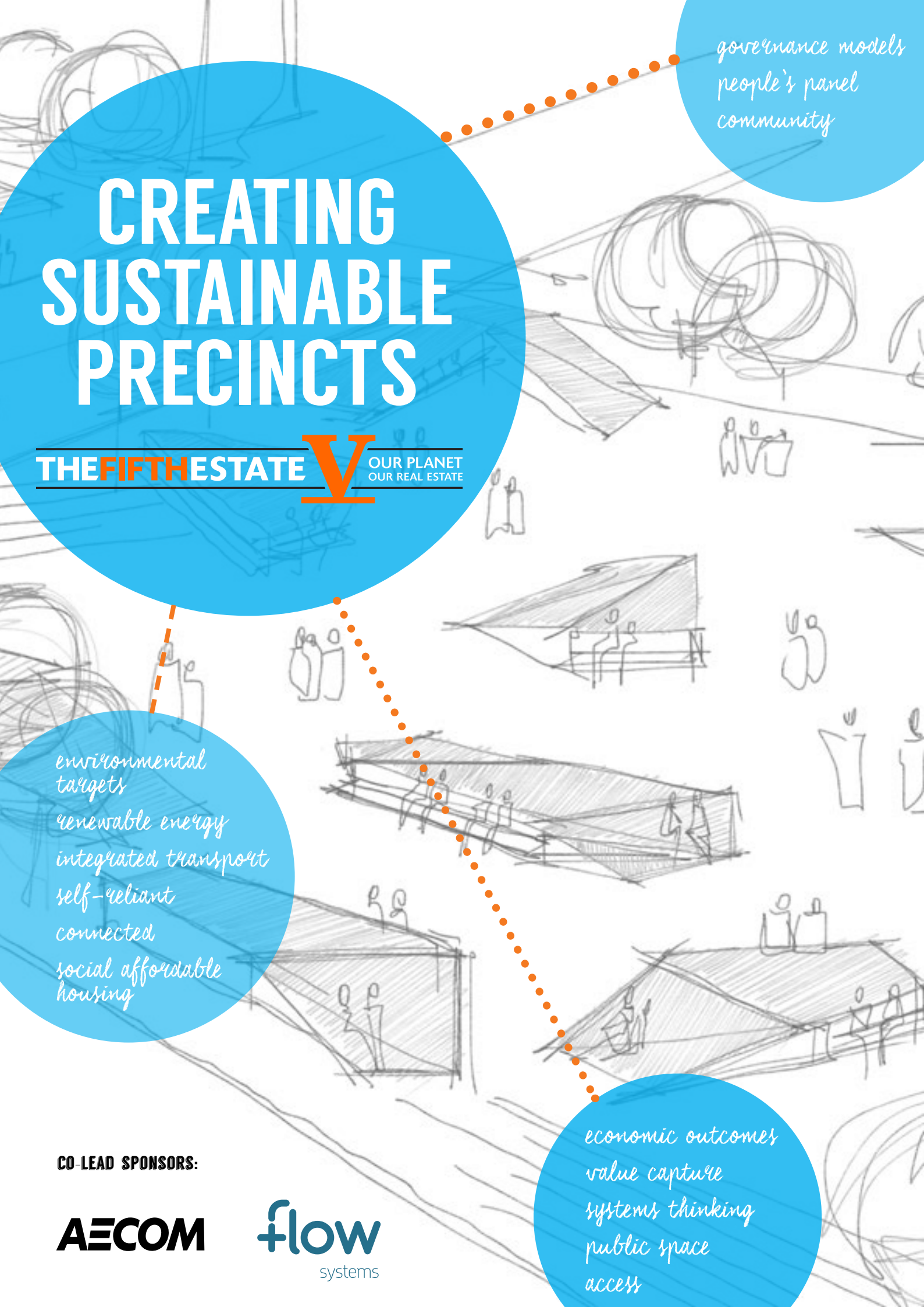

CREATING SUSTAINABLE PRECINCTS

THE FIFTH ESTATE V OUR PLANET OUR REAL ESTATE

governance models
people's panel
community

environmental targets
renewable energy
integrated transport
self-reliant
connected
social affordable housing

economic outcomes
value capture
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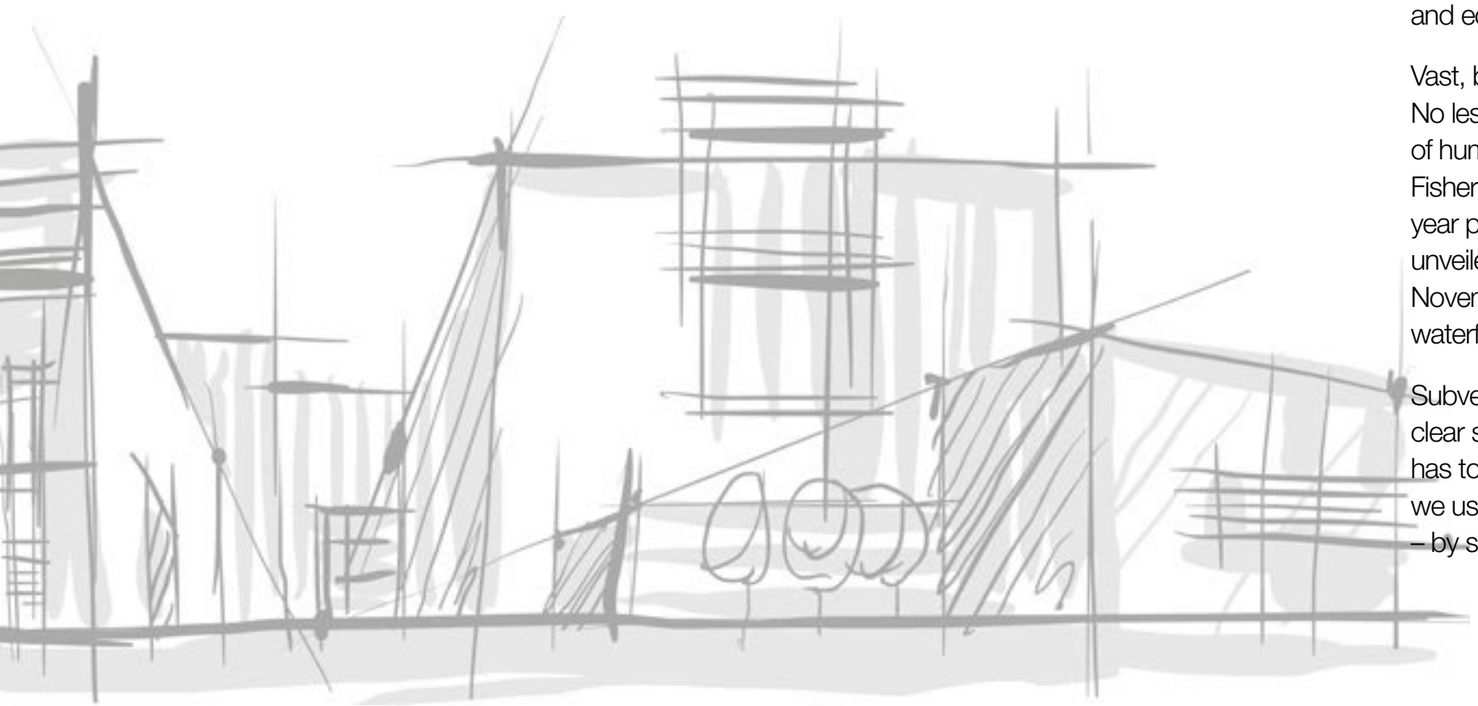

FOREWORD

We started this ebook in late July with a salon to thrash out the key issues around creating sustainable precincts.

By sustainable precincts we mean mixed-use greenfield, brownfield, infill or revitalisation projects that, because of their scale and mix, provide opportunities for greater connectivity, leading to greater sustainability, innovation, economic and social outcomes.

We knew it would be an intriguing topic. It turned out to be one of the most exciting you could think of – vast and highly subversive. Exciting because creating precincts – and they absolutely need to be sustainable – calls for the best and brightest. They need to be integrated, renewable with energy, sustainable with water and deliver on multiple complex needs for the community and economy.

Vast, because the challenge is so immense. No less than accommodating the influx of humanity that wants to live in cities. Fishermans Bend in Melbourne is a 40-year project. The Bays Precinct in Sydney, unveiled in an international summit in November, has 80 hectares of industrial waterfront land two kilometres from the CBD.

Subversive because more than anything it's clear sustainable precincts mean everything has to change; we can't build cities the way we used to. The old model of development – by single buildings or even clusters of buildings – does not apply. Nor governments handing down planning tablets from on high; today that's a sure way to political extinction.

Subversive because the hardware of building cities is almost irrelevant. It's the immaterial "software" of the city that will drive its success or failure, argues Ingo Kumic in an article in this book. This needs to factor in the new economic models emerging, part capitalist market and part collaborative commons, he says.

Subversive too because in the face of advancing climate change, it's clear that with our future precincts we need to throw out the old concept of sustainability as a three-legged stool giving equal weighting to environment, social and economic outcomes. Environment needs to be at the top of a pyramid because without it we don't get the benefits and joys of the other two.

This is not a comprehensive book on creating sustainable precincts. But it's the start of a conversation we all need to have on creating our future cities. A job for us all.

A massive thanks to our supporting and deeply engaged co-lead sponsors **AECOM** and **Flow Systems**, and to supporting sponsor **Waverley Council**, without whose help and encouragement this project would not have been possible.

Tina Perinotto,
Managing editor and publisher,
The Fifth Estate

foreword

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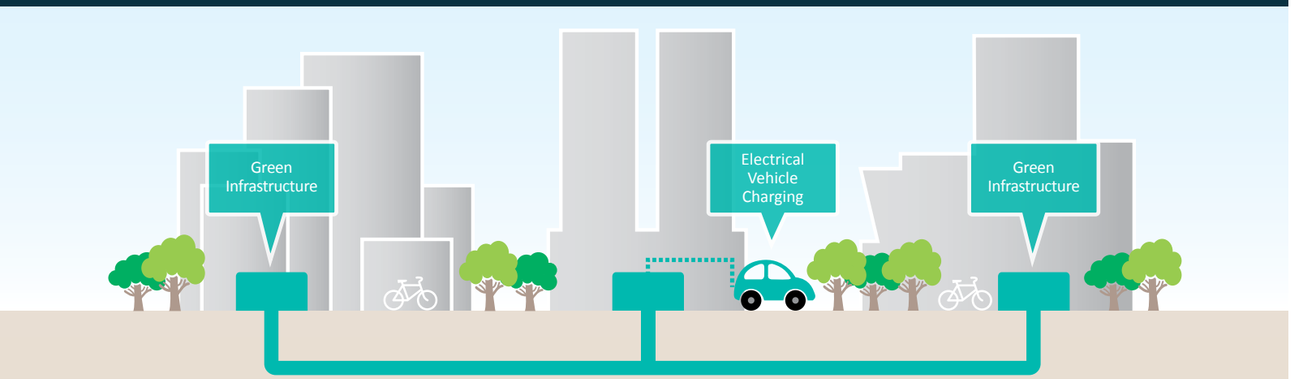
SHAPING THE FUTURE OF BONDI JUNCTION

WAVERLEY COUNCIL

Waverley Council has a vision for Bondi Junction to reach its potential as a world-class urban centre servicing Sydney's Eastern Suburbs.



Potential solutions under investigation

Potential solutions under investigation
Images courtesy of Roberts Day and Anderson Hunter Horne

Through a number of revitalisation projects Waverley Council wants Bondi Junction to become a hub of sustainability, complete with great places, active streets, accessible transport, design excellence and efficient buildings.

Waverley Council can't achieve a better Bondi Junction alone. We are working with local property owners and the community to create a smarter, more liveable city.

The focus is on Bondi Junction because:

- 40% of our Waverley community greenhouse gas emissions are attributable to Bondi Junction
- Over 21.4 million people visit Bondi Junction each year
- Bondi Junction has 65% more pedestrians than Circular Quay
- Oxford Street, Bondi Junction is the ninth busiest bike route in Australia.

REVITALISE & RENEW

Work is already underway to revitalise Bondi Junction, including:

- Creating streets with wider footpaths, trees and separated cycleways
- Installing raingardens to remove stormwater pollutants
- Upgrading the facade of Eastgate
- Improving access to the bus and rail interchange
- Developing a Green Infrastructure Masterplan
- Collaborating with property owners through the Building Futures Partnership
- Developing an economic strategy to promote a mix of services and activities
- Promoting building design excellence
- Expanding affordable housing.

These are just a few examples of Waverley Council's commitment to realising the potential of Bondi Junction.

For more information about projects happening in Bondi Junction, contact:

Green Infrastructure Project Manager
P: 02 9369 8119 E: genevieve.wilson@waverley.nsw.gov.au
or visit: www.waverley.nsw.gov.au

BUILDING FUTURES PARTNERSHIP

WAVERLEY COUNCIL

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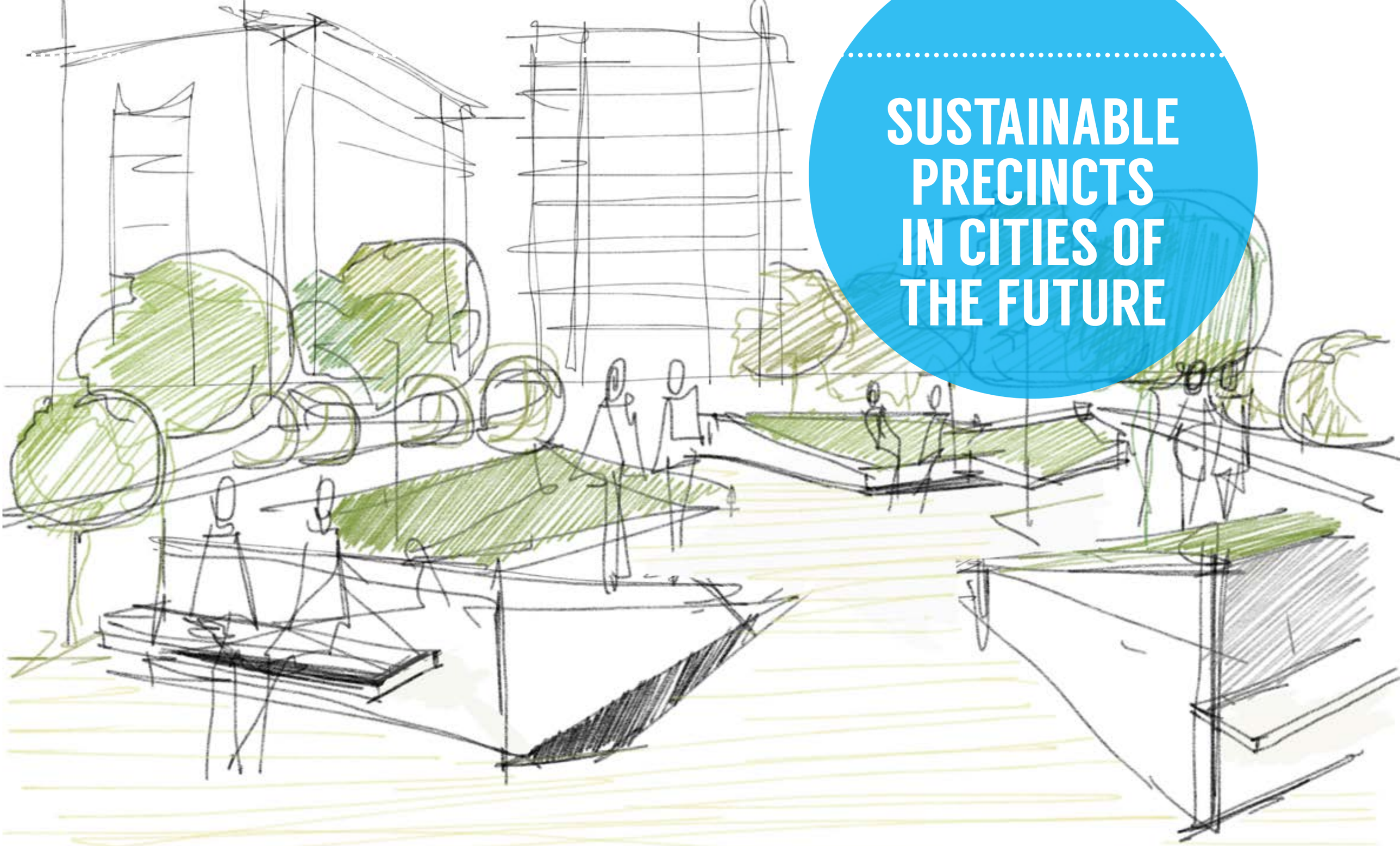


By Lynne Blundell

An artist's impression of the Green Square precinct development in Sydney (front).

By 2030 the number of people living in cities globally is expected to be around five billion.

Global urbanisation is growing at an unprecedented rate and, with it, pressure on city infrastructure systems and natural environments.

By 2030 the number of people living in cities globally is expected to be around five billion; in Australia our population is forecast to grow to 35 million by 2050, with 85 per cent of people living in cities. Sustainable precincts that generate their own power, recycle water and waste and have high aspirations for social outcomes such as affordable housing and public transport could be the key to sustaining mega cities of the future.

Precincts are popping up across Australia. In Sydney there are several being developed in the inner city, including Barangaroo, Central Park and Green Square, with others in the planning stage, such as Central to Eveleigh and AMP Capital's Quay Quarter precinct. The latest to be announced, the Bays Precinct, will see vast tracts of industrial land in Sydney's inner west transformed into housing, commercial and retail space.

In Queensland Stockland's mega precinct development at Caloundra South covers 2310 hectares and is expected to generate more than 40,000 jobs during construction and beyond.

In Darwin a large urban renewal project, the Avenue, will be the city's first sustainable precinct. And Canberra's 40,000 square metre precinct development by Rock Development Group, the loop, features rooftop solar panels, advanced geothermal systems, water harvesting and rooftop gardens.

It is a trend that is likely to accelerate. Developers, city councils and urban planners believe precincts could provide many of the answers to our most pressing problems by taking the pressure of existing energy, water and transport infrastructure and helping to lower carbon emissions.

Jorge Chapa, the Green Building Council of Australia's executive director, Green Star, says the number of large master planned developments will continue to grow as urban pressures increase. The truly sustainable ones will stand out as much for their social outcomes as environmental ones.

The GBCA's Communities rating tool is aimed at both measuring and encouraging these outcomes. There are 38 indicators for measuring sustainability of precincts, or master planned developments, as the GBCA prefers to call them.

"If we look at what we are trying to achieve overall it is creating places for people," Chapa says. "They must be economically sustainable, liveable, well designed, minimise their environmental impact and be managed well long term."

Places must be economically sustainable, liveable, well designed, minimise environmental impact and be managed well long term.

Left: Jorge Chapa, GBCA

Unlike a typical development of 1000 dwellings, a sustainable precinct would try to create amenity, a sense of place and be resilient economically and to climate change, Chapa says.

"For example, in terms of economic viability, we look at factors such as whether it relies on being located near one industry such as the car industry. What happens if that closes?"

The tool encourages a balanced outcome, with developments having to achieve a minimum number of points in each category. It is not possible to balance poor performance in one area with higher points in another. Participants must be reassessed every five years to make sure they have achieved and maintained their targets.

Still in its pilot phase, the Communities tool so far has 20 registered projects, including developments such as Barangaroo, Caloundra South, Bowden Village in Adelaide, the University of Melbourne and RMIT. The first rating was awarded to Brisbane Airport in December 2014.

"We're hoping that once we get some results out there more of the big developers will come on board, that ones who may not have thought it was for them will see the benefit," Chapa says.

The Cooperative Research Centre for Low Carbon Living, or CRCLCL, which brings together property development, planning, engineering and policy organisations with leading Australian researchers, has a number of research projects in the pipeline relating to precincts, one on low carbon precincts and another on engaged communities.

The Low Carbon Precincts program focuses on reducing the carbon footprint of urban systems, with an emphasis on the interlinked aspects of energy, water, waste, transport and buildings.

The program aims to reduce the carbon footprint of precinct infrastructure through the development of better tools and planning techniques that will make low carbon infrastructure valuable and desirable to buyers. The hope is that this will assist property developers and local government partners to provide new low carbon infrastructure as well as to redevelop and retrofit existing developments.

The CRCLCL is focusing on better education and training in building information modelling (BIM) and extending the technology to a new precinct scale (PIM) platform.

The plan is to develop integrated tools for demand forecasting at the precinct level, covering energy, transport, waste and water and design and assessment tools for precincts, focusing on low carbon performance. This will be followed with analysis of the health and productivity benefits of low carbon precincts.

A sustainable precinct tries to create amenity, a sense of place and be resilient economically and to climate change.

Left: Professor Deo Prasad, CRC for Low Carbon Living. Centre: Dr Ed Blakely, US Studies Centre. Right: The Bo01 precinct in the city of Malmö, Sweden.

As part of its research, the CRC has been running workshops with key stakeholders in capital cities to visualise what low carbon cities will look like in 2040. In the Sydney and Melbourne workshops participants had identical visions of their future cities – ones with decentralised and more socially engaged precincts where people actively participate in government.

Project leader and director of the Victorian Ecoinnovation Lab (VEIL) **Professor Chris Ryan** says leading urban planners from each city believed that to be resilient to extreme weather and to become low carbon both cities need to move away from the centralised management under which they currently operate.

“Ultimately social networks will be different as we will change the way we build and operate as a society – which will be more networked and localised with decentralised systems of transport, energy, food and water supply with localised economies,” Ryan says.

According to chief executive for the CRCLCL **Professor Deo Prasad**, engaging planners and other stakeholders in developing a vision of how future cities should be is vital. They must then find a way to make these cities a reality.

These visions may also “flag disruptive innovations that, like the steam engine, could completely change the way we live”.

“This visionary process will provide a better understanding of how our cities will evolve and what the research, capacity building and policy needs are required to make this transition,” Prasad says.

Put people first

Dr Ed Blakely, honorary professor of urban policy, US Studies Centre, says precincts are important for future cities because they provide the necessary scale to put in place decentralised water, energy and waste services. But he firmly believes that getting the social infrastructure right first is essential when creating any kind of sustainable precinct.

“People’s behaviour at the end of the day is really what determines what our environment will be. The more you integrate people into the environmental concerns, the more likely you are to have good outcomes,” Blakely says.

Anchoring precincts with infrastructure such as a sporting stadium, shopping centre, commercial area or educational institution can create a social hub.

“That’s what we’re doing in [the redevelopment of] Parramatta Square – we’re creating a commercial precinct,” Blakely says.

Looking to other countries and cities where precincts have already proved successful could also help their development here. The city of Malmö in southern Sweden has been transformed from an industrial city into a series of sustainable precincts by reinforcing existing districts. The first development, Bo01, was designed to use and produce 100 per cent locally renewable energy over the course of a year. Buildings receive energy from solar, wind and a heat pump that extracts heat from an aquifer, facilitating seasonal storage of heat and cold water in the limestone strata underground.

> ***The way you connect up physical forms such as energy is not necessarily the way you connect up people, says Ed Blakely.***

Fort Collins in the US and areas of New York City have created sustainable precincts through retrofits, while in Europe new villages and towns have been developed as sustainable precincts. In Seattle and Oregon in the US, areas have been nominated for the development of low energy precincts.

“They always start with energy and water – the natural processes – [which] can be linked together. Portland [Oregon] is doing a lot of this. In fact they have created a precincts institution that is putting together precincts districts anwd issuing green bonds so that precinct infrastructure can be funded,” Blakely says.

“For the most part development of precincts around the world is taking

a very physical form. But the way you connect up physical forms such as energy is not necessarily the way you connect up people."

So far in Australia the ability of precincts to create their own power and water networks has been hampered by existing regulations and governments slow to set sustainability targets, environmental or social.

In Australia the ability of precincts to create their own power and water networks has been hampered by existing regulations.

Ed Blakely believes existing energy and water providers will probably fight to the bitter end but that decentralised systems are inevitable. He sees the coal industry as another major obstacle to moving to cleaner forms of energy, particularly with its ongoing support from government.

But we are on the brink of a new era where our garbage will go down chutes into gardens to be recycled, we'll harvest and recycle water and put our excess back into the system, just as we will with power.

"We'll have a combination of solar power and battery storage. And energy from commercial buildings will be used by residential areas when nobody is in the office buildings," Blakely says.

Precincts the key to dense cities of the future

Monica Barone, chief executive officer at the City of Sydney, says precincts are key to the dense, diverse, varied cities we need. They house the labour force needed for cities and provide the type of amenity people want. If planned properly they provide the opportunity to export energy and recycled water and remove some of the burden from existing centralise water and energy networks.

To achieve this, however, state governments need to have clear targets for energy, water, social housing, affordable housing, jobs and active transport.

As part of its 2030 plan, the City of Sydney has ambitions to create sustainable precincts across the city, particularly in the numerous urban renewal sites such as Green Square and Barangaroo. At Green Square the City's preferred option of a trigeneration power plant had to be abandoned due to regulatory obstacles.

"At the moment there is no agreed urban renewal methodology so we start from scratch each time. A different

Left: Monica Barone, City of Sydney.

Right: Bruce Taper, Kinesis.

It's time to build a business case to convince regulators and politicians on the value of precincts, Monica Barone says.

process for every site confuses people. If you go to a developer and say, 'What do you want to put here?', they'll just put what they want on a piece of land. But if you tell them they have to be carbon positive and water positive and have 10 per cent affordable housing that's what they'll do. And that is what they do in other parts of the world because they're made to," Barone says.

States and cities need to set targets for what they want to achieve and then develop methodology to achieve those targets. Local government can only enact laws that are already there so if state or federal governments don't have clear targets for sustainability it impedes progress.

It is time, Barone says, to build a business case to convince regulators and politicians on the value of precincts.

"How do we build a call to action and then a policy around that? How do we engage the community to say these are our expectations and we expect no less? This then pushes politicians to put in place the legislation that enables it."

Barriers are philosophical not technical

Bruce Taper, director at Kinesis, says the barriers to achieving truly sustainable precincts are not technical but philosophical. In some cases energy providers or network owners may resist new ways of connecting power to precincts simply because it differs to their usual protocols. Companies such as Kinesis often act as a go-between in such cases.

"They might resist because what is being proposed is not the norm but if you talk to them it is often possible to find solutions. Most technical issues are resolvable if the information is on the table," Taper says.

Activating precincts: Art, Not Apart at the New Acton precinct in Canberra.
Image: Alex Moffatt.

Precincts provide an opportunity to build the social infrastructure needed for high-density living.

The key is to have information ready early. Often the request for some technical aspect of a development comes too late in the day. Things like predictive analytics helps people from each side talk to each other and to plan early.

“If you come in at the last moment and say you need a connection for a high pressure gas main or to connect to a large fuel cell you’re likely to come up against resistance,” Taper says.

Precincts should not be treated like islands but have to connect with the infrastructure and systems around them. By aggregating the big picture of what should be happening within an area, such as the inner city, it is then possible to do strategic planning.

“There are so many examples of missed opportunities where a silo approach was adopted and developers only focused on their particular interest. That’s totally understandable because they were only required to focus on what they were doing,” Taper says.

The state government has a role in investing in public infrastructure that will make precincts work, possibly in partnership with the private sector. It is also necessary for cities and state governments to line up their goals and visions to achieve better outcomes at a local level.

James Rosenwax, managing director Design + Planning at AECOM, believes it is from the local, or community level, that real progress will come for sustainable precinct development. Precincts by their nature fit in with many current trends, such as collective ways of thinking about collaborating and sharing, common to Gen Y and younger generations.

“It’s all about scale,” Rosenwax says. “There’s greater opportunity to achieve outcomes for society and the community if we look at things at scale rather than at an individual allotment. There are critical mass benefits in terms of energy, the way we share energy, and precinct ecosystems where the waste of one can go to the benefit of another. Plus public open space can be better planned to allow for changing needs and to meet generational expectations.”

Collective ownership will drive change

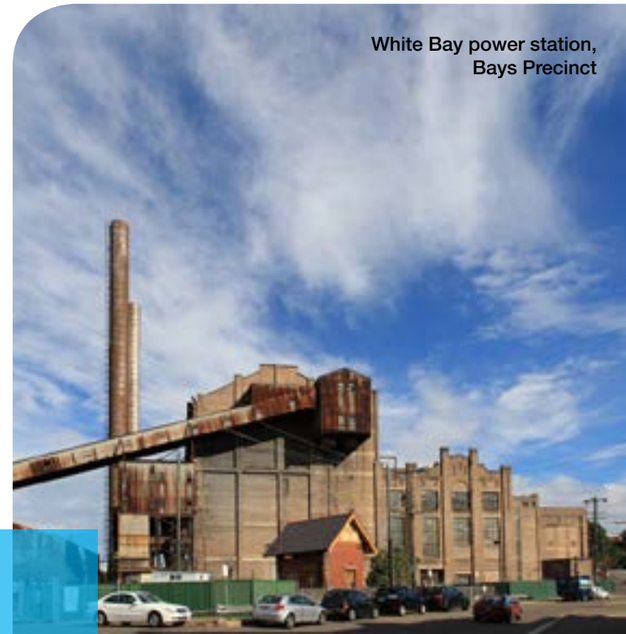
He points out generational expectations are driving demand for apartment living and denser cities. Precincts are an obvious fit, providing an opportunity to build both the social and other infrastructure needed for high density living. Vertical services and facilities and childcare and schools are easy to incorporate.

“Younger generations are less concerned with physical assets like owning the best car available. They’re much more concerned with the experience, so public transport use will increase as car use decreases. Gen Y are much more concerned with connecting on social media or exchanging and collaborating virtually rather than sitting in a car and in traffic,” Rosenwax says.

That attitude also extends to how open space is used, hence the demand for laneway revitalisation, small bars, pop-up shops and collective ownership.

And the time may not be too far off when people become tired of waiting for governments to get funding together for improving open space and building new infrastructure.

“Collective ownership is huge. There is an upsurge around the world of crowd sourcing and crowd funding to improve open space without waiting for local government or the public sector to do it. It’s like the guerrilla gardening movement that appeared a few years ago – at first local government pushed



White Bay power station, Bays Precinct

back on that but then they realised the benefits and developed a policy to allow people to operate gardens on government-owned land.

Community and stakeholder engagement is probably our biggest challenge in the short term.

"I think as the demand of the local community increases Council will adopt policy to allow people to take ownership of not only the creation and use of open space but also the operation of open space."

Traditionally contractors took on this role but scarce local government resources is likely to see the trend increase. Body corporates within precincts could take on responsibility for public amenities and spaces.

Pushing through the barriers

Mr Rosenwax nominated some key barriers and some ideas for pushing forward. Adaptability is critical for precincts. For example, in the Central to Eveleigh precinct development, it is unlikely that commercial space will be viable from day one due to the large number of developments taking place within the city, including massive ones such as Barangaroo.

"We need to provide a structure that allows for future commercial but responds to the immediate needs, which are potentially residential and retail. Adaptability in the structure plans, the master plans and also in the buildings is essential. The buildings in precincts need to be able to be retrofitted for change of use."

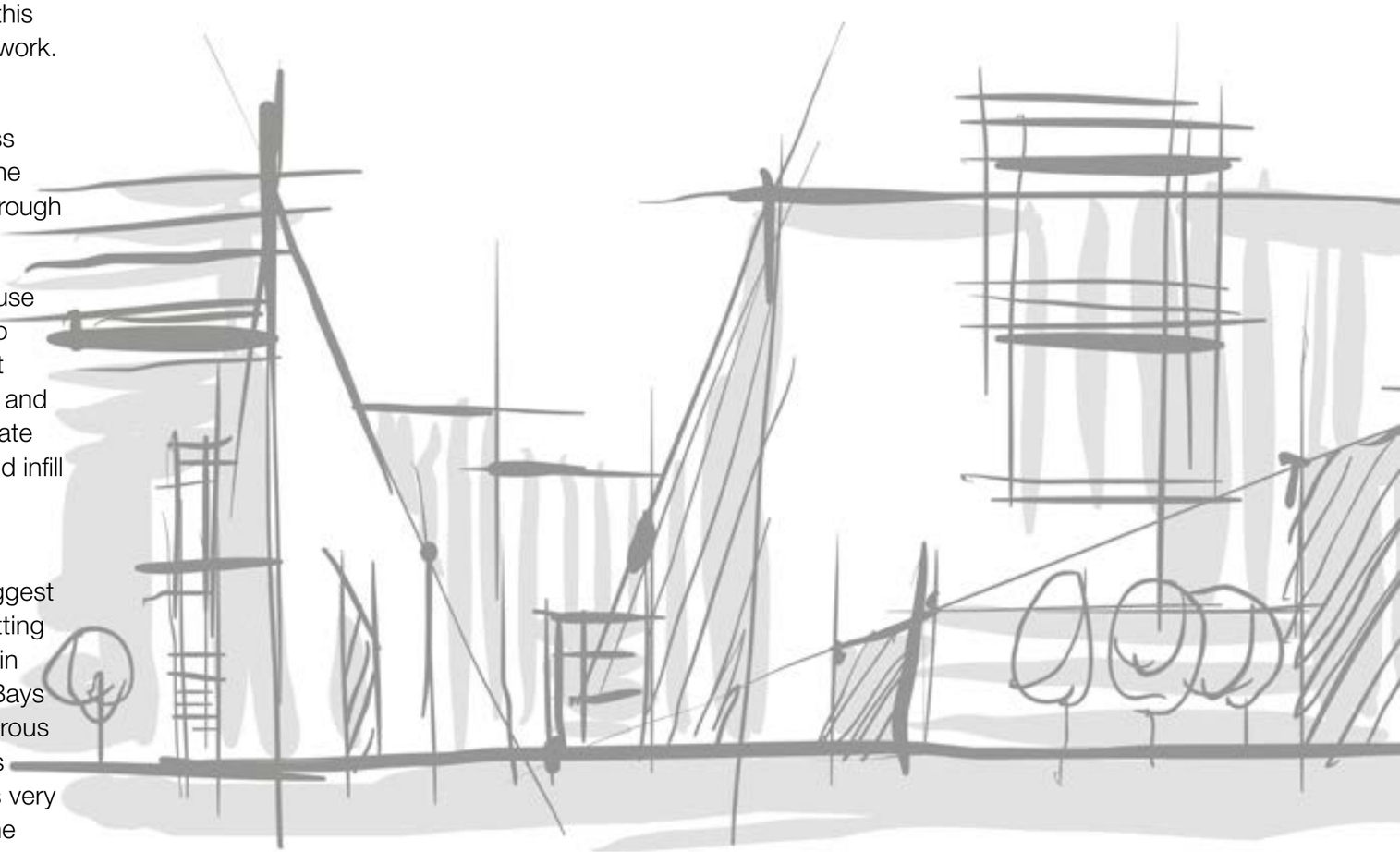
The backbone of the precinct, transport and access is less flexible and lasts four or five generations. But it is critical and government must invest in this infrastructure if precincts are to work.

"Funding is an obstacle. We need to work out how we access superannuation funds to allow the mums and dads to invest. Or through green bonds," Rosenwax says.

Conflicting land ownership and use is also a major roadblock, and to overcome this government must engage with different authorities and local communities to communicate the benefits of urban renewal and infill development.

"Community and stakeholder engagement is probably our biggest challenge in the short term. Getting community and ministerial buy-in for developments such as the Bays Precinct, where there are numerous competing land use interests, is challenging. But engagement is very important for communicating the benefits to the community beyond the precinct."

We need to work out how we access superannuation funds to allow the mums and dads to invest. Or through green bonds.



THE FIFTH ESTATE SALON ON SUSTAINABLE PRECINCTS

Sydney
31 July 2014

THE FIFTH ESTATE SALON ON SUSTAINABLE PRECINCTS

BY LYNNE BLUNDELL

On 31 July 2014 *The Fifth Estate* hosted The Salon on Sustainable Precincts in Sydney.

The event brought together a group of people with considerable clout in the creation of sustainable urban precincts – places that aim to use less power and water, create less waste and have high aspirations for social equity, including better public transport and affordable housing.

Guests at the salon were developers, urban planners, administrators and experts on sustainable delivery of water, power and transport. They were passionate in their views about the need for leadership from government and better planning policy for more sustainable cities.

Many felt the private sector would have to take the lead and just "do it" anyway, rather than waiting for government to find the will.

Some predicted communities would take ownership of public space, using crowd sourcing and funding to get the sort of urban environments they want.

And others believed new funding models such as green bonds are needed to overcome the lack of public funding for urban precincts and new cleaner energy, water and transport infrastructure.

It was a night full of debate, ideas and, at times, frustration. Ultimately it was a chance for like minded people to come together and try to find solutions for better ways of creating sustainable urban environments.

Guests (pictured, left to right):

- **James Rosenwax** – Managing Director, Design + Planning, AECOM
- **Monica Barone** – Chief Executive Officer, City of Sydney
- **Terry Leckie** – Founder and Managing Director, Flow Systems
- **Peter Monks**, Director Planning and Environmental Services, Waverley Council
- **Dr Ed Blakely** – Honorary Professor of Urban Policy, US Studies Centre
- **David Rolls** – Chief Executive Officer – Commercial, Mirvac
- **Michelle Tabet**, placemaking consultant
- **Jonathan Emery**, Managing Director, Urban Regeneration, Lend Lease
- **Bruce Taper** – Director, Kinesis

Monica Barone

Monica Barone, City of Sydney chief executive officer, opened proceedings with an acknowledgement of country.

Terry Leckie, on behalf of co-lead sponsor Flow Systems, thanked guests for attending and outlined the thoughts behind the Precincts Salon. He talked of the need to understand the real meaning of sustainable precincts and the systems that support them. The Salon, Terry said, was an opportunity for those involved in creating precincts to share ideas and lessons learnt so that barriers could be more easily overcome.

"As an industry, we're on to about our second or third generation learnings," he said. "How do we share those lessons learnt with others that have gone through the same process, so as an industry we can accelerate the implementation of thriving and progressive precincts?

"What are the issues we see coming out of new precincts such as Barangaroo, Green Square and Central Park? What are the trends and the lessons from around the world?

"This opportunity to talk with a whole lot of like-minded people is fantastic. There's a whole host of views in the room I'm sure, and I'm quite excited about the prospect of that."

Defining precincts

Before the discussion got into full swing guests agreed it was important to define exactly what was meant by a precinct. When setting boundaries for a precinct, "How far do you go beyond the building?" Ed Blakely asked.

James Rosenwax:
The problem is the dictionary talks about a precinct as being defined by a line or boundary and that's where precincts fail when you have a hard line. That doesn't let you build beyond the line and think about surrounding precincts.

I think we should agree that precincts can't be isolated because a whole lot of problems come out of isolated precincts. You can cannibalise on a precinct, which is not healthy for anyone economically or socially.

People talk about a precinct as a community, but a building can be a community. Perhaps that's not the right definition. But then think about diversity – that's kind of getting towards a precinct. Then scale – scale has been very important to precincts – where you can begin to operate beyond the single lot and gain a net benefit, a net community benefit from interrelated connections. You can't define it by size. It's an interconnected system that derives benefit from being connected.

Monica Barone:
Another way of looking at it is by the things you want to achieve. I think scale and interconnectedness is important. It can be defined by performance targets for emissions, water, affordability and connectivity. Then you design it to achieve those objectives.

It's finding the scale to achieve the outcome you want that defines it. You will have multiple outcomes. For example if you want to establish decentralised energy plants you will need a certain scale to achieve that. Boundaries are fluid – for example you may shop and work in one street but use a childcare centre in another.

Peter Monks:
Once you start drawing lines on a map it's a limiting thing rather than an empowering thing. It's more important that you work out what it is you're trying to do and have a conversation with the community and get everyone as much in the right direction as you can possibly get and then be very organic with the process.

Bruce Taper:
The precinct boundary allows you to get focus but you're always looking outside

James Rosenwax

We should agree that precincts can't be isolated, because a whole lot of problems come out of isolated precincts.

of that… I think what Peter [Monks] said is important – keep the boundaries fluid depending on what you want to achieve. There's a difference between land use precinct planning and mega projects. A mega project does have a line on a map. But part of the success of innovators like Terry [Leckie] and others like Mirvac and Lend Lease when working with cities like City of Sydney or Waverley is that there's broader thinking outside of the property boundaries to actually make things sing that wouldn't work otherwise.

Working outside the square

Many of the guests were deeply troubled by the lack of leadership from government in planning more sustainable cities. And the drive to take the lead and just "do it" anyway, rather than waiting for government to find the will, was palpable.

James Rosenwax:
For generations, we've relied on the public sector to provide planning and information for us – they're there to upgrade our streetscape or parking. I think other forces are at play now. Technological advances are transforming how we live and interact within our communities. When we think about precincts, it's technology that is contributing to a greater sense of ownership by communities of how space can be best used.

Terry Leckie:
Certainly in private water, given it's a new area, we're ahead of the regulator and they're trying to catch up. Governments and planners should focus on trying to make things happen rather than how to regulate and contain innovation in a framework.

Terry Leckie

Ed Blakely:
But people get penalised for not following regulations.

Terry Leckie:
But there are ways of not getting penalised – you work with it. There's an evolution and we come up with solutions. Technology is helping us with that.

Monica Barone:
What you're describing is exactly how it should happen. It is how the City of Sydney tries to work. We say, "Here is where we'd like to be." We look at where BAU will get us in terms of emissions and water and energy. What's the gap between BAU and where we want to get? What are the barriers?

If we want to get from BAU to the kind of city and the kind of future we want, we're not going to do it by waiting for every layer of government to understand the idea. We've got to get in a room and do it together. It's collaborative.

[First you need to share a vision, but that is far too rare, others in the room said. "What's missing is a target for decentralised energy, or a target for integrated precincts, or affordable housing." A shared vision would see so much more energy pumped into outcomes.

[Unique opportunities for world's best practice urban renewal precincts are here now, the room heard. What's needed is for the developers, government and government agencies to change the rules for a particular site and see whether it works, then maybe the new rules could be rolled out elsewhere. For example, if there is no rule for thermal energy meters, let's use the regulations used in some other country – England, for instance. You could have similar trials for decentralised water. But government agencies don't think like that, so it doesn't happen, the room heard.]

Terry Leckie:
That's the brick wall. But what we've had to do is deliver a solution and say, "What about this?". The regulators almost have to run to keep up. Think about Central Park in Chippendale, Sydney. Its already got thermal meters and we're billing off them. Very soon Barangaroo will be doing that as well. And so you say, "Hang on you regulators. Here are some examples and this is how it's working, and now we're going to apply it to Green Square."

Ed Blakely:
They can stop a good initiative like you're talking about by pointing out that the law says such and such. With water they make you pay [for going outside the system] so it gets to the point [where] you almost have to take the water they provide rather than use the water that comes out of the sky.

If we want to get from BAU to the kind of future we want, we're not going to do it by waiting for every layer of government to understand. We've got to get in a room and do it together.

David Rolls:
[When setting up] a private energy network you have to pay for the profit loss to the energy supplier…

Bruce Taper:
And technically in many ways the grid's your friend. I think the problem for you guys is the regulation is patchy. In WA, a project in Perth we kicked off with the utility was going to put money on the table to encourage a bunch of private sector developers. On one of the projects we're working on with one of the regional authorities they actually offered

a lowered fixed tariff for anyone within the physical boundaries of that project…

Terry Leckie:
Was that because of the constraint within the network, or they would have had to invest?

Bruce Taper:
Well I would argue it was because of beautiful analytics but the reality of it was I think we got away from the message that we were trying to take over the grid. Here the city of Perth was saying: "We want to conceive the possibility of our city having the commercial advantage of a lower fixed energy cost coupled with reduced emissions. [The utility company] was very clear and identified an investment strategy in the hundreds of million of dollars. We want to delay capital expenditure and find ways to avoid some of that."

And this is the hard bit where the leadership falls down for people. Public sector utilities are going to have to move fast, create new revenue streams, innovate with technology and treat customers like there is no longer a monopoly. I believe the politicians and the governments are starting to get it but the regulatory framework to make that work for public and private utilities alike is still a long way off.

Terry Leckie:
I think you've got to take the problem off-grid. Go to a licenced utility and guarantee no outages. Then invest in all the infrastructure needed to meet your guarantee, off-grid, and show government that their concerns are just nonsense.

Changing the mindset

Rather than try to change government or wait for it to regulate effectively, the private sector should be ahead of the regulator, working outside the power grid and current water network to push innovation, some suggested.

The view was that state and federal governments don't share city councils' vision of sustainable cities and do not have targets for decentralised energy, integrated precincts or affordable housing.

Terry Leckie:
It's a bit of a shift because with sustainability we have infrastructure that is different and traditional utilities are not wanting to be involved in it. One of the things we are doing is innovating to put sustainability into practice. We have a range of greenfields and vertical communities and, taking all the theory that we have in the industry, we try to put that into practice. Getting down and dirty in the detail, such as where and what type of meter we use, is tough. I'd like to say we've got all the answers but we haven't.

When you start building a sustainable approach into all different types of infrastructure and overlay it with issues of ownership, operation and keeping costs down, it becomes a struggle. And I think Lend Lease and Mirvac have gone through this for a decade and learned a whole lot of lessons.

I'm interested in how we bring this together to create lessons learned, or guides; some opportunities to share to help the industry accelerate. We can look to the world for examples of sustainable precincts and yet right in our back yard we have some really great examples. There are so many opportunities with the number of developments going on.

Public sector utilities are going to have to move fast, create new revenue streams, innovate with technology and treat customers like there is no longer a monopoly.

Bruce Taper:
You're committed to learning Terry, whereas the public utilities have stopped learning. They've got a model and it's been very secure under the regulations that exist and even if they do something like the $100 million smart meters project, it's artificially funded, it's not liked by the CEO and it's not dedicated to sustainable principles. Flow [Systems] is two or three steps ahead and you do things that compensate for the fact we don't have the culture of district heating, we don't have the culture of all these things, but you're committed to it. You're working to balance sheets on a few projects but generally the concept's sound… Treasury dumbs it down to one plus one cost–benefit analysis that is so lacking in fine grain of the value of all the different parts of all these projects.

Bruce Taper and Lynne Blundell

It doesn't matter how beautiful the building is; I'm not in love with it if the return is under seven per cent. That's what we're dealing with: returns.

That combination of rich data and predictive analytics is what I think the private sector needs to provide the public sector so they can understand everything. Not just the energy and water but the other things like affordability and mobility and the mix of all those things that create great cities. And I think we can do that in the 21st century – the fact that the planning profession hasn't got to the 21st century yet has been a real factor in us not progressing in Australia.

Ed Blakely:
These firms have huge sunken investment with a net expected return. Super funds, for example, expect a certain return, and if that return doesn't materialise… It's got nothing to do with electricity or the provider, this is all cash flow. You buy cash flows, not buildings. It doesn't matter how beautiful the building is; I'm not in love with it if the return is under seven per cent. That's what we're dealing with: returns. And how can we get that if we're feeding electricity back into the grid?

Ed Blakely

The Fifth Estate:
It's about manipulating demand.

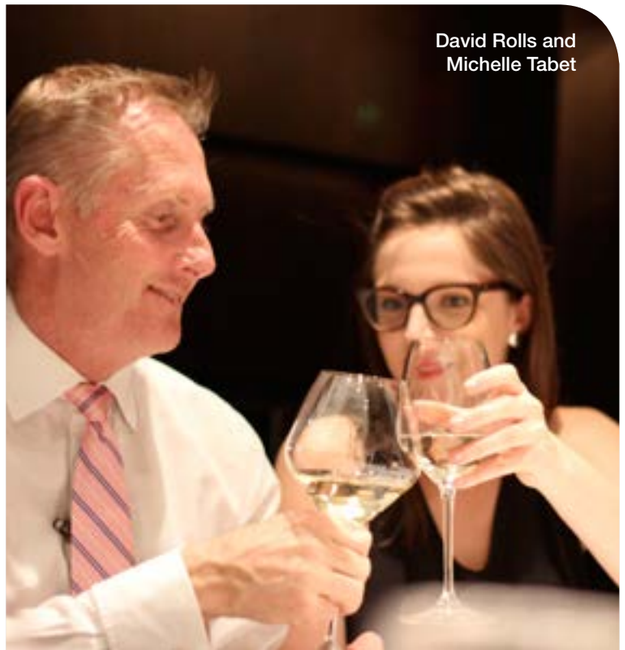
Ed Blakely:
No, it's not demand. When you localise demand and supply you cut out the middleman.

Terry Leckie:
Well, yes and no, because you can increase returns in a multitude of different ways. For owners it's about stickability with tenants so if you can reduce the costs for the tenant to be there then you'll get longevity…

Ed Blakely:
But what is long term? The capital markets have a different view of long term.

The Fifth Estate:
But they're changing aren't they? We just did a story on climate bonds, or green bonds. They're very interesting – they're looking at 20 and 30 year periods and they're trying to tap the institutional money that's running around the world – 70 or 90 trillion dollars – that's looking for a home. And they have the capability to think long term but they're not going to do it unless the demand is asking them to. The client, whose money it is, must say, "I don't want you to invest in coal fired power stations. I don't want you to invest in nuclear. I want my money for me and my children to be in clean power." The technology is there; what we don't have is the way to manipulate it or drive it and connect it, but it is happening.

Bruce Taper:
We write barrier summaries for a lot of our clients but instinctively I hate writing barrier reports about why things can't happen. Some of the ones we did do have a bit of Terry's attitude of "I'll break it if I can". It's definitely not a technology problem. The grid's pretty smart as it is – putting in a little bit more sophistication that allows for a lot more is not hard. Changing business as usual is hard in any field. Land use planners have a long history of planning for precincts but Treasury has ignored them. Just think of NSW – every metro strategy has said the right things.


David Rolls and Michelle Tabet

The Fifth Estate:
So why is Treasury ignoring them?

Bruce Taper:
I think the profession hasn't the acumen that, say, a Mirvac or a Lend Lease or a Flow has where they actually put down a very fine grain business plan. So when we do the metro plan we're not allowed to talk transport if you work for the Department of Planning, historically. I think it's probably better now under the new government than it was previously. When I did BASIX for the NSW state government we conceived the precinct model of urban growth, and all the GLOs that some of you guys use, back in 1999. But back then the department was reluctant to extend the scope of planners to the big picture things such as transport. I think those things will change when the arguments against BAU is more sophisticated. I think the public sector needs the private sector to build the mega project and fix the regulations to fit.

We need state planning methodology and targets

Inertia and resistance to change within existing utilities and regulators was a major barrier to creating private power and water networks that bypass the established networks, said another guest. But often it is not utilities or network facilitators that resist the change, but those in charge of investing taxpayers' capital into the existing grid to keep it churning money.

Planning methodology and sustainability targets within state governments are also severely lacking.

Ed Blakely:
Here we are bemoaning the past when there is great opportunity for the future. And we're not taking the opportunity to sculpt the future by bemoaning the past.

David Rolls:
Let's take an example of that – the Bays Precinct. White Bay was a power station – what if it became a green power station? And that became its history and its future.

Monica Barone:
Taking up Ed's point, this is the conversation that I'm having a lot with state government departments and authorities. Tina, you said in your opening comments that you went to a talk and they talked about looking at an urban renewal area by looking at where the transport goes and where the open space goes first. And you thought that was interesting. In NSW that's interesting, but in lots of places that's just normal. When I was a child growing up in Canberra and my father worked for public works, at the weekend we'd go and look at subdivisions. That was in the days when the roads and footpaths and the stormwater was all laid out and then the developer came in...

One of the problems in NSW is that we don't have an agreed or transparent methodology. We need to agree on a methodology so we don't have to have the arguments over and again. The first thing about the methodology is that we have to say, "What is this land meant to serve?", not, "How can this land serve the developer?" or "What can we build here in the short term to cut a ribbon?", but, "Who and what does this land have to serve in the long term?"

Here we are bemoaning the past when there is great opportunity for the future.

Take something as significant as the Bays Precinct or Eveleigh to Central – these are major, significant sites. The first question you have to be able to answer as a community and as leaders is what's it here to serve – it has to provide jobs, it has to provide housing, it has to provide connectivity and transport and it has to contribute to our economy in a deep and multi-layered way. So if it has to do that, not for 10

years but for hundreds of years, what are the targets you have?

If it has to serve the economy into the future then clearly it has to have affordable housing because where are the people who are going to come to the city [to work] going to live? So if it has to serve the future, define that, then say if it's going to serve that purpose, how are people going to get in and out of it? Let's then start to draw some lines. And where are they going to recreate – let's put in some green space and so on and so forth and take the community on that journey...

And then you have to have the environmental targets and you say if this place is going to support what we desire then this is its water target and this is its emissions target?

This is the other point... the developers who are doing things in our city are doing things in other parts of the world with much more affordable housing

Jonathan Emery

and achieving all of these targets. Do you know why they're doing it? Because they have to. They know how to do it – don't be afraid to ask.

Developers in other parts of the world are including many of these targets, including affordable housing. Do you know why they're doing it? Because they have to.

The Fifth Estate:
Jonathan [Emery] has to come in here because in our briefing you were talking about overseas having to have targets and having mandatory outcomes, because we were looking at what's happening in Fishermen's Bend in Victoria – in Melbourne, in the CBD, a 40-year development and the government has put in one paragraph about sustainability and said, "It's not mandatory, just a suggestion – if you like." Would that happen in the UK?

Jonathan Emery:
They wouldn't be allowed to because there are standards – national standards. I think they understand the drivers of regeneration, the policy drivers. From my conversations they're ready and able to step up. We're all well-travelled people – we understand the King's Crosses [UK], the Hudson Yards [New York], and we'll work out

ways to do it. Our livelihoods depend on us finding ways to respond positively and I think you'll find the development community here is up to the challenge on the whole and will actually add to the debate. Give us a target and I think we'll find innovative ways to make that happen and even embellish it.

Certainly I've found that community housing or affordable housing is a classic area where it is a challenge to do it. In the UK it is highly regulated and over time those targets have increased in complexity and numbers and yet the development industry and the housing corporation – public and private – have found ways to make that work. They actually see the benefit of mixed communities. You actually start to see the benefits of different types of markets and diversity – risk diversity, career diversity, different retail. It works.

The Fifth Estate:
And it enhances the brand of the developer?

Jonathan Emery:
Obviously you have to meet a target that's minimum requirement but I think you'll find most will try to go further and innovate around those spaces to create market opportunity, brand differentiation and attract the best talent as well.

Terry Leckie:
When you were meeting those targets did that involve setting up your own utilities, infrastructure or systems?

Jonathan Emery:
I've looked at businesses in the UK and certainly in the Middle East where utilities and provision of infrastructure is completely deficient. If you don't get it there is no development. Self generation is the only way – you're building in remote places where this none.

Terry Leckie:
So there's no regulation protecting the national supplier?

Jonathan Emery:
No, it's please come and develop our country – a very different approach. I've worked on major projects and the number of times that they've actually invested in utilities infrastructure in our redline precincts, which are multi-billion – they've done it once. It just is really, really tough, and the best things are where there's been a wider precinct infrastructure put in, usually by public authorities, and they invest in a waste plant or district heating system and someone visionary off the back of these has found the money to invest in a plant and then said, "Okay, I'm going to connect up six councils or local authority buildings." And then they mandated developers to connect into the system. That has worked. And when you're talking city wide… that works.

Terry Leckie:
But that's because it was an economic model, wasn't it?

Jonathan Emery:
Someone starts off with a vision and then has to attract a commercial operator, but they have to guarantee use of it and then they go and mandate developers. That happened in three cities we worked in and the developers do get worried about what rates are going to be charged, but you get over that and you plug in and it's just plug and play. And there are benefits.

What about affordable housing targets?

Affordable housing is one of the hardest elements to ensure is included in precinct developments because of the lower payback for developers. Jonathan Emery talked about how the UK has done it – by having strict targets for affordable housing that developers must comply with.

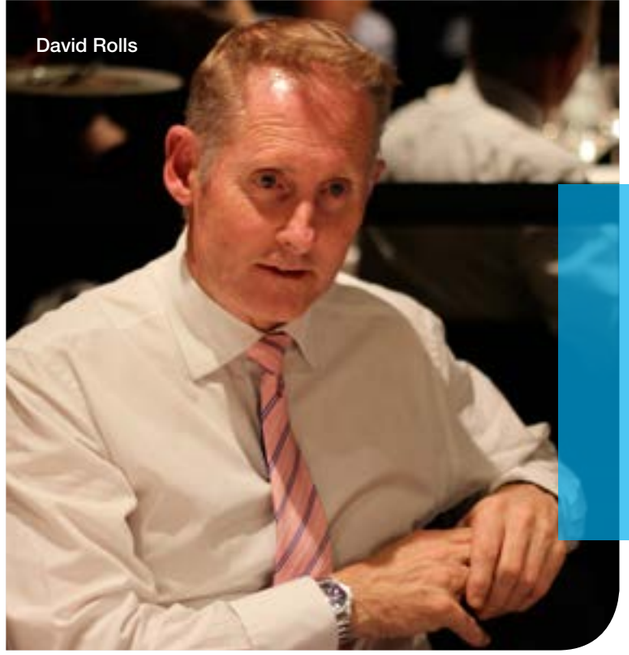
Jonathan Emery:
If we're doing anything in East London now it is a target of 45 per cent. The issue with that is it's great but it's so simplistic that it's a straight jacket and there's no flexibility with the providers who we work with to make it work.

James Rosenwax:
So in the UK the target of 30 or 40 per cent and the requirement for diverse mix of occupants gives you clarity to buy the land and find partners.

Ed Blakely:
The US is the same. Both state and national law in the US – 20 per cent affordability is required by law.

Jonathan Emery:
Now you have to properly do the mix

Terry Leckie and Peter Monks


David Rolls

It's very hard for the private sector to bid on the open market on a piece of dirt that has no affordable housing targets.

and people learn to make it work and then they start to see the benefits. You learn how to use it and to build things around it.

David Rolls:
It forces the private sector to joint venture with the public housing sector to create it. I think in Greenwich it is 38 per cent and you have to do deals with the Peabody Group or whoever.

Jonathan Emery:
These are some of the most innovative developers – these are very clever people.

Ed Blakely:
It's not just about affordable housing. What happens is jobs. They come up with job targets so people don't think they can't move into the neighbourhood and end up unemployed. So early on it was the public sector setting targets for housing etc. But now the private sector is into this saying these people live in the neighbourhood so why not hire them. If they live closer [to work] they'll take care of the property. It works.

David Rolls:
It's very hard for the private sector to bid on the open market on a piece of dirt that has no affordable housing targets… We just did something in Waterloo – a showcase project where we said this is what we want to do. The KPIs for that project were about how you partnered, what the social outcomes were. They're not all about land price – with a really amazing result. So how do we do that?

Monica Barone:
We can't mandate that here. An example was we said for a development of so many square metres you have to put a childcare centre in and almost overnight we created 2000 childcare places. Nobody complained – they said, "Okay, we'll sort it out." And they did.

Ed Blakely:
So why are we so hesitant to do this?

[What's needed is the articulation by government of a plan to achieve the

outcomes that are wanted, such as affordable housing, the room hears. Not just the articulation of what was needed as if magically it would happen of its own accord.]

Mandatory or voluntary targets?

Guests were divided over whether it was better to have mandatory targets and tighter regulation or rely on the market to work effectively to voluntary targets.

The Fifth Estate:
Jonathan, when these targets were set in the UK what was the reaction of the property industry?

Jonathan Emery:
It was a nightmare. When the building codes came in the targets the UK set and all of the premises around construction and energy consumed – they were huge. Over the next 10 years we want emissions to go down to a third. Everyone said it cannot be done and yet within a few weeks everyone was thinking this is a market opportunity for us, this is how we are going to win jobs… you adapt pretty quickly.

Regulation is often done poorly and the property sector and private sector have every right to blow up about over-regulation.

The Fifth Estate:
As a property journalist for many years in Australia, my experience is that any time there is a suggestion for mandating anything in the property sector there is the biggest lobbying effort and a very sophisticated one that comes out of the Property Council, that comes out of the MBA when it comes to housing, and the UDIA.

Bruce Taper:
When we did BASIX in 2004 Jeff Angel [Total Environment Centre] said let's capture the legacy of the green days that Lend Lease and Mirvac showcased. If you start to think of the contractual obligations of Olympic Park and Newington they were significant improvements on the Building Code of Australia… The Department of Planning has often done its job but it's not supported by the government machine. The Property Council was probably our biggest ally. BASIX had form and space targets that were mandatory and it has levelled the playing field. It didn't say you have to do all these things; it just gave you a menu and pretty clever model to do it. I think regulations are often done poorly and the property sector and private sector have every right to blow up about over-regulation… I'm not saying it was perfect but it was a model created on evidence-based data.

The Fifth Estate:
Australia has been ahead in terms of sustainability in commercial but I just find there's a reluctance to have mandates. People are scared of them – they're worried it will be hard.

Ed Blakely:
As you know I lived in the United States for a long time and there's a body called the Urban Land Institute – ULI. ULI decided in the 1990s they should get ahead of the game. They should be the ones to set the targets for affordable housing, for green star and so forth. By doing that they'll get more work, not the other way around. So what we really need is you guys around the table to be the champions for moving Australia ahead of the rest of the world because there's no country in the world that wants to be last at sustainability, that wants to be last in quality. The industry should be setting the targets, not the government.

The Fifth Estate:
Why not mandate some minimum standards? Why leave it all up to the market?

Bruce Taper:
Remember when we did BASIX we said residential had no driver but commercial property did. The agreement was we'd observe the commercial sector and see if we wanted to break the building code because the states had to fight the feds to… I think it's a missed opportunity when you haven't incrementally adapted to community expectations, technology advancements. Building code is only for lowest practice, whereas I think that's an oxymoron.

The Fifth Estate:
But they've made it low on purpose. Whenever the building code tries to improve itself, go to higher standards, everybody fights it to keep it down and then they complain that it's only regulating out the worst practice.

Ed Blakely:
Why make the rules for the lowest not

Jonathan Emery

We've talked about the pressure from government but there's always an obligation for the development industry to put its best foot forward.

the highest? You're really targeting the lower end. The people at the top end are working in the US and Dubai – they don't have that adjustment to make.

Jonathan Emery:
There are so many models around the world that developers can work to to show how it is done. It's not as if it requires reinventing. We've talked about the pressure from government but I think there's always an obligation for the development industry to put its best foot forward. I'm not saying it all has to be regulated. There are some great things happening from developers and the onus is on us to embrace this. Change does attract resilient behaviour – it always does. People have to assess what it means and go through the thinking and that way structure thought towards a target over time.

If you look at another industry – the car industry, a dinosaur. Through regulation we're now talking about driverless cars being regulated for road use in the UK and American cities and that's a change over a relatively short period of time. New energies, new technologies that's driven an industry that has huge investments in the combustion engine and the plight of oil – a huge lobby. So if that can happen what we're talking about is possible.

New market entrants are not costing in sustainability

There was much discussion of a new threat to sustainable precincts – the entry of foreign developers who do not have the same vision as local developers and can undercut on price every time. This was not the fault of the developer but was a government-led trend with overseas developers encouraged to invest and to bring in customers from different parts of the world. Without guidelines or sustainability targets from government they would not compete on the same terms as local developers who have built sustainability into their cost base, said guests.

Jonathan Emery:
These are serious competitors who are being entertained by the government regionally, locally, nationally, to invest in this country, to create more competition, to bring in customers from different parts of the world. Now they will not compete on the same terms – they have different dynamics, seriously different costs of capital and they do not hold the same values that others do. So I'm afraid it's a nice idea [to try to set the targets rather than government] but we will lose every time – I'm talking about the more sophisticated developers coming into this market on a big scale. They're used to doing things on a mega scale – it is going to change things very rapidly.

Ed Blakely:
Why couldn't you and your colleagues argue for standards to be raised in order to make sure Australian developers are competitive globally?

Jonathan Emery:
We're relying on a sophisticated client. There are different messages being sent out by different government agencies in different regions. Melbourne has different requirements... I'm not convinced that placemaking is going to win out unless there is some clearer guidance.

The Fifth Estate:
Many apartment towers, in Melbourne especially but also Sydney, are being developed by overseas developers building for an overseas investment market, and who don't care about standards and outcomes beyond the regulated minimum. Developers of high quality buildings say they can no longer compete with these foreign developers.

Monica Barone:
If you look at the City of Sydney, [almost] everything we accomplish is by pure persuasion. There's very little we can do to mandate – we can make you put in a childcare centre, almost – but everything else is putting your foot in the door and saying, "Please could you help us with this. Please put a cycleway in here, some affordable housing here." Lawyers at 10 paces. We're doing it through sheer bloody mindedness.

[The salon heard about developers in Sydney wanting to convert underutilised office buildings to residential for onsale to Chinese investors. But who will live in the buildings? The fear is that so many apartments are sold and kept vacant creating the eerie spectre of new but empty buildings.]

Bruce Taper:
Jonathan and David, is it possible, given the status of the companies you represent, given all the investment you did in Victoria at Vic Harbour… to say we would like those high standards used by Lend Lease and Mirvac to be BAU for everyone and level the playing field?

David Rolls:
It's a hard one to answer because with a one-off building like in Waterloo where it's a private industrial project with a Chinese buyer, and they're going to get away with whatever they can get away with, it's really hard, but when you've got city-making projects you can, and that's where you can create a level playing field and everyone's happy to compete on the same level because the outcomes are known.

We're making it easy for people to aim low – that's what's happening.

What's happening with some governments – and Perth's really good at this where people like the [Metropolitan Redevelopment Authority] actually published [Key Performance Indicators] of what success looks like – it's not all about money… If you know what success looks like and it's about sustainability and placemaking, it's about the legacy you're going to leave at the end, then that will change the way people work.

Competition is great – I don't think anyone would disagree with that – but [if you set targets and KPIs] those parties would change the way they view the opportunity. That's all we want. We don't want to discount people's capital or investment; we just want to make sure it's a level playing field.

Monica Barone:
We're making it easy for people to aim low – that's what's happening.

Ed Blakely:
Shouldn't governments be the opposite? Don't we want them to say, "Here's a higher standard, a social standard, a community standard and we'd like you to go there."?

The Fifth Estate:
But we have a philosophy here, don't we, that it's got to be market driven. And the market worked at the top end in commercial, it worked brilliantly because there were the drivers – there was someone willing to pay to get really good product because their employees would be happy and work in a productive environment. There was a commercial driver at the top end. Come down one or two notches to the B and C grade and the drivers aren't there.

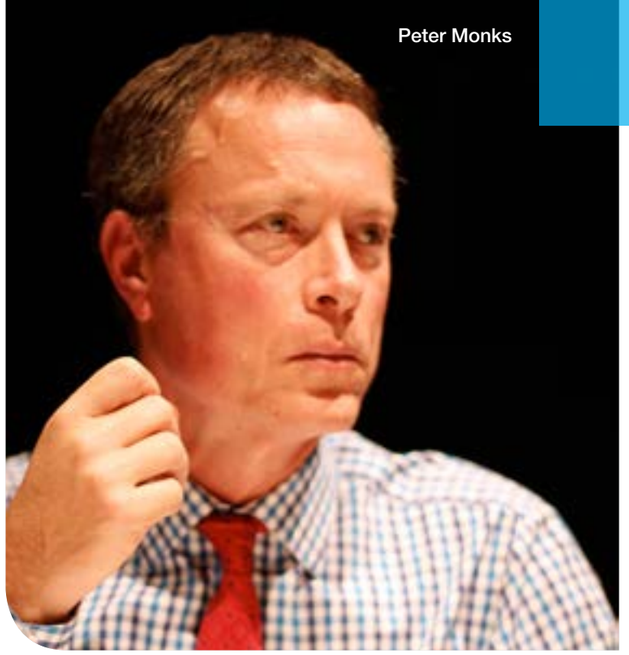
James Rosenwax:
I think they're still there. It's generational expectations. Before this conversation I was thinking about Fishermans Bend – where there is ongoing discussion around the sustainability merits of the project… the way we think about sustainability

is essentially site optimisation and good design these days; it's using less energy... The Australian market has expectations around sustainability. It's part of what we expect as a culture. But looking at the number of apartments in Melbourne being sold off the plan – a large number to overseas investors – and perhaps the market's not the same now; perhaps we can't rely on the market to drive sustainability.

Jonathan Emery:
Regarding the global competition I'm certainly not advocating protectionism and I think what's also interesting is some of these new market entrants are also working in very sophisticated markets. One of them in particular is working in partnership on a very large project in New York. It's very similar to Central to Eveleigh and they're doing great work – so they can do it; it's just about what's expected in the market. I think citizens and communities – there is an expectation – it's global citizenship.

The Australian market has expectations around sustainability. It's part of what we expect as a culture.

We're not saying people here don't aspire to sustainable solutions – it's part of life here. It's noticeable – people enjoy


Peter Monks

the environment, it's really important to what this city is and what Australia is – they get it. So they get it but as a developer we're not being motivated or pushed to deliver what the community wants. So we're going to meet those expectations and deliver what we're asked to. If that isn't up to the standard the community wants and expects all hell's going to break loose. It's never going to get off the ground and when it gets halfway through and people get upset it's never going to be owned. It's not going to be part of that city. It will be a complete failure because the community's moved on and is expecting targets to be achieved and outcomes, which are not being asked for.

Monica Barone:
It's because you're not required to. It's not about who comes here or who the developer is; it's about the framework that they're required to work within. The public interest is the framework they're required to develop in and the government and leaders are supposed to set that on behalf of the community. They describe the public interest; that determines the targets and parameters. So what happens here is the public has an expectation that the public interest will be protected in this way but the standard, the policies you work to are down here, so you do your business case to that level, then you get there and scramble to try and accommodate [what the public actually expects]. Then it costs more.

Jonathan Emery:
We follow the brief and then when it is rejected the powers that be pressure you.

Monica Barone:
Exactly. So it's [the lowering of standards by government] – it's not fair on the community; it's not fair on developers because you've [created a business case based on the parameters] and suddenly you're getting all this political pressure or community pressure – you try to adapt and add things and it looks tokenistic so they say you're the bad guy. And so the leadership stuff is multi-faceted. Sophisticated leadership understands the framework but also understands the developer. This is the thing we have to get across to the leaders because they're failing at every level – they're failing at describing the public interest and they're failing at providing an environment for good development.

Peter Monks:
What you're describing is exactly my observation of the most glaring gap of NSW planning system. There is a complete lack of strategic planning and I'm just astonished that there is no requirement at any level of government to have their layer of strategic plans in place. People here still think strategic planning is an LEP or fighting over a development application.

[In four years that's an idea that has not progressed at all, the salon hears.]

It's extraordinary – they've got through a white paper, a green paper and they still haven't worked out what it's all about, and I think if we don't ever get to deal with the bigger issues of sustainability unless you're dealing with them in a systematic way. We've had a lot of discussion about ad hoc stuff and that's happening due to a lack of a broad strategic framework. I was always surprised the Green Building Council of Australia, for example, were never fighting for regulatory standards of Green Star ratings. If you want to get a level playing field you'd want to have some tools to get us there.

Placemaking and creating a global city

Jonathan Emery:
Another topic that seems to be high on the agenda is Sydney and Australia as an attractor of global talent. I think of placemaking and quality of living, the ability to be able to move around and enjoy the lifestyle that is here and all the attributes, and attracting businesses to come here instead of other places. It's placemaking and these mega projects and our ability

Michelle Tabet

to shift the sections and realities of the cities. BASIX and the [GBCA's] materials and precincts tools – have they the opportunity to create legacy beyond the physical and start to address the other challenges?

Michelle Tabet:
This is the whole thing. It's not just how you address the space between the buildings but it's do you actually create a genuine emotional connection to the space? Unfortunately, if you look at a lot of these places – Green Square, for example – that's still a well off gentrified population. The challenge is how do we build in diversity and a real city feel where you've got people from all walks of life... We're building emotional connections for a certain type of demographic.

Having had the honour to work for both Jonathan and David, that level of sophistication is there even though it is not mandated. I have found a really deep level of sophistication around the idea that there are definitely advantages in delivering a place or precinct that has diversity, that has affordable housing, although I haven't seen it much as it has to stack up financially. This also works from an employee satisfaction point of view – people [who work for these sort of developers] feel better about their jobs if they think they are contributing to a better world. The fact is they're also doing this because it does help their sales process – they've got people who are more engaged in the act of city making.

For the first time in a long time we are thinking about cities as a place to actually be happy. In the nineteenth century the city was where you worked and the twentieth century cities were where you went to be productive, not where you were happy. So for the first time people are expecting this air of happiness in cities.

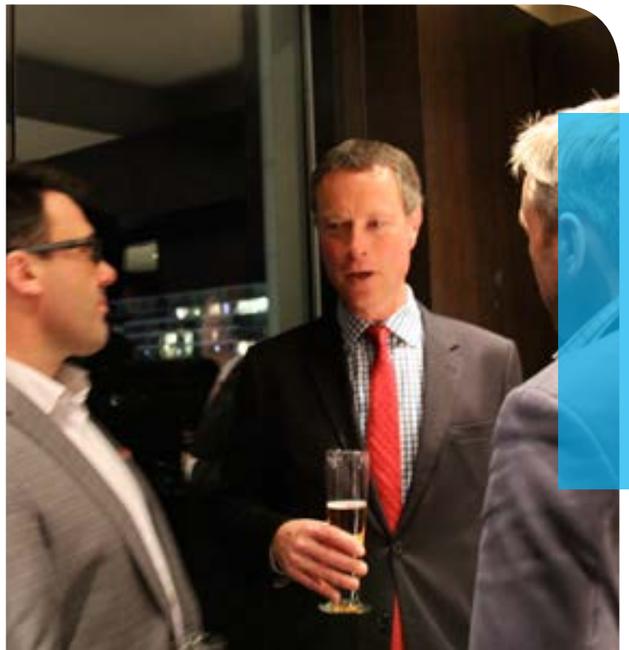
David Rolls:
Not that long ago Sydney had something like 5000 people in the CBD. Now I don't know the numbers but it's grown substantially... We're now at the point that at least 50 per cent of what is being built in the city is high density, whereas pre-1980 it would have been 80/20. So the developers are responding to what is being demanded.

Ed Blakely:
Are we selling an asset or are we building a community because these are different things. You could build an asset and have nobody living in it or you could build a community, which because of the diversity has people living in it. Is our property the new coal mine in Australia? Tonight in this city we can walk out of here and look up at the apartments and there are no lights on. People come once or twice a year and in Chatswood there are whole towers where there are no lights. These are just investments, they're not places to live. Now New York City, where I lived, the thing that bothered me most was that my neighbours were too goddamned noisy. But that's the sort of neighbourhood you want to live in.

Michelle Tabet:
We talk about wanting Sydney to be a global city but with all due respect we're just not there... There's a lot of literature on what are the factors that make a global city – the night time economy, being 24/7, being able to get your dry cleaning done but also having a number of international institutions based in your city. There's a whole bunch of indicators. If you look at Sydney it doesn't quite score.

The Fifth Estate:
Do we want that though?

Monica Barone:
Of course we do, and if you look at the City we watch how we score in those surveys.



We talk about wanting Sydney to be a global city but we're just not there.

The idea is to ask where on those surveys a city wants to sit. If you don't sit where you want to you have an intervention. The two things where we score the least in Sydney is housing affordability and transport so clearly those are the two places you have to have an intervention. We've just been rated the best city for international students, we do quite well for liveability, we're doing very well on safety – and if you don't do well on safety businesses won't come. So we watch those surveys.

You measure, monitor, then do something – it's basic maths 101. And we do need to do that because investment comes with that. When you meet with international events people they look at the survey and if the city is rated as unsafe they don't come. Business events are important to the economy. If we don't look after those international tourists – education is our second biggest export – we're all in trouble.

The Fifth Estate:
So why is the state government not behaving that way?

[The analysis from the group leans towards planning officials with the "best of intentions" but unsupported by people with a view of how other global cities develop their planning strategies. The verdict on the current NSW state government is that it's performing a "far better job" than former governments but there's perhaps too much reliance on the market to take care of outcomes.

Ed Blakely and Bruce Taper

[But the market won't take care of affordable housing or transport – there has to be an intervention.

[Here's a hypothetical question: what can the state government say to a 25-year-old unemployed person living in western Sydney? How will the planning strategy produce a job or a house for that person? Two-thirds of Sydney – the West – is not on the radar. Why not take half the Department of Planning out to the west and examine in fine details where there could be jobs; how to create leverage from an airport or hospital. The potential is huge. Government ministers and bureaucrats need to go there and see it for themselves.]

Ed Blakely:
They have only come to a few meetings.

Bruce Taper:
The tragedy of that is that we were in Liverpool on Tuesday and Penrith today, and not only do the states not turn up, the councils are just as empathetic as you but they're under-resourced. At Liverpool they have visions for their city centres and they're doing good work, and Penrith, for the future of Penrith, it has to be a great place not just to visit, but to live. But they're totally under-resourced. It is the tyranny of politicians...

They announce the Bays Precinct... but the population of Sydney, the unemployed young people of Sydney, are not going to get a look in on any of this.

Monica Barone:
They announce the Bays Precinct... but the population of Sydney, the unemployed young people of Sydney, are not going to get a look in on any of this.

James Rosenwax

Ed Blakely:
You're right, and the thing that these communities have to do is assume there is no help – you've got to do everything yourself.

Monica Barone:
But they won't be able to. We've all got to join together and advocate.

Ed Blakely:
They can't do it but if they sit back and wait for the state government nothing's going to happen. So we're developing plans to say this is what we need in order to get this and to get our unemployed people into a job. It's a tough situation.

Influencing the agenda

The Fifth Estate:
James, how does a company like yours in the work you do deal with all these issues on a large scale?

James Rosenwax:
For a company like AECOM, "large scale" is where we're comfortable. We work through issues, seeking to influence at a policy level and a political level in the best way we can. Any company the size of AECOM makes representations at policy level. We're currently thinking about where we're going to be in the next three years. We're looking at what the government is doing in South Australia, in Western Australian and NSW. We analyse trends and we analyse markets. That's what we do – we have to analyse trends and take positions to try to stay one step ahead.

The Fifth Estate:
Do you try to influence the politicians and the authorities?

James Rosenwax:
Absolutely. Discussing challenges and opportunities is part of business and we want to keep the conversation going.

Ed Blakely:
I mentioned the ULI [Urban Land Institute] a minute ago. ULI's plan for Dallas came out – and when I was in Los Angeles, the plan for LA. The plan for LA, the ULI plan – the bones of it are being implemented right now – rapid transit system… the Urban Land Institute had more of a plan than the City of Los Angeles.

The Fifth Estate:
So the ULI develops the plan and presents it to government?

Why are the UDIA and Urban Taskforce silent on topics like social integration?

Ed Blakely:
Well they present it to the government but they present it to the entire community and so people at grass roots level so people will come to meetings holding the ULI and saying, "Why on earth have you blocked the transit system here?" They've created a political force…

Monica Barone:
That's like with light rail. We presented a plan and showed the people. We advocated.

Ed Blakely:
But I'm wondering why our groups – well the Property Council does a pretty good job in that regard – but UDIA is almost silent or absent, the Urban Taskforce is really silent on the types of things we're talking about, like social integration. Why can't we get all these groups together to say here are the things that Sydney needs to come up with targets?

Michelle Tabet:
The US is different because there's not such a strong history of government delivering services directly to citizens. There is no expectation of the government taking charge – that's why the sharing economy is big in the US and why crowd sourcing and funding is big in the US. We're not quite on that model here. We have expectations of government and we do have taxes for it, but that's not how the US works – there they say if we don't do this as an industry group it's never going to happen…

The Fifth Estate:
But that's changing here, isn't it? Are we at that point now that we have to become empowered in the same way?

Michelle Tabet:
You'd have to do it with much lower taxes.

Bruce Taper:
The reality is the previous metro strategy [for NSW] was a function of the lobbying of the Property Council and a whole lot of environmental groups to demand a metro plan. That was the reality. Maybe they lobbied for the wrong question – maybe they should have lobbied for targets straight up but said we'll work out a plan after we've worked out what we want to achieve. That plan only happened through what you said, Ed. At the end of the day there is evidence that if you make enough noise governments take notice.

Ed Blakely:
I was naïve enough at the time to think that if there's popular support you'll get things done but the government didn't react enough to popular support, it reacted to internal political mandates. They had nothing to do with what people on the outside wanted. But back to precincts… can we talk about targeting areas – the Bays Precinct, Eveleigh to Central – are there ways that groups like this could use intellectual muscle to make sure these things turned out not as the best possible rate of return but the best possible human development?

The Fifth Estate:
But isn't that the potential of precincts? Like with Greenland Tower – Sydney gets a $26 million cultural centre donated to the people of Sydney through a voluntary planning agreement. I asked, "What about environmental outcomes – could you get some additional ones?"

Monica Barone:
We can ask for some things. We go in with a long long list and we beg and badger. [Developers want things because it might be good for their brand]. We do actually have plans for [a great deal] of the city and we try to horse trade for the community – that's

Monica Barone and Jonathan Emery

okay, but it doesn't get you the big bits of infrastructure.

It's important to understand there's three levels of infrastructure you've got to work on to make the city work – you've got the big licks like transport infrastructure provided largely by the state and you've got the infrastructure provided by local government – like childcare, parks, local roads, cycleways. But there's this huge layer missing in the middle and it's this layer that's stopping development happening, that's slowing everything down. It's the argument like we had at Green Square – who's going to pay for the trunk drainage when it's unclear who's responsible? So that layer, because of poor planning, isn't on anyone's list and so nobody is raising money for it. So when you go to do your development, your precinct, you go, "Wait a minute! Who's going to pay for this bit?"

Places where projects work best is where there is strong city governance.

If you could measure the amount of time and money wasted on that conversation! That's what slows things down.

The Fifth Estate:
But I did get the sense that in a precinct like Green Square, where there is an authority that runs it, you can get much better outcomes. Why can't you?

Monica Barone:
Local government does not make any laws. It can only put into place the planning policy of the state.

The Fifth Estate:
So it's the state government where all of this goes.

It's cities that attract the money, not countries

A fascinating topic that emerged was that cities are setting the agenda for future development, not countries. Global developers are choosing to create precincts and other mega projects on the basis of good city governance and leadership.

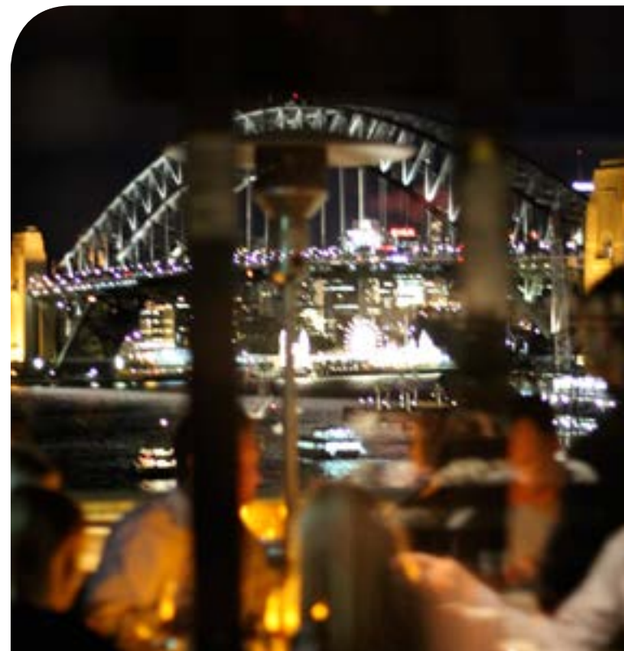
Jonathan Emery:
We're doing some work with Lend Lease as global custodian in looking at the phenomenon of urban regeneration as a tool to be used by cities to meet their objectives. It's being used in a similar way to PPP – it's getting very common. The general public need to accept it and like it, politicians are getting comfortable about it as a mechanism and there are examples of where it's been successful. It is an increasing phenomena we're seeing globally. I'm sure AECOM will talk about it as well.

In our analysis there is an opportunity to actually start to do this in other places. So in our analysis we don't look at countries, we look at cities. Then we go and talk to the money and the money's interested in cities. One of the thoughts is that you look at the governance – here's a city, and can it organise itself, is it empowered, is there clear policy and direction? Can it support this, because these are big things. We need to work with a partner that has the fire power to deliver what it talks about and the clarity of purpose and the ammunition to support this. And that goes through the analysis.

My experience is that the places where projects have worked best is where there is strong city governance. There is no city where it is completely self governing but [it works best] where power has been devolved to the city. Not national, not state, but cities. They have the ability to influence and direct their own futures and those become attractive to money and to people who like doing what we do.

If governments did their metropolitan planning properly, if they did their economic spatial planning, if they set some targets and weathered the few weeks of grief they got while everyone said this is going to be the end of the world as we know it, then we could get on with it.

Monica Barone:
The future is cities… All over the world you've got national and state/regional governments working in sectors or silos and then you've got cities working in "places" and the solutions for urban areas are place-based. Half of the world's population lives in cities so



Terry Leckie

the solutions for the future are place based and are all about collaborative interface. So the people who know how to work in “place” and in “interface” have the skills for the future. Those two other levels of government develop policy and then it lands in place but how it works is determined by the conditions in that place. If governments did their metropolitan planning properly, if they did their economic spatial planning, if they set some targets and weathered the few weeks of grief they got while everyone said this is going to be the end of the world as we know it, then local government would be better able get on with it.

Getting economies of scale and the right financial model

There was debate over how to get solutions that worked across local government boundaries, that facilitated new infrastructure for the benefit of the whole city. Some thought councils should be amalgamated to getter better economies of scale? There were examples presented of energy network providers who see the benefits of funding closed private networks in some locations. It means they don’t have to invest in expanding the traditional network and so save taxpayers’ money.

Ed Blakely:
…I think local governments should be to the scale you can deal with them, not neighbourhoods. Money should not be an issue. There’s startup and ongoing money. You can borrow for startup and for ongoing do it through payback. We’re doing that in Liverpool – we borrowed all of the city’s tax revenues from their CBD now. Rather than waiting ten years we borrowed ten years worth of revenue and we’re starting projects now. Why can’t we do that all over?

Terry Leckie:
I disagree. If you haven’t got the revenue model to go with the borrowing then don’t borrow. Trying to think as a utility is difficult and it’s always been a state government agency.

The Fifth Estate:
How do you cope with the state government Terry?

Terry Leckie:
We just have to continue and create examples. You create the example and then let the markets follow. It’s not about the legislation, it’s about the economics. You have to create an economic model that creates a sustainable solution long term. I look at the Bays Precinct as a fantastic project. But we haven’t got an economic model for the support services for our existing sustainable precincts sorted out. I want us to back in what we already have in precincts, and create models of sustainability from them before we write for new ones like the Bays Precinct. How do we get Barangaroo to link into the CBD? How do we get the UTS and Central Park link sorted out? How do we get Green Square’s utility services established as model for the City of Sydney and then extend that to others? We’ve created precincts in isolation without working through a masterplan for them.

The Fifth Estate:
But what is the advantage in doing what you’re doing [in creating private networks outside the traditional one?]

Terry Leckie:
Because what we’re creating is a model that allows the green utilities, the Mirvacs, the Flow Systems to fund closed systems in energy and water. [It makes the precincts affordable from a customer point of view and from a developer point of view]… It’s all theoretical at the moment.

Bruce Taper:
The State people who are working with Urban Growth to write the rules for the Bays Precinct – if they are talking about partners they should be asking people like you what is the right number… The public utilities are not prepared to give away their profits to do things differently.

Terry Leckie:
Ideally if we had three or four examples – Barangaroo, Central Park, Green Square – and you could show the benefit, then you might just get someone with the appetite to invest in a renewable power station and then you might get the state government to set a target.

In the end it’s all about leadership

Monica Barone:
If people who are assessing these things do know what they’re doing they’re not revealing the whole story… When energy providers put in a submission to the regulator to increase prices so they could expand the network we put in a submission saying if you looked at the energy efficiency gains that were possible first you’d reduce the infrastructure need by this much. People who are responsible for the big infrastructure plan should tell this story, but they don’t.

Ed Blakely:
Working on projects every day I see that we don't have creative people to follow through [on our work]. Few city bureaucrats care beyond their salaries here. In the US people are more likely to want to add value. If bureaucrats did care we could be totally energy and water independent. How can we get a groundswell to make this happen?

Terry Leckie:
It's tough because they're constrained by historical thinking and they've been so beaten and worn down that they can't think outside the square.

David Rolls:
It really comes down to individuals and leadership.

Michelle Tabet:
Everything that we've been talking about is about leadership. Everything that happens at Mirvac or Lend Lease or at City of Sydney is because there's someone willing to stick their neck out for it. The people who do the really brave thinking are those who say, "You know, I could lose my job over this." In the public service there's not an emphasis on leadership and what that means.

Bruce Taper:
The expectation at precinct level is that we're going to do all this innovation to sort out the problems on the grid upstream. We're putting all this cost of local infrastructure and bespoke technology solutions onto the developer. And yet if there was a business plan for greening the grid and the government was committed to make it happen we could make use of all this transitional infrastructure that we have already built, which would see us doing wind and solar at scale. And it would be all green.

And so ended a lively debate. James Rosenwax wrapped up on behalf of AECOM:

"Tonight we talked about regulation and governance a lot. Something that's really dawned on me is the importance of leadership. The public sector really needs to take a leadership position in setting frameworks and a city vision – that's very clear. I think the private sector seems to do that quite well. We agreed that the general public are now more active as stakeholders in defining the agenda for new developments. We also need to market ourselves better as a country and, more importantly as Jonathan points out, as cities."

CONNECTIVITY: EMBRACING THE 20-MINUTE CITY

By Sandra Edmunds

Australian cities need to embrace 20-minute neighbourhoods where people work closer to their homes and continue to live locally as they move through the stages of their lives, says Malcolm Snow, chief executive of the National Capital Authority, the ACT's planning and development body.

New systems thinking for sustainable precincts – where planning authorities consider and coordinate the social, environmental and economic outcomes of whole neighbourhoods, rather than just singular developments – are being devised within Australia and overseas.

This new way of thinking requires changes within these organisations so that the people have more control over outcomes that directly affect their way of living. New governance models are emerging to empower communities to make a contribution and have some say over how funding is directed to increase the liveability of their towns and cities.

"My definition of sustainable places is something that can be measured not just in terms of sustainable performance but also economically and socially," Snow says. "These are places that reduce dependency on car-based travel; they offer communities lots of choices.

"I think the pressures are building in relation to the cost of travel and the need for greater social connectiveness," Snow says.

Sustainable places are something that can be measured not just in terms of sustainable performance but also economically and socially.

"I think there will be a greater trend towards moving away from centrally located places and a move towards a networked spatial arrangement where very active, vibrant, local and subregional centres have workplaces around them – in other words, where you work and where you live are hopefully going to be a lot closer!"

Responsive architecture

Snow says there is quite a strong movement internationally to create more "responsive" architecture – where people can have greater choice about the form of their accommodation. People are able to move from a detached house to an apartment to ultimately aged accommodation without leaving their neighbourhood.

"I think that one of the big issues is that we have an ageing population so the types of buildings that we are creating at the moment don't support that intergenerational change or shift and I think it is important," he says.

"Many other cities around the world are recognising that buildings need to be much more flexibly designed to accommodate the shift in lifestyle that people make. We can see neighbourhoods and places that are supportive of a much broader social spectrum and demographic than perhaps they have in the past."

Greater localism

Another trend coming out of the UK is the push for greater localism, Snow says.

"That is about the greater devolution of power and on the part of, in particular local government, to adopt more open and transparent government," he says.

Planning authorities are looking at the way communities are drawn into the process – not at the end but at the beginning. Snow says Australian authorities need to tap into established community networks both in the business and community development sectors.

"The value of that closer collaboration means that they can find solutions and get support for those approaches from the community far more easily and quickly and avoid, perhaps, the long protracted battles that you see where, understandably, communities are often resistant to change but change has to happen."

self-reliant

Planning authorities are looking at the way communities are drawn into the process – not at the end but at the beginning.

Those embracing greater localism are setting up groups within the community where discussions and debates about the priorities of those communities can be held in a much more open way.

"The challenge of that approach is that we are part of a democratic society… we have elections regularly… to appoint representatives that can make those calls and judgements where the priorities should be. And where the challenge is emerging, and I think has been the experience in the UK, is that elected representatives perhaps are feeling slightly threatened by a more open approach to community collaboration," Snow said.

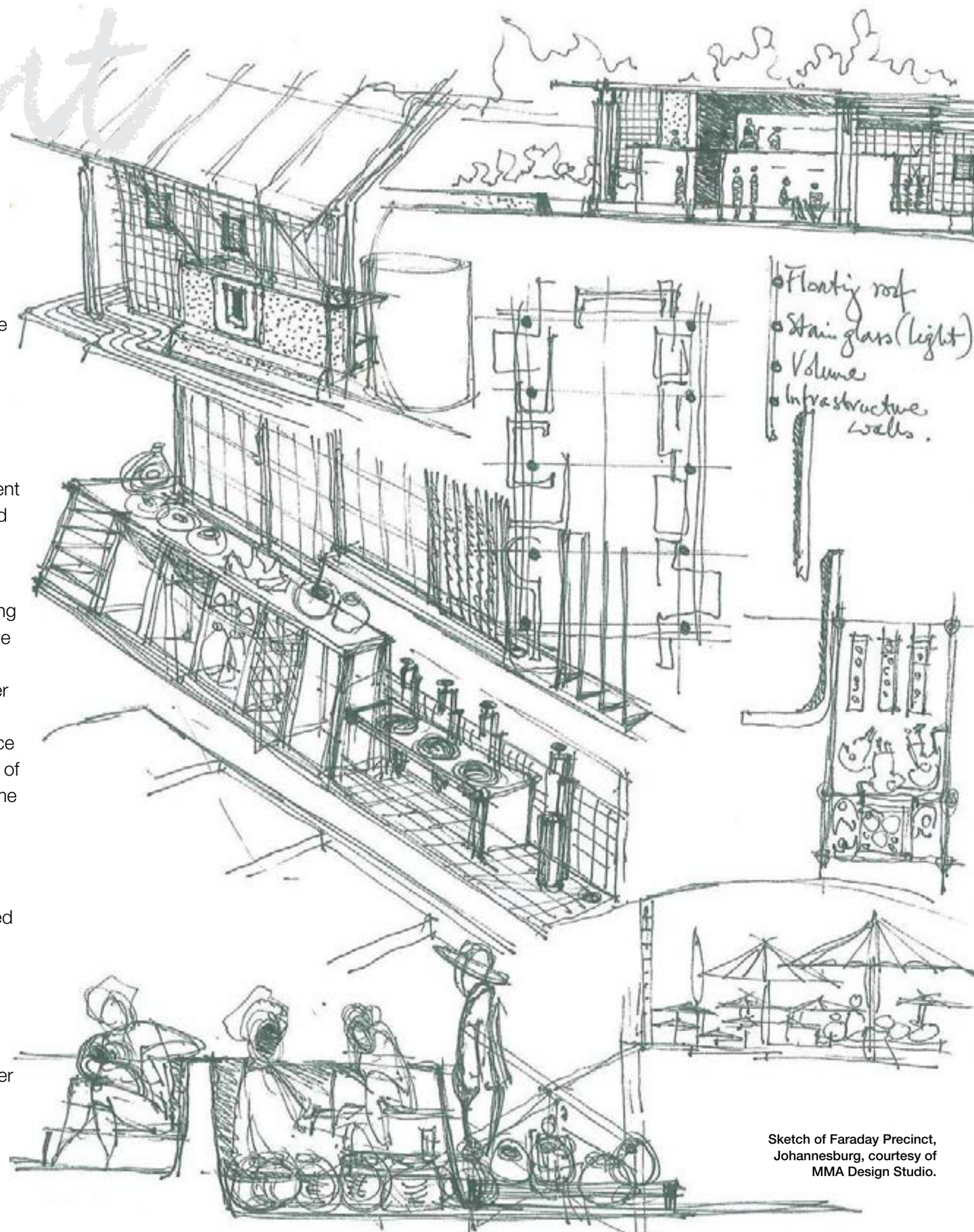
"It is going to take a greater acceptance on the part of those elected to public office to realise that this approach does in fact have benefits and that if they choose to work with it – as opposed to seeing it as a threat – that there is more to be gained."

A rethink for local government

Across Australia there are really encouraging signs that local government is rethinking the whole way it plans and delivers its services to its community, Snow says.

"There are a lot of local authorities taking a leadership role in that space. Adelaide is doing some good work. Sunshine Coast Council in Queensland is another good example where I think they have had a longer history in considering place in the way they plan design… The City of Port Phillip in Melbourne is making some strong moves in that area."

Snow believes great examples where sustainable precincts and new governance models are more advanced have come out of special-purpose authorities that were created for urban renewal such as the Metropolitan Redevelopment Authority in Perth, the South Bank Corporation in Brisbane (where Snow was chief executive officer for six years) and the Sydney Harbour Foreshore Authority.



Sketch of Faraday Precinct, Johannesburg, courtesy of MMA Design Studio.

Artist's impression of Buckhurst Street, Fishermans Bend.

FOR PEOPLE TO START WALKING, THEY NEED A DESTINATION

By Sandra Edmunds

We need to develop creative ways of building communities so that workable and walkable neighbourhoods are not just accidental, according to Professor Billie Giles-Corti.

The academic from Western Australia looks at ways to encourage people to live healthy lifestyles. Giles-Corti established the Centre for the Built Environment and Health at the School of Population Health at the University of Western Australia. She is now the director of the McCaughey VicHealth Centre for Community Wellbeing, which sits within the University of Melbourne's School of Population and Global Health.

Giles-Corti's team is developing a Liveability Index for Victoria, looking at a number of policy areas such as access to shops and services, walkability, access to recreational opportunities, access to employment, affordability of housing, crime and safety, the food environment and access to public transport.

"We are looking at what creates a liveable city through a health lens," she said. "We are going to link indicators from each of those areas to health and wellbeing outcomes."

Giles-Corti says in our efforts to provide affordable housing in Australia, we have ignored the question of "what is the health impact of providing housing without the essential infrastructure?".

"The research tells us if people don't have anywhere to walk to, they don't walk – so having places to walk to is really critical. And I'm not just talking about recreational walking; I'm talking about transport walking. The beauty of transport walking is it's habitual. People do it on a daily basis because they are going somewhere. So things like access to public transport, access to shops and services are really critical."

"When you have low density you don't have shops and services, which means you don't walk."

The density of our neighbourhoods underpins this issue.

"We've had a habit of building low-density neighbourhoods on the fringe and we know that when you have low density you don't have shops and services, which means you don't walk," Giles-Corti says. "And the really critical factor is the connectivity of the street networks. So if you have somewhere to walk to, adequately designed street networks can have a major impact."

According to Giles-Corti, it's only in the past decade that Australian planners have paid a lot of attention to walkability in cities. The McCaughey VicHealth Centre for Community Wellbeing has developed a walkability map of Melbourne.

Billie Giles-Corti

“Inner Melbourne city is the picture-perfect example of a highly walkable environment – connected street networks, places to walk to, good public transport, and a mixture of densities. And people walk,” Giles-Corti says. It is when all those elements are no longer combined that people no longer walk.

A combination of the right elements

The Commons in Melbourne’s Brunswick is a fine example, according to Giles-Corti. The apartment complex was recognised at the 2014 National Architecture Awards for Sustainable Architecture. The Commons is just six kilometres from the CBD and has no car spaces allocated to the 24 apartments. Critical to the sustainability of the development is its proximity to the train line, other public transport options and the Sydney Road shops. Residents share the 65 bike spaces in the secure garage and the GoGet car out the front.

“I mean, this is the future,” Giles-Corti says. “I’d really like to see developers showing us their mettle. We could be doing so much better; we could be creating great sustainable urban design, which is medium density, centred around public transport. I’d much rather see that than just this continual urban sprawl.”

Giles-Corti also names the Perth suburbs of Clarkson, Wellard and Ellenbrook as examples where developers have had some success in creating sustainable precincts.

“Both Wellard and Clarkson are on train lines,” she says. Shops, services and housing are clustered around the train stations so that residents can easily access public transport and services.

“These are good examples of trying to bring a transit-oriented approach to it.”

While Ellenbrook isn’t on a train line, Giles-Corti says it was a masterplanned community and has many design aspects that make it a sustainable precinct. It has a main street rather than a “big block” shopping centre, a mixture of housing densities and connected street networks.

“What I like about Ellenbrook [is that] they are putting in high-density housing – five storeys high – right in the main street,” she says. “So that will really help to get that community working because there will be lots of people there. It is not perfect but it has lots of elements. They have lots of little cottage lots (with terrace housing), which really challenged the market… They tried it and actually it was a huge success.”

Ellenbrook developers also followed the European practice of establishing key infrastructure and temporary services while the development was under construction.

The Commons, Melbourne.
Image: Michael Downes.

Clarkson, WA

"If you go to Europe what you find is that when new developments are being built public transport goes in from the outset and temporary schools and supermarkets are established," Giles-Corti says. "They have higher density housing but they put those things in first so people don't have to rely on one or two cars."

At Ellenbrook, shops were built early and a temporary school was established in the shops. "So as the kids moved in they didn't need to get transported to a different community to go to school. They could go to school in their community. And the shops were located right next to the oval so they had somewhere to play sports."

Developers should consider practices such as putting a temporary health centre in a house so that the community doesn't need to go elsewhere, Giles-Corti says. Or a corner store. For example, the Ellenbrook developers opened a corner store and subsidised the operator during development.

"We need more of that sort of creative way of building communities, so that you don't just rely on it being accidental."

Seeking brave developers

The big challenge for developers in the future, according to Giles-Corti, is building decent accommodation in medium-rise developments.

"I do think people are looking for something different and I would really like to see some brave developers getting out there and showing that it could be done," she says. "What we are delivering in terms of high-density, high-rise housing in [Melbourne] is just a disaster from my perspective."

Many apartments are poorly constructed, too small and some have rooms without windows or ventilation.

"It is fantastic that the Office of the Victorian Government Architect is putting out guidelines – the City of Melbourne is doing the same thing – about requiring decent accommodation for people," Giles-Corti says.

For people living in smaller apartments, it's also important to have recreational space.

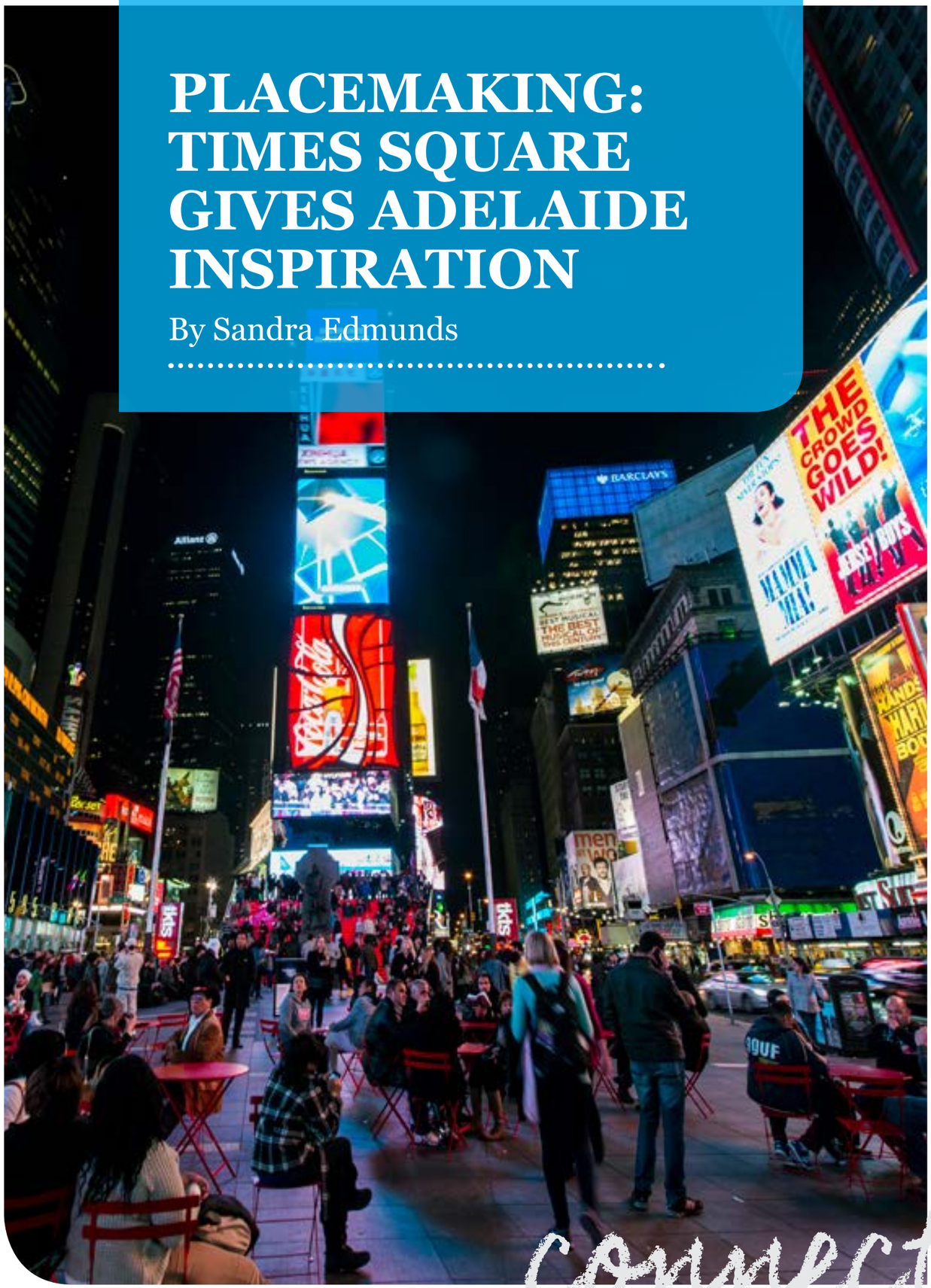
"What we are delivering in terms of high-density, high-rise housing in Melbourne is just a disaster."

"There needs to be thought given to the public open space within multi-unit developments but also within the local neighbourhood. Hopefully young people are going to be demanding it. They don't want these poky, silly little apartments that are being built, they want decent apartments."

recreational space

PLACEMAKING: TIMES SQUARE GIVES ADELAIDE INSPIRATION

By Sandra Edmunds



Times Square in New York was one of the inspirations for Adelaide City Council to embark on its mission to ensure that placemaking is at the core of its operations.

Chief executive **Peter Smith**, who is also the chair of Place Leaders Asia Pacific, says he was inspired after visiting New York to see what former mayor Michael Bloomberg was doing in Broadway and Times Square.

"My understanding of it is the city is a system and the public spaces are nodes in that system where human exchange, social exchange and economic exchange occurs," Smith says. "So if you are not focusing on your public spaces and what they mean for your city, I think you do a lot to erode the value of your city."

Previously Times Square was a high-crime area and the world-renowned theatre industry was dying because people were wary of getting mugged. The non-profit Times Square Alliance formed to improve and promote this icon of entertainment. The alliance provides core neighbourhood services such as public safety and sanitation, and advocates for its constituents on public policy, planning and quality-of-life issues. In addition, it promotes businesses, encourages economic development and public improvements, and coordinates major events.

The city is a system and the public spaces are nodes in that system where human exchange, social exchange and economic exchange occurs.

"They closed off Times Square and Broadway and gave it back to the people and that in itself had all sorts of spin-offs for the attractiveness and safety of the area," Smith says.

Pitt Street, Adelaide

The Adelaide CEO linked up with **Projects for Public Spaces** and spent time with Tim Tompkins, co-chair of the Business Improvement District Association of Times Square. New York City has 68 Business Improvement Districts (BIDs), which are formal organisations consisting of property owners and commercial tenants that promote business development and improve the community's quality of life. BIDs deliver supplemental services such as sanitation and maintenance, public safety and visitor services, promotional programs, capital improvements and beautification.

"And I thought: this is what we need in Adelaide!" Smith says.

Adelaide City Council approached small businesses, creative types and resident groups to create Splash! Adelaide, a temporary activation program, which saw the CBD come alive with events such as pop-up playgrounds, a roller derby and a twilight street party.

"In that first year for $150,000 we had about 30-odd activities, which we had to program as a city government because I think there was a deep cynicism out there amongst small business traders," Smith said. "But three years on for same money we've got something close to 100 events.

"So if the government opens its doors and says, 'We want to do business differently,' you get a very different result. And we built up the trust and now when we open up for expressions of interest in that temporary activation program, we get lots of ideas coming in…

"The real value… is it taught us as an organisation that we could have government work in a very different way with the community despite the constraints of probity and all the rules and everything else."

Adelaide has since developed and adopted its **Placemaking Strategy**, which provides the framework to support the goal of "One City, Many Places". It seeks to develop empowered communities and strong partnerships. This includes creating inclusive and open governance arrangements that encourage the Adelaide community, businesses and interest groups to work with the council to produce positive outcomes for the city, district or place.

Adelaide and its "place users" will undertake three place pilots over the next two years. The pilots will experiment with new ways of operating using temporary approaches similar to Splash Adelaide as well as identifying permanent and longer term actions.

Adelaide's placemaking strategy seeks to develop empowered communities and strong partnerships.

One of the place pilots is focused around Waymouth Street in the office district. The area has lacked places for workers to gather and socialise at the end of the day. The council is now working with an innovative developer who has purchased an unused office building.

"We are co-designing the public space outside and he is putting in a small bar," Smith says. "That is almost the anchor place tenant to encourage others to start opening up in the area as well."

Other ideas include removing all parking on Friday and Saturday nights so the street becomes a destination precinct in the city.

The second pilot is Melbourne Street in North Adelaide. "The Adelaide Oval has the potential to help that street or destroy it… so it is pretty important that we work with the traders and business owners in that street," Smith said.

And the third one is Hindley Street West, close to the late-night district. The university has opened a 24-hour learning centre, and hospital and medical research centres are also being developed, which will bring a combined 10,000 people into the precinct on a daily basis. Smith says traders, property owners and the university were seeing the area as a student/nurses/hospital precinct.

“We see the city as like a tapas bar and you know a good city has on their menu a lot of different places where people can create their own experiences together,” he says. “There is a place for students if they want a cheap night out, a nice place to take the girlfriend, a place for older people that is quieter or a high-end food/entertainment district. So the place pilot is really trying to create that with the community.”

We see the city as like a tapas bar… a good city has on their menu a lot of different places where people can create their own experiences together.

Smith says the place pilots will also test future place governance models.

“One of our aims through the place governing is to get everyone who uses that place or who has a stake in that place to come around the table,” he says. “And that may be a challenge to existing groups because they see that as a challenge to their role.”

Smith says the whole aim of the place governance approach was to build precincts like Times Square.

“A lot of the delegation of the New York City government – the parking, the franchises, cleaning, waste contracts – have all been devolved to the local community group,” he says. “And the government does the stuff it must do and leaves the running of Times Square to the community. We have one group close to that in Adelaide – the **East End Group** – but some of the others are far from it.”

Smith says there was a lot of public resistance as people usually compete over public space instead of collaborating over it – but there are early signs of success.

“We have building owners now sitting around the table… sharing their development plans for their private properties with each other, which is an amazing conversation if you think about it… There is still hesitation but what that means is they are able to spot synergies and opportunities.

“And the owner of the public space, which is the council, can say, ‘Okay, if you guys can do that with your privately owned properties, how can we make public space work for those?’ And that is the aim of it, and the legacy will be long-lasting new forms of governance in place.”

Artist’s impression of Topham mall.

NURTURING CULTURE ON THE GOLD COAST

By Sandra Edmunds

Many young people are passionately resisting the Gold Coast's cultural stigma. The city sells itself as a leisure destination, with the tourist mecca drawing an annual crowd of 10.5 million.

However, most Gold Coast youth do not fit the "Schoolies" stereotype. These young people are asking whether there are more productive ways to collaborate to achieve better social, cultural and environmental outcomes for their city.

Shanene Ditton, a PhD student at Griffith University in the School of Humanities and the Griffith Centre for Cultural Research, is interested in the development of precincts that balance economic, cultural, social and environmental sustainability. Her thesis analyses how the commodification of the city impacts cultural production on the Gold Coast. It looks at how tourism, media and cultural policy have affected notions of community and cultural identity.

Ditton is also a board member of The Walls Arts Space, a not-for-profit organisation committed to the development of innovative artworks by local artists. TWAS took a derelict warehouse in an industrial area in Miami and converted it into a contemporary art space. The aim is to support artists to present their work in a critical forum and to cultivate dialogues that engage their regional base.

Sold Coast: creating a vibrant future for the Gold Coast

Creating critical conversations about culture have been a focal point of Ditton's doctoral research but she felt a sense of continuity and sustainability was missing. She formed a committee of artists, community workers, and researchers spanning disciplines from design to cultural management. Together they launched Sold Coast, a social change concept that seeks an amplified cultural identity and a vibrant, creative future for the Gold Coast.

"There is frustration in the way place is being developed," Ditton says. "A strong economic profile and driver underpins every decision made. The focus needs to be shifted to the cultural and social."

Images from the Sold Coast symposium.

Young people are asking whether there are more productive ways to collaborate to achieve better social, cultural and environmental outcomes for their city.

For example, Ditton says, a cafe gallery opened up in an industrial area only for the council to shut it down because it was in the incorrect zone, and small restaurants struggled to obtain liquor licences.

"There needs to be more flexibility in the way they support cultural initiatives."

Despite the hurdles, creative businesses are emerging on the Gold Coast. Dust Temple, in Currumbin Waters, with its gallery, coffee shop and charity events, is an up-and-coming incubator for the arts and culture scene. In Southport, Co Spaces restored the old ambulance station and created a co-working space for more than 30 businesses. The shared office environment, which includes meeting rooms, kitchens and a coffee shop, provides a space for businesses to connect and collaborate.

Will the Gold Coast be a ghost town in 2063?

In 2013 Sold Coast held a symposium asking the question: What does the Gold Coast look like in 50 years' time? Twenty-one presenters explored an enormous range of topics focused on the sustainability of the city by 2063. The event was broadcast on radio and a robust Twitter conversation followed. Importantly, the City of Gold Coast invited Sold Coast to partner with them in producing another event – a provocation on the council's new 10-year culture strategy.

Shanene Ditton

"For council, this represents a turn towards more risky creative partnerships as well as more inclusive community consultation," Ditton says. "The council's new arts and culture team is really making some positive change, which is fantastic."

Ditton says with the Gold Coast Commonwealth Games approaching in 2018 it is vital that we take a critical look at new developments and the impact they will have on the city.

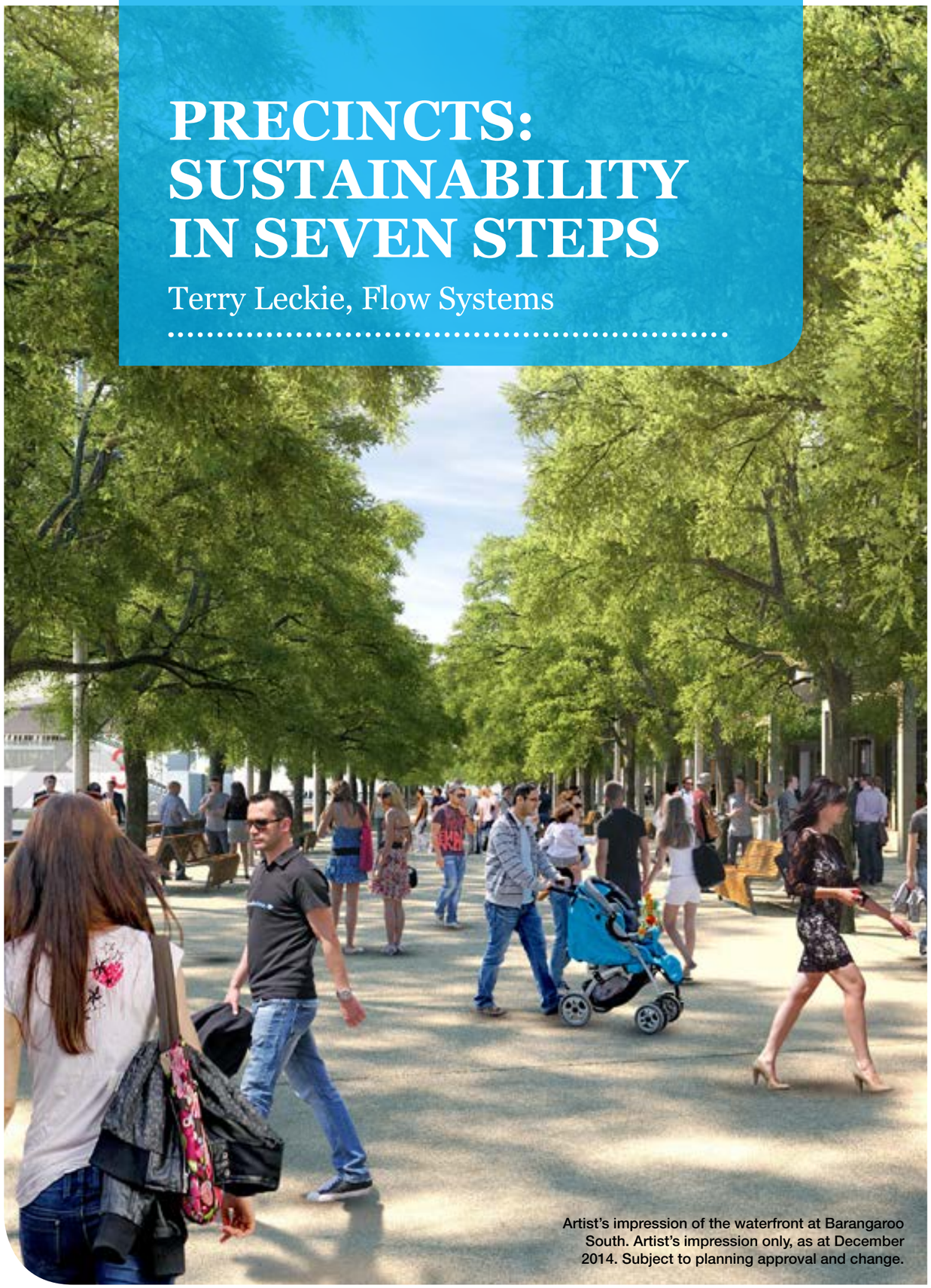
"There tends to be the idea that anything about the Commonwealth Games takes precedence," she says. "Money goes into developments without too much consultation.

"We need to be very critical of what type of development happens – how and why. With it comes an enormous opportunity for a wonderful legacy. We don't want there to be a horrid legacy or no legacy at all."

There is frustration in the way place is being developed... The focus needs to be shifted to the cultural and social.

PRECINCTS: SUSTAINABILITY IN SEVEN STEPS

Terry Leckie, Flow Systems



Artist's impression of the waterfront at Barangaroo South. Artist's impression only, as at December 2014. Subject to planning approval and change.

It's the economies of scale and defined boundaries of precincts that make them deliver – big enough to allow for the sharing of services and pooling of resources, but small enough to facilitate innovative green technologies.

An innovative approach to finance, delivery, management and operation of sustainable infrastructure and services in precincts can make it affordable to build green.

Key to overcoming market, regulatory, political and technical barriers – which have historically prevented the take up of sustainable solutions and systems in new developments – is an innovative business model.

This model needs to:

- keep the long term benefit within the community
- extract value where there would typically be cost
- avoid a dependence on financial incentives or positive policy frameworks

To begin a trend towards sustainable precinct development, there are seven rules the industry and government authorities can follow:

1. Think outside the building boundaries

Precincts lend themselves to sustainable development because of their size and mix, their ability to control product lifecycle, influence behaviour change, extract value from waste products, and because of their total purchasing power of the community.

While sustainability can be achieved in individual buildings, it's the economies of scale and the defined boundaries of precincts that make them deliver – big enough to allow for the sharing of services and pooling of resources that can bring down costs, but small enough to facilitate innovative green technologies and systems. The mix – or combination of residential, commercial and community buildings – is also essential, allowing demand/supply models to be balanced. For example, too much commercial stock compared to residential leads to a lack of wastewater from which to generate recycled water. The right mix of uses and producers is required to deliver financially viable low carbon energy solutions.

2. Don't accept BAU cost/benefits

Analysis of many precincts globally over the past two decades reveals a reliance on government financing or seed funding for project viability. There are now opportunities to rethink economic modelling around the delivery and management of essential services that can remove the dependency on a subsidy-based approach.

Soon you won't build a precinct without an energy and water solution onsite – but it's not just about sustainability; it will be driven by cost savings. And there are now enough global examples to demonstrate precinct development will not be viable without onsite energy and water production.

If you look at the business as usual energy and water infrastructure, it's not adding value for anyone – consumer, environment or government.

Soon you won't build a precinct without an energy and water solution onsite – but it's not just about sustainability; it will be driven by cost savings.

Centralised water and energy infrastructure costs too much to install and maintain, and is not easily adaptable to sustainability. In addition, public utilities are not prepared to give away their profits to do things differently.

What needs to be calculated is the benefit of precinct approaches to essential services. If you consider the full lifecycle management of products from procurement to disposal it gives you greater control over waste, water, energy and telecommunications systems. By controlling what goes in and what comes out of a community, it is possible to improve efficiencies. Waste products quickly become resources. By mirroring nature's own recycling patterns, communities are able to live with minimum waste or carbon impact.

To demonstrate the effectiveness of this approach, we have to create examples, and then let the markets follow. It's not about the legislation; it's about

The Bays Precinct

the economics. You have to create an economic model that creates a sustainable solution for the long term.

3. Synergies

Precincts permit synergies between sustainable technologies. For example the energy–water nexus – energy solutions are more cost effective coupled with recycled water, driving down costs.

Think about trigeneration. It increases the local demand for water, just as local water production increases the energy demand. Doing both is self-supporting. By having energy and water operated in synergy within a precinct, you can optimise the use of both resources. For example, if there is excess solar generation in the middle of the day, but the sewage peaks in the morning and late afternoon, you can manage your water production to take best advantage of the solar power when it is available.

Traditional thinking separates the management of each of these resources, but in precincts you can think about them together for greater efficiency.

4. Set KPIs that define true value – sustainability, liveability, happiness

Many studies from heat island effect to sustainable design, prove the benefit of thinking wider than the financial KPIs of building communities. For example, studies in Melbourne looking at the relationship between the heat of a city and the health of constituents show a major impact of sustained heat on rates of death in our community. The most effective solution is urban design that incorporates tree shade, increasing the amount of water in an environment to create a cooling effect and using soft rather than hard surfaces. Here is an example of how a KPI around healthier communities can

reduce heat-related deaths and improve health outcomes. Other studies focus on the benefit of communal gardens, the walkability and greening of a community as factors enhancing liveability and happiness.

Allowing for broader KPIs will guarantee innovation and can cement sustainability for future precincts. In Huntlee – a new sustainable precinct in the NSW Hunter Valley – a free renewable energy model will entice electric vehicle owners to visit the town centre for free charging. It's hoped this green driver initiative becomes a honeypot to other opportunities: consider carbon neutral public transport powered by renewable energy.

5. Ensure long term value is weighted against risk

Precinct business models focus on long-term gains traded against short-term returns. They factor in additional values beyond financial, such as enhanced liveability, ecology, innovation and future proofing, and they often rely on future revenue streams to achieve viability. Importantly, they rely on the self-sufficiency of the community to extract value. For example, waste products like wastewater can deliver commercial rates of return on recycled water. Recycled water can then be used for up to 70 per cent of household needs.

Precincts populations have unique purchasing power allowing a reduction in costs for proven sustainable technologies and services that would not stack up in smaller developments. This power also extends to community investment models, which allow shareholdings in renewables, capable of generating income from sales to the grid into the future. Here, homes and workplaces become generators of energy and water at a scale that can drive greater returns.

Once you generate energy and water in a precinct you are creating a revenue stream, which provides you with the opportunity to create a different community model. This could translate into property value. A community business that homeowners have shares in, selling excess water and energy, can generate dividends for the entire community in the long-term.

6. Don't wait for government targets – build it and they will come

In the UK and Middle East, where utilities and provision of infrastructure is completely deficient, the self-sufficiency model has thrived. Here developers cannot wