may be through the use of modelling tools looking at a range of factors, but also drawing on recent research regarding park indexes as a network, for example, to ensure that decision making is based on sound analysis.

    - https://beachlab.sc.edu/current-research/parkindex/
    - Torabi N, Lindsay Jo, Smith J, Khor L, Sainsbury O, Widening the lens: Understanding urban parks as a network, Cities, Volume 98,2020,102527,ISSN 0264-2751,https://doi.org/10.1016/j.cities.2019.102527.

V. The effectiveness of current legislation and planning provisions in securing Environmental Infrastructure

Current legislation and planning provisions both favour and obstruct the provision of meaningful Environmental Infrastructure, due partly to the varied nature of the developments in which the requirement for open space is mandated and the accessibility of open space is understood. As such, some aspects of EI are effectively planned for (for example, PSPS in growth areas clearly identify location of parks according to a graded hierarchy) while others are less considered or effectively delivered. The value of EI to developers exerts a strong influence on the types of EI delivered through the planning provisions. For example a park is seen as an asset which can be used to sell house lots, while a more natural 'wild' space or heavily vegetated waterway corridor can be seen as a 'threat' which may deter purchasers

Integration of Legislation & Effective Multi-beneficial Outcomes

The integration of statutory requirements for Environmental Infrastructure under varying legislation is (in its current state) not strongly positioned. For example, the Climate Change Act 2017, Water Act 2007 and Planning and Environment Act 1987 all impact Victorian Environmental Infrastructure but each operate independently, preventing the effective planning of Environmental Infrastructure as multifunctional components, delivering environmental benefits as well as mitigating climate change and providing sustainable transport options in open space planning.

The disjointed nature of these Acts and ambiguity in the navigation and application of these through the planning and design process, can lead to solutions which fail to deliver the optimal benefits for a local community. As a result of the failure to adequately value EI / GI (see previous discussion) this aspect of the urban form has historically been framed around 'leftover spaces', which cannot be used for a higher purpose becoming the 'green' space for which persons are to recreate. Changes to requirements referencing 'unencumbered land' represented an important first step but the broader issue of the prioritisation of the siting of open spaces within the hierarchy of land uses on a site or precinct basis remains to be addressed. This reprioritisation has the potential to lead to greater integration of the outcomes sought by various Acts.

As an example of this, the current emphasis on existing State significant biodiversity assets can lead to the loss of regionally or locally significant environmental assets. Similarly, the current arrangement / legislation relating to offset requirements, (where native vegetation is granted permission to be removed), results in the loss of local biodiversity in specified locations, and the offset is often undertaken in distant locations (which likely provided a benefit within the selected locale), however contributes to the loss of potentially important local environmental assets, habitat, flora and fauna, which once removed is irreplaceable and non-replicable. It also represents a lost opportunity in the formulation / retention of a 'sense of place' and neighbourhood connection within communities which is often strongly linked to the environmental or landscape characteristics of an area.

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Planning for Open Space in Growth Areas

Currently, the delivery of Environmental Infrastructure as open space is reasonably effective at a high level, particularly within large scale greenfield residential developments. However at a micro level if streets are to be classified as one form of EI existing policy in Precinct Structure Plans and the Engineering Design and Construction Manual for Subdivision in Growth Areas 2019 (EDCM) are not enabling the transformation of streets into Living Streets. Specifications around driveways, utilities, tree placement and size do not reflect the notion of EI or lead with the philosophy of maximising ecosystem benefits. The results are significant hardscapes in the private and public realm limiting the ability to transform a street into EI, which will be increasingly important as the population increases, heat rises and the need for shaded walkways and local pocket parks become more critical.

Planning for Open Space in Infill Areas

In addition there are problems with the delivery of new Environmental Infrastructure in existing urban areas as they densify, with the planning and delivery of place-specific open spaces in growth areas, and with the integration of open space planning with other objectives of planning (i.e. protection of biodiversity). Established suburbs have seen rapid site consolidation from low density detached housing to mid and high-density residential apartments. However this transition is occurring without a corresponding allocation of green space. In some of the city's inner suburbs, the allocation of space per resident is minimal, as low as 0.13 square metres per person.
https://www.theage.com.au/national/victoria/park-strife-looms-in-suburbs-where-green-space-is-in-short-supply-20200921-p55xli.html
As infill occurs private green landscapes shrink, and so too does tree canopy cover on public and private land. As noted previously, canopy cover is critical for addressing the Urban Heat Island Effect.

