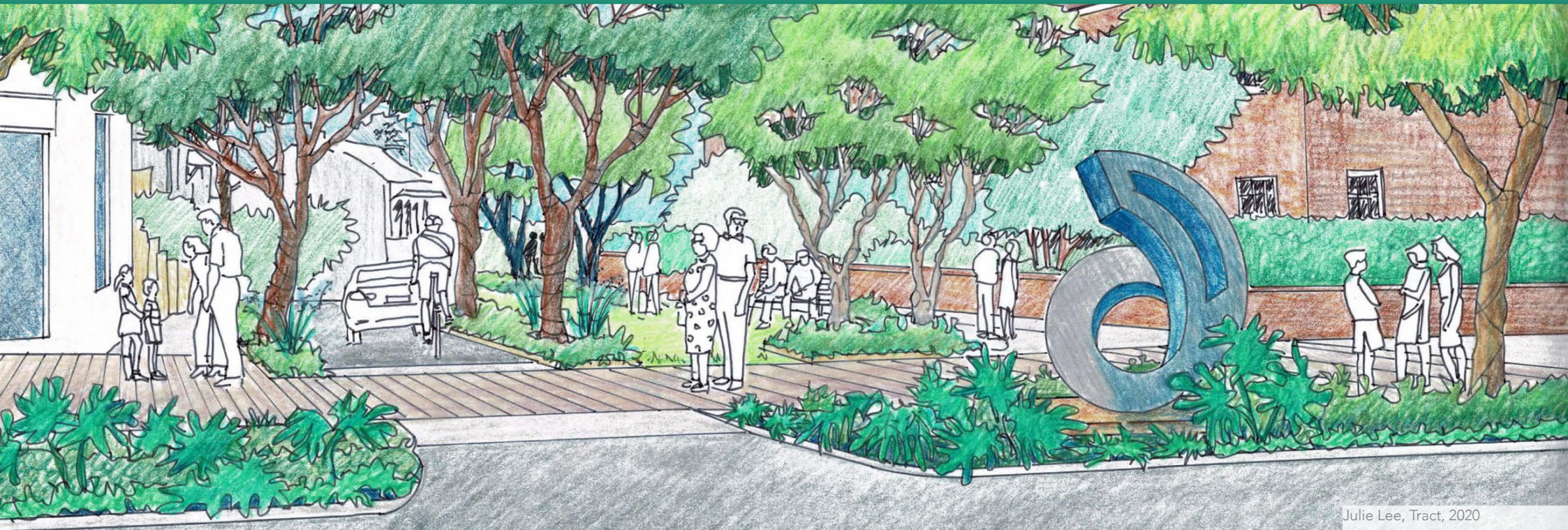


LIVING STREETS

A proposal to bring life
back into our local streets

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Julie Lee, Tract, 2020

We acknowledge and respect Traditional Owners across Australia as the original custodians of our land and waters, their unique ability to care for country and deep spiritual connection to it.

We honour Elders past, present and emerging whose knowledge and wisdom has and will ensure the continuation of cultures and traditional practices.

01 OVERVIEW

Bringing life back into local residential streets in our suburbs.

The issue

'A Metropolis of Three Cities: The Greater Sydney Region Plan' evidences State and Local Government's commitment to greener spaces. Sustainability is a key policy in the *District Plans*, with the *Green Grid* implementation underway and *Greener Places Design Guide* in development. However, given the 20 year implementation time frame established residential streets have not been addressed in detail. These areas are experiencing rapid densification, yet the streetscapes surrounding small to medium developments in these areas are not evolving. This is resulting in a potential deficit of green space and limited ability to moderate increasing temperatures.

Residential streets with comprehensive green cover are an integral component of city live-ability and climate change stewardship. Indeed the COVID 19 pandemic has demonstrated the value communities place on green streets and spaces for their physical and mental health. Given the many and varied financial, social and economic benefits green infrastructure can deliver we must create opportunities to maximise canopy cover and green space in local residential streets.

On May 26 2020 initial correspondence outlining this issue was sent to Minister Stokes. This paper sets out a clear imperative to target a 'Living Streets' initiative to residential streets in suburban neighborhoods experiencing rapid infill development.

The solution is '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 connect us 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. They achieve 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 useable green space in local streets by reducing parking and pavement widths, addressing services, changing standard gutter details and tree locations, slowing and redirecting traffic, implementing sustainable water solutions, among others.

But barriers exist

The benefits of 'Living Streets' are clear, such as capital growth, energy efficiency and heat reduction - but barriers to their broader implementation exist.

This includes a lack of:

- accessible material to enable stakeholders to readily embrace this option;
- agreed funding and investment mechanisms linked to quantified benefits;
- re-calibrated water and traffic engineering standards, including services placement; and
- lack of clear 'collaborative' leadership embedded in targets and policy directives.

That together we can tackle

This discussion document sets out a road map to address these barriers, offering a pathway to unlock the potential of local streets for people and the environment.

This collaboration brings together significant experience in sustainable city design. We would welcome the opportunity to work with the Department of Planning, Industry and Environment (DPIE), Transport for NSW, Local Councils and the community to make 'Living Streets' the new standard in their neighborhood.



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NSW President
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02 NEED

An opportunity for Government to focus construction stimulus and policy leadership in an area that benefits people at home every day.

Incremental green space in a rapidly densifying city

COVID 19 brought us out of our houses, into our neighborhoods and streets, seeking green space. This presents a challenge for Government; to provide incremental green areas for a growing population in a rapidly densifying city.

Established suburbs, such as Canterbury-Bankstown and Liverpool, 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. As infill occurs private green landscapes shrink, and so too does tree canopy cover on public and private land. The cost of acquiring land for additional open space is often prohibitive and as such it is difficult to ensure targets for open space per person are met and maintained.

The growing risk of heat stress on the most vulnerable

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 development.

Residential streets are not evolving

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 streets underfunded and underutilised

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 their 'everyday'. 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.

Underutilised small to medium developments

No available material addresses how smaller private developments can individually or cumulatively contribute to making streets more liveable, 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.

Reclaim residential streets for people and the environment

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 COVID 19 '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 local streets work harder for us. We must transform them into multi-use spaces for residents that provide triple bottom line benefits for all stakeholders.

03 ISSUE

Opportunities are being lost to transform local residential streets in established suburbs into cool green havens.

These images illustrate a typical low and medium density development being built everyday on a standard local street.

- Existing single storey dwellings are replaced with dual occupancy through to four to six storey apartments.
- Landscaping is provided only within the six metre setback from side boundaries, leaving insufficient room for meaningful greenspace or large trees.
- Amenity is further reduced as tree planting on private property overhanging the road is removed and hardscapes increased through driveways and additional paving.
- Funds collected from developers by Council (known as section 7.11 - formerly section 94 or section 7.12 - formerly section 94A) typically are allocated to centralised projects, such as upgrades to existing parks or to built infrastructure, such as libraries or community centres.

Residential areas with significant infill are housing more residents, yet their streetscapes remain the same pre and post development. However, there is an alternative. There are a range of opportunities to reorganise streetscapes into 'Living Streets.'

Existing ...



Peter Smith, 2015



Google, 2020

What we get now post development



Peter Smith, 2019



Google & Roderick Simpson, 2020

04 SOLUTION

These developments could of been transformed into a 'living' street, where underutilised road reserve and 'low value' private space is reclaimed as green space. 'Living Streets' exist along a continuum, from 'light touch' to 'transformative'. The model adopted is determined by site conditions, community engagement and Government leadership.

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 a 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.

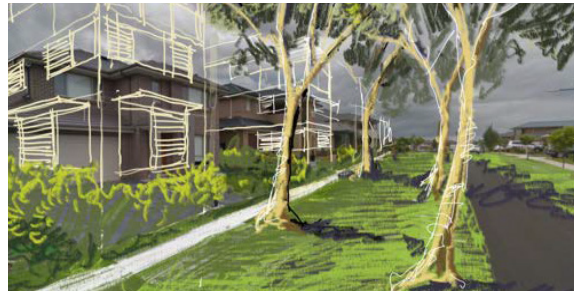
'Light touch' interventions plus 'reclaiming the street'.
Removal of portions of kerbside pavement allocated for on street parking.
Maximum trees and green cover in non standard configurations to allow trees where deep soil exists or can be created, such as outstands, blisters, double rows or medians.
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 setbacks to road reserves to increase available space. This may include closing or narrowing roads and pavements, reducing traffic speeds to 30km/hr, altering traffic movements and reducing driveways and hard surfaces.

Cranebrook, Julie Lee, Tract, 2020



Google & Roderick Simpson, 2020



04 SOLUTION

'Living Streets'; from 'light touch' to 'middle ground'.

Existing



Tract, 2020

Light Touch: Reclaim the verge



Middle Ground: Reclaim the street



04 SOLUTION

Transformative; re-imagine the street to carve out green space for the community and prioritise pedestrians and cyclists.



Transformative: Re imagine the street

ACTIVATED

Pedestrians & cyclists prioritised

SAFER

Lower speeds=less chance of serious injury

SHADED

Up to 40% canopy cover though multiple layers of plantings in non standard locations, mixed species & planting within private property.

DIVERSE

Vegetated verges & street tree diversity via mixed street trees = less failure risk

WATER SENSITIVE

Permeable surfaces & rain gardens

COOLER

Continuous canopy cover can reduce temperatures

BIO DIVERSE

Tree species and verge plantings selected for habitat

COMMUNITY SPACE

Pocket park created. Integration of the public road reserve (reduced road pavement & street parking) with private development controls (amended setbacks) creates usable space

SUSTAINABLE

Integrated tree irrigation

05 PRECEDENTS

Examples of 'Living Street' components exist throughout New South Wales, often in high density inner city locations. However there are few examples of a 'Transformative Living Street' in the setting outlined. The principles behind the examples below would need to be adapted for wider streets and the diverse density mix in established suburbs such as Canterbury-Bankstown, Penrith, Parramatta, Cabramatta, Blacktown, Liverpool, among others.

Light Touch: Street Greening

Darlington (NSW) sidewalk greening and mixed species planting improves tree canopy and green cover, alongside a lower speed limit, to prioritise pedestrians. This challenges the notion that one type of tree species is required on a street and that car parking access must be clear of vegetation.



Middle Ground: Median Planting

Cranebrook (NSW) illustrates the median planting of trees and green cover. This could be further developed through the initiatives outlined on the previous page, such as improved green cover at ground level and rain gardens.










Transformative: Pocket Park Creation

A proposal to create a new pocket park on a side street in North Sydney, retaining car access but reducing the pavement.



06 BENEFITS

'Living Streets' hold the potential to deliver financial, social and environmental benefits to residents, developers and funders. A snapshot of these benefits is provided below.

						
		Residents	Government	Developers	Consultants	
FINANCIAL		Capital value uplift in a street with significant canopy cover	Y	Y	Y	Y
		Saving on energy bills (protection in winter and summer)	Y	Y		
		Grows spend in retail situations		Y	Y	Y
		Improves location desirability - demand from purchasers	Y	Y	Y	Y
		Improves tree health - lowers maintenance cost	Y	Y		Y
		Improves water management and the cost of run off remediation	Y	Y	Y	Y
SOCIAL		Mental health improvements	Y	Y		
		Physical health improvements - encourages walking & cycling	Y	Y	Y	Y
		Temperature reduction on streets with comprehensive shade	Y	Y	Y	Y
		Social engagement and capital	Y	Y	Y	Y
		Safer - speed reduction reduces the risk of death / serious injury	Y	Y	Y	Y
ENVIRONMENTAL		Air pollution reduction	Y	Y		Y
		Water run off quality improvement	Y	Y	Y	Y
		Habitat creation	Y	Y		Y
		Climate change adaptation - heat reduction	Y	Y	Y	Y
		Climate change mitigation - carbon and Co2 storage	Y	Y		Y
		Light pollution buffer	Y	Y		Y
		Noise pollution buffer	Y	Y	Y	Y

1. Beecham S, Lucke T, Centre for Water Management and Reuse School of Natural and Built Environments, University of South Australia, www.treenet.org/resources/street-trees-in-paved-urban-environments-the-benefits-and-challenges
2. Plant, L, A.N. Rambaldi and N. Sipe (2016), "Property Value Returns on Investment in Street Trees: A Business Case for Collaborative Investment in Brisbane, Australia" Discussion Paper no 563. School of Economics, The University of Queensland, St Lucia, QLD 4072

07 BARRIERS

A paradigm shift is needed where 'green' infrastructure is valued as highly as 'grey and blue'. 'Living Streets' are not yet the 'norm' as the shift to integrating 'green, blue and grey' requires top down leadership to promote an evidence-based business case that is unequivocally embedded in policy and action. This can be achieved if the following barriers are removed.

01 Provide Accessible Solutions

Councils are under pressure from a range of diverse stakeholders in a development process. They must reference a suite of complicated material in a compressed time frame. If 'Living Streets' solutions were readily accessible by street and development type, with clear incremental staging and costs provided, opportunities could be more easily promoted. This could be addressed by an evolving and interactive 'how to design guide' aimed at enabling residents, Council, developers and consultants to more easily advocate for 'Living Streets' initiatives surrounding new developments.

02 Reform Engineering Standards

A key aspect of making solutions accessible is embedding them in water and traffic engineering standards. This would include reconsidering traffic speeds and movement, as well as innovative and cost effective methods to manage water, to ensure green space is prioritised in any re-configuration of existing local roads. The goal of maximising canopy cover and green space would need to be adopted as a leading design principle to guide any standards review. Standards and practice guidelines need to be reviewed and updated to facilitate, rather than hinder, the achievement of greener, safer and resilient streets and open spaces.

03 Address the Impact of Services Placement

Legislative change that results in placing power lines underground or using insulated conductors is required, alongside effective coordination of underground services that prioritise trees. Pruning trees comes under Federal Communications Legislation, which generally precludes influence by state or local stakeholders.

04 Facilitate Innovation, Evaluate, Replicate

If we want a different outcome, we have to do things differently. We have to trial new methods and assess whether the benefits sought have been delivered. To foster innovation there needs to be a mechanism to seek a pipeline of innovative ideas, funds to trial them, evaluation to assess success and commitment to embed them in policy and practice. This could start with innovative demonstration projects in partnership with local Councils and residents.



Public Space Ideas: Best Steet Idea Winning Entry

Georgina de Beaujeu, 2020

07 BARRIERS

05 Foster Community Leadership

Finding new ways to engage residents and increase tree planting on private land and adopting shared driveway configurations within streets will be critical in achieving a 40% tree canopy cover.

The NSW Department of Planning, Industry and Environment and Councils could promote a social entrepreneurship challenge for community groups to establish 'Living Streets', supported by seed funding. They could look to corporates and not for profits such as Green Fleet, Bunnings Landcare or Greening Australia through their 'shared value' strategies to encourage greater street greening on private properties. This may include planting advice and free trees, through to the establishment of a local 'Living Street' Foundation. (see www.nesta.org.uk/feature/rethinking-parks-parks-foundations/ for a review of the Parks Foundation concept.)

06 Quantify Value (Benefits and Costs)

If the ecosystem benefits of trees and green spaces were calculated, costed consistently and linked to property values another conversation may be possible. If developers and residents were presented with a consistent business case surrounding the value of this green infrastructure there may be a stronger case for different forms of levies to fund their development.

A key factor in unlocking funding is consistent evidence-based benefits quantification. As such comprehensive cost versus benefit analysis that captures all the environmental, social and economic benefits of green 'Living Street' infrastructure over its lifecycle (including maintenance), with Net Present Value analysis to compare options, is required. This would also factor in the capital investment offset of reclaiming streets as open space, rather than purchasing land. Progressive economists would need to be engaged to undertake this economic modeling.

07 Provide Funding & Investment

Innovative one off (grants) and ongoing funding mechanisms have not yet been unlocked to capture the clear financial value 'Living Streets' can deliver.

'Ongoing' funding as part of development contributions is currently limited. The cost for transforming a typical street can be between \$100-200 per 100 linear metres. Funds collected by Council through 7.11 (formally s.94) contributions 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 (Barrier 06) to achieve the policy targets set out in recommendation 09 overleaf. This would likely entail a mix of developer contributions under EPA S7.11 levy (former S94) (which will require amendments), 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.

07 BARRIERS

08 Lead, Collaborate and Govern

'Top down' leadership is required to create an authorising environment where different, and sometimes difficult, decision making is encouraged. This includes a reduction in parking and slower traffic speeds. This leadership will be enabled by clear targets embedded in policy and linked to benefits quantification and funding mechanisms, however this is not enough. NSW Department of Planning, Industry and Environment, Transport for NSW and Local Government need to collaborate on the 'Living Streets' transformation. A collaborative working group comprised of these stakeholders may assist in driving the change in practice necessary to enable 'Living Streets'.

09 Set clear targets and requirements and embed in policy

Clear targets to achieve 'Living Streets' within a set time frame, cascaded through policy, would provide the mandate needed to accelerate this initiative. These targets would need to be supported by clear requirements within the suite of relevant urban development policies and guidelines, for example recalibrating the role of standard offsets in carving out usable common space. These policies and guidelines include (but are not limited to):

Premiers priorities 'Greening public spaces' and 'Greening our City'.

Government Architect NSW

- Better Placed Policy
- Draft Greener Places Design Guidelines
- Movement and Place Policy

NSW Department of Planning, Industry and Environment:

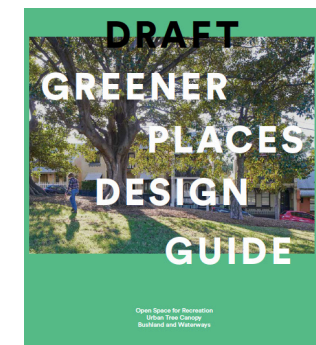
- Design and Place State Environmental Planning Policy (Design and Place SEPP)
- Apartment Development Guide
- Associated development controls
- Sydney Green Grid Strategy
- District Plans

NSW Transport

- Policies re street design, traffic flows / speeds and WSUD

Council

- Development Control Plans
- Planning Documentation and Processes
- Landscape and Street Design Guidelines



GANSW, 2020

08 A WAY FORWARD

Make 'Living Streets' the standard. Short term actions need to be pursued alongside longer term collaboration and commitment in order to make 'Living Streets' the standard, not the exception.

Now>>>>

01 Increase Tree Canopy

Leverage the 'Green Grid' work underway in LGAs, such as Penrith, alongside existing urban heat research, to target high priority residential streets with a tree planting program to achieve a continuous canopy cover target of 40 percent in residential streets by a set time frame. This would entail trialling different tree species, density and configurations, including mixed species to maximise shade and continuous canopy cover where deep soil permits on existing streetscapes.

02 Embed 'Living Streets' in policy

Embed the concept of 'Living Streets' in the Design and Place SEPP and Greener Places Guidelines to encourage users to see the potential for a 'Living Street' in every street.

Medium Term>>>>

03 Pilot Living Streets

Fund a structured pilot in relevant LGAs:

1. Trial different 'Living Street' typologies in different street types;
2. Capture the costs and benefits;
3. Quantify the social, financial and environmental benefits;
4. Assess the Net Present Value, Return on Investment and Social Return on Investment of different 'Living Street' typologies, configurations and interventions.

The pilot could be initiated by providing the community with a 'pop up park' by temporarily closing a road. This would enable the concept to be tested prior to major capital investment.

04 Living Streets Ongoing Grants

Target existing and proposed grants on innovative 'Living Streets' trials. Foster private engagement through grant programs for residents to plant trees in front yards, akin to the North Sydney 'Streets Alive' program and the City of Sydney 'annual tree giveaway'.

05 Quantify the value of 'Living Streets' to unlock a sustainable funding mix, as well as understand how to better enable key stakeholders to collaborate

Engage economists to review existing literature, quantify the relative value of 'Living Street' interventions and explore a mix of funding approaches to capture that value.

Undertake a second, aligned, research project to understand how best to enable key stakeholders to collaborate and agree on the conditions necessary to deliver a 'Living Street'. This may include speed reductions, a change to traffic flows, amended offsets, permeable shared driveways, tree plantings at the interface with public land. The stakeholders would include small developers, Council and traffic authorities.

Findings from these projects could be used to inform policy change at local and state level.

06 Develop a 'Design Guide'

The guide could provide accessible 'tried and tested' / 'off the shelf', solutions with benchmarks to assist stakeholders to more readily propose options. The physical guide could be evolved into an interactive online tool to test costs versus benefits of various 'Living Street' configurations given a locations parameters, as well as a web based discussion board that seeks collaboration from across the country. The physical guide could be started alongside the research projects but would also be informed by their findings.

Longer Term>>>>

07 Policy and Guidelines Review

Adopt a target of 40% canopy cover in established suburbs by 2025 and cascade this commitment to all LGAs.

Embed learnings from the preceding initiatives in relevant policy and guidelines to ensure this target can be met.

09 IMPLEMENTATION

To move 'Living Streets' from concept to reality financial and in-kind investment will be required from a mix of stakeholders. The Built Environment Committee seeks to collaborate with these groups to realise the potential 'Living Streets' offers our communities.

ROAD MAP	GANSW & DPIE & TRANSPORT NSW	COUNCILS	BUILT ENVIRONMENT COMMITTEE / SECTOR	CORPORATES	DEVELOPERS	RESIDENTS
01 Increase Tree Canopy	Establish priority streets with Councils and fund trials of different tree species, density and configurations, including mixed species to maximise canopy cover where deep soil permits on existing streetscapes	<ul style="list-style-type: none"> Seek opportunities to partner with local residents & developers to green private space Promote private front yard plantings Trial different tree configurations on streets Partner with Corporates for localised funding Provide information to developers and private residents to plant larger trees and implement shared driveways with permeable surfaces 	Advice to establish priorities and configurations	Explore shared value initiatives with Council and residents to support the funding and implementation of more street trees to support the trials of different configurations	<ul style="list-style-type: none"> Consider how they could achieve ratio's but maximize usable green space Consider how they could encourage new owner occupiers to undertake additional greening 	<ul style="list-style-type: none"> Contact Council and seek a Living Street transformation Talk to a local nursery about private space, where a larger tree or shrubbery could be planted and plant out their properties
02 Embed Living Streets in policy	Review policy documents outlined. Consult with the Built Environment Committee on revisions.					
03 Pilot Living Streets	Invest in a pilot that is formally evaluated and provided as a case study	Enable the roll out of pilots	Pilot oversight and input		Pilot input	Pilot input
04 Living Streets Ongoing Grants	Invest in ongoing grants / target existing Grants to include Living Streets	Invest in ongoing grants / target existing grants to include Living Streets	Part of Grant assessment panel	Take part in grants	Take part in grants	Take part in grants
05 Research projects to quantify value & unlock funding mix & support cross sector collaboration	Fund and govern the projects	Input	Develop terms of reference for appointment of consultants and co-govern the project	Consider funding initiatives a part of CSR or shared value strategies	Consider how investment in this area could be recouped through improved property values	Explore the potential of setting up a Living Streets Foundation
06 Develop a 'Design Guide'	Invest in developing a 'How to Design Guide'	Input into the 'How to Design Guide'	Lead development of the 'How to Design Guide'	Input	Input	Input
07 Policy and Guidelines Review	Review full suite of policy mechanisms to ensure they enable Living Street configurations. Consider forming a collaborative working group to identify and address policy and practice barriers	Review local policy, such as Landscape Guidelines to ensure they enable Living Street configurations, such as supporting shared driveways	Input		Input	Input

10 INITIATIVE LEADS

The Built Environment Committee is a collaboration between the Australian Institute of Landscape Architects, Australian Institute of Architects and Planning Institute of Australia. This group brings together significant experience in architecture, planning, landscape, urban design and ecology leadership and innovation.



Australian Institute of
Landscape Architects



Australian
Institute of
Architects



Planning
Institute
Australia
New South Wales
Division



Julie Lee, Tract, 2020