Planning for Streets as Open Spaces

The public domain constructed for single detached dwellings 60-100 years ago remains the same after a new development in most instances. Streets are highly contested places, with multiple stakeholders involved in their design and operation. Residents have limited capacity to inform or engage in the process. Often the only evolution is an increase in hard paving through the addition of a concrete footpath, which raises temperatures. In addition traffic speeds and flows do not place pedestrians and cyclists first. Streets are still designed for motor vehicles and services, with little consideration of the people who inhabit them and the urban ecology they need for health and wellbeing.

Residential streetscapes managed by Council are often the last focus for funding, with renewal investment prioritised in shared spaces, such as community centres and arterial roads. However, residential streetscapes are where people live. It is not only their everyday setting, It is where the value of their house, energy bills and health and wellbeing of their children occupies their thoughts. It is where heat stress will most be felt.

No available material addresses how smaller private developments can individually or cumulatively contribute to transforming streets into EI, or provide guidance on how to work with Council to achieve more innovative and impactful outcomes. Given that local communities in established suburbs are shaped by such developments, this is a significant gap.

Streets can be a place for people and the environment, as well as cars and services, a place that enhances quality of life and ecology. The COVID19 'lock down' highlighted the communities desire to walk in their streets and connect to their neighbours. This is an unprecedented opportunity to harness this desire. To do this we must make streets work harder for us. We must transform them into multi-use spaces for residents that provide triple bottom line benefits for all stakeholders.

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	Light Touch: Reclaim the verge	Middle Ground: Reclaim the street	Transformative: Re imagine the street
WHY	- Impervious surfaces increase (20%) - Shade potential increases (to 20%) - Livability gains	- Impervious surfaces increase (40%) - Shade potential increases (to 30%) - Connectivity gains	- Impervious surfaces increase (50-60%+) - Shade potential increases (40% +) - Incremental usable common green space
WHO	Government and private residents	Government and private residents	Government, private residents and developers
HOW	Verge planting to existing nature strips and private properties. Mixed tree species on one street to allow placement of maximum tree size, rather than being limited to a small tree size under power lines. Pavement greening, such as landscaped nature strips, pavement cut outs, rain gardens. Slower speeds to support more pedestrian and cycle movement.	'Light touch' interventions plus 'reclaiming the street'. Removal of portions of kerbside pavement allocated for on street parking. Maximum trees and green cover in non standard configurations to allow trees where deep soil exists or can be created, such as outstands, blisters, double rows or medians. Permeable paving. Creative use of private setbacks and public road reserve to enable this.	Recalibrate the interface between private controls (offsets) and public space (road reserve) to create usable space with deep soil for pocket parks, as well as extensive canopy and verge greening. For example leverage small to medium size developments to add private set backs to road reserves to increase available space. This may include narrowing roads (10-12m wide) and pavements (5.5m wide), reducing traffic speeds to 30km/hr, altering traffic movements and reducing driveways and hard surfaces.

Cranebrook, Julie Lee, Tract, 2020

Google & Roderick Simpson, 2020

Tract, 2020

Recommendations

1. Review the approach to the development of PSP's and the EDCM for growth areas to ensure that the concept of EI is embedded.
2. Consider Streets as Living Streets and assess the policy around the development of townhouses and dwellings to ensure they enable the evolution of streets into EI

VI. Existing delays or obstacles to securing Environmental Infrastructure

In seeking to respond to a question of delays or obstacles it is important to first understand the 'type of EI that is being sought, as the delays and obstacles in securing EI vary significantly across different components. For example, the proximity of open space is often a key driver in securing EI, but this may not consider the bigger picture. Certainly, relative to the context surrounding the effectiveness of current legislation, it is reasonable to state that the current planning system fails to adequately address the issue of proximity / quantity vs *quality* within our urban and regional environments as development continues. Similarly, funding is equally inadequate within the provision and quality of essential Environmental Infrastructures.

Delivery in Denser Areas

Delivery of Environmental Infrastructure as open space in higher-density areas (currently) lacks guidance and nuance in terms of what open space might look like and should provide, in these areas. The usual approach is to establish a single large space, when, in many areas, a combination of numerous smaller spaces, which offer diversity, variety of activity and use, may be more suitable and achievable. It is for this reason streets must be looked at differently as Living Streets are able to be transformed into multi use spaces that could provide for pocket parks if they were approached with a different mindset.

Definitions and Avenues of Funding

Definitions and awareness of different types of Environmental Infrastructure, e.g. formal sporting reserves vs streets and biodiversity corridors, and relationship of these definitions to the avenues of funding and delivery is still unresolved with planning mechanisms not aligned with more contemporary understandings of open space. Additionally, funding ongoing maintenance is a continual issue, either for rate-capped councils in needing to acquire very expensive land in existing urban areas or for developers through mandated

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contributions. Different agendas in the delivery of Environmental Infrastructure as open space can also be an issue where this is required to be delivered through a process of negotiation. For example, developers want to provide formal lakes and grassed areas, which are attractive to future residents, rather than more natural-looking 'wild spaces'.

Scale of Planning and Implementation

To utilise a specific case example, the Melbourne Open Space Strategy (MOSS), while having great potential, does not operate at a fine enough scale to ensure the provision of Environmental Infrastructure as open spaces at a local/community level. This is critical to the effective delivery of Environmental Infrastructure which people are easily able to engage with and access at a community level / scale. This document is still in draft form and as such allows opportunities for advice to be given and amendments made to ensure that it considers Environmental Infrastructure at varied scales, securing the accessibility and quality of the open space for community.

Potential Opportunities

Further and perhaps more specific examples of the potential to improve the delivery of Environmental Infrastructure include:

- To greenfield developments following the roll out of Precinct Structure Planning Guidelines 2.0 (https://vpa.vic.gov.au/project/psp-2-o/), which seek a different approach from that used previously, and the integration of Sustainable Development Goals (https://www.un.org/sustainabledevelopment/sustainable-development-goals/)
- To subdivisions following the trial and adoption of the Sustainable Subdivisions Framework (https://www.casbe.org.au/what-we-do/sustainable-subdivisions/).

Recommendations

1. 'Ongoing' funding as part of development contributions is currently limited. For example the cost for transforming a typical street can be between $100-200 per 100 linear metres. Funds collected by Council typically are allocated to centralised projects, such as upgrades to existing parks or to built infrastructure such as libraries or community centres, not local streets. A mix of funding options need to be investigated and agreed based on ratified benefit benchmarks to deliver quality EI. This would likely entail a mix of developer contributions, council rates, state government investment through grants recouped by value capture (land tax paid by seller), alongside an exploration of innovative methods such as:
    - rate rebates (see Darebin Solar Scheme for a potential model framework);
    - Parks Foundations found in the UK and USA; or
    - partnerships with corporates as part of their corporate social responsibility or shared value strategies.

VII. The impact of COVID-19 on the importance, use and design of Environmental Infrastructure

Landscapes are an expression of the time and social values in which they were created. Thus, the landscapes that have supported Victorian residents so well in the past have shown shortcomings in the recent COVID-19 crisis. Lockdown has restricted movement of residents of many Victorian towns, especially Melbourne. Social distancing has led to takeaway dining only, compromising the café culture so loved in Melbourne and Victorian regional cities. Movement from home has been limited to 5 km. Thus, many residents have not been able to visit areas of Environmental Infrastructure, and are bereft of the many benefits that it bestows. On the other hand, there is much less traffic on our metropolitan roads. Home and the local community are now more important to our well-being, perhaps at the cost of city shopping centres. Working from home has become the new normal and is likely to continue in some form after the pandemic.

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Urban planning and design are critical to create Victorian cities that are better for public health and mitigate the risks of other hazards to our cities and their residents. More than 90% of all COVID-19 cases have been in cities. United Nations secretary-general António Guterres has been quoted: “Everything we do during and after this Covid-19 crisis must be with a strong focus on building more equal, inclusive and sustainable economies and societies that are more resilient in the face of pandemics, climate change, and the many other global challenges we face….Cities will emerge from the pandemic, but whether they are prepared for the next crisis will depend on how much they can advance data-driven inclusive and sustainable urban development.” https://theurbandeveloper.com/articles/city-planning-90pc-of-covid-19-cases-in-urban-areas.

Recommendations

Thus, post-COVID-19, urban design of Victorian cities to ensure access to Environmental Infrastructure for growing populations should consider the following issues.

1. Proximity is important to ensure access to Environmental Infrastructure. The concept of a walkable city, developed for liveability and sustainability, applies equally to the post-COVID-19 city. Environmental infrastructure should be within 400 m of every home. On average, only 78% of Australians live within 400 m of public open space. https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf Within a country, access to public open space in larger cities is lower than in smaller cities. Thus, it is likely that Environmental Infrastructure is more accessible in regional towns than in Melbourne. Conscious effort must be made to ensure Environmental Infrastructure is accessible within 400 m of all Melbourne residents.
2. Space within Victorian cities and towns should be reallocated, improving access to Environmental Infrastructure. Streetscapes should be designed for more than just cars. UN reports that, in general, roads take up three times as much urban land compared with public open space. Changes in work practices may lead to permanent reductions in road traffic, although desires to maintain social distancing may reduce demand for public transport. The result could be greater reliance on “solo transport modes” https://www.indesignlive.com/the-ideas/urban-design-post-covid. Thus, current road space could be converted into footpaths, cycle paths, etc, to allow easy movement to Environmental Infrastructure. Design conventions will be re-assessed, e.g. footpaths will be widened to allow pedestrians to pass at a safe social distance. This reallocation, though, must involve extensive community participation to ensure that all benefit from it, especially the most vulnerable in our communities. https://www.foreground.com.au/culture/post-pandemic-landscapes-must-be-equitable-by-design/
3. Landscapes must be multifunctional landscapes, including Environmental Infrastructure, to support a range of different uses, simultaneously, by individuals spaced for social distance. Such uses need not be defined in advance but will arise from the flexibility of the designed landscape. Connectivity in these landscapes will be important. Such multifunctional landscapes will be mosaics of patches and corridors to allow ease of movement of humans but also to support biodiversity. ‘Re-wilding’ of our urban landscapes will be desirable, initially as a consequence of constraints on maintenance resources but subsequently contributing to urban Environmental Infrastructure. After an extended period of lockdown, nature might be revalued. https://www.metropolismag.com/architecture/landscape/covid-19-landscape-architecture/ ; https://www.architectureanddesign.com.au/features/comment/how-covid-19-will-change-landscaping-design#
4. Community spaces, including Environmental Infrastructure, must feel safe. Social interaction underpins, and energises all cities but, COVID-19 has diminished this in Melbourne and other Victorian towns. Post-COVID-19, community spaces must be designed and managed to ensure that users feel safe to participate in civic life. https://worldlandscapearchitect.com/how-will-covid-19-change-our-perceptions/#.X1GYmotS-00
5. Equity to Environmental Infrastructure is all-important. As mentioned previously, residents of high-rise buildings and denser areas of Melbourne and regional settlements, single parents and those with less

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education have a greater need for easy access to Environmental Infrastructure. Equity extends also to quality and size of the accessible parks, open space, sporting fields, bushland and waterways.

VIII. Examples of best practice and innovative approaches to securing Environmental Infrastructure in other jurisdictions

The following table outlines a number of 'best practice' examples in which the government may wish to further review, refer to define suitable base solutions from which to provide recommendations from this inquiry.

Title	Useful Links
Utrecht, The Netherlands	https://oppla.eu/casestudy/19311
Small Creek naturalisation, Ipswich, Queensland	https://www.ipswich.qld.gov.au/about_council/initiatives/environment/waterways/small-creek-redevelopment
Greening the West	https://greeningthewest.org.au/
Ferrars Street School Precinct in South Melbourne A great precedent for a private entity that avoids fencing and barriers to open the school grounds (play space and community facilities) for public use outside of school hours	https://hayball.com.au/news/2019-australian-urban-design-awards-winner-ferrars-street-education-and-community-precinct-by-hayball-and-tract/
Moonee Ponds Creek Chain of Ponds project	https://www.siteoffice.com.au/?project_post=chain-of-ponds
Melbourne Water 'Our Space Your Place'	https://yoursay.melbournewater.com.au/our-space-your-place
Site commissioning in the USA The 2017 report won the American Society of Landscape Architects (ASLA) award and was a collaboration between industry and academia assessing the potential of this nationwide US Government body to grow their building commissioning approach into a landscape (site) commissioning process. The 'impact measurement' method looks across the lifecycle of a landscape's development, from brief, design, construct and maintain while looking at the social, environmental and financial aspects of a site At its core, commissioning is a process in which performance goals are established and then measured and verified over time with learnings cycled back into the community.	https://www.asla.org/2019awards/638111-Site_Commissioning_Proving_Triple_Bottom_Line_Landscape_Performance.html

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Nesta 2020 We need more parkland if we are to ensure every Victorian can access quality open space within 10 minutes. This means investment. To meet this challenge, we need to look at innovative ways to fund the management of existing parks and develop new parks. Active in the US and UK, Park Foundations are one way to enable residents to collaborate to improve existing parks and create new parks. These independent, non-profit, organisations are set up to support parks across an area, such as a suburb, with time, expertise and privately raised funds. While land remains government property Foundations and Councils work together to evolve greenspaces in an area (Nesta, 2020). A Parks Foundation could assist a community to close part of their street to make it into a park, transform underutilised space into a community garden, or improve park maintenance and activation. The board associated with the Parks Foundation, incorporates landscape architects, managers, local business owners, and the local community - a powerful mix of skills, expertise and emotional investment focused on improving green space access for their community.	www.nesta.org.uk/toolkit/how-set-parks-foundation/ www.nesta.org.uk/feature/rethinking-parks-parks-foundations/

IX. Conclusion

AILA applauds the government for taking these initial steps to investigate and understand the state of policy and practice around Environmental Infrastructure. This inquiry is a critical first step in not only understanding but acknowledging the deficiencies within our current policy and practice. We hope the findings from this inquiry will lead to a greater level of discussion and review, ultimately leading to reforms which will enhance and protect the provision, conservation, access and quality of our communities Environmental Infrastructure, making for more livable and healthy environments for future generations.

The following represent the ‘key messages’ we hope will be given serious consideration by the inquiry:

- To deliver liveable places, the provision of Environmental Infrastructure should be valued alongside the delivery of more traditional infrastructure. This would entail a paradigm shift in the hierarchy of decision making.
- The definition of ‘open space’ and the places and spaces within our city that contribute to people’s perceptions of place / nature and the benefits they get from ‘open space’ needs to be considered in a much more nuanced manner. Understanding ‘open space’ and other places and spaces such as

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parks, sporting fields, bushland and waterways and importantly, streets, as Environmental Infrastructure may allow this.

- The current approach focused on quantity and proximity of Environmental Infrastructure needs to be reconsidered and moderated to reflect a better understanding of 'quality' and 'fit' of the Environmental Infrastructure to which a local community has access.
- The multiple roles that Environmental Infrastructure plays need to be recognised and the delivery and management of these better integrated to optimise benefit for the broader community.
- While delivery of Environmental Infrastructure in the public realm is critical, the private realm also has an important role to play. The greatest benefit to growing populations in Melbourne and Victorian regional towns will result when Environmental Infrastructure is integrated across the public and private realms.
- Appropriate funding and resources must be provided to ensure any existing and new initiatives/policies are delivered and enforced.

AILA recognise the challenges in which the State Government and its agencies face in their commitment to ensuring that an appropriate and achievable response is developed as an outcome of this inquiry. We encourage the further engagement with AILA in the review and development of recommendations from this inquiry and extend that to the future development of necessary reforms and education of key agencies ensuring that the future of quality, accessible and appropriate Environmental Infrastructure is achieved.

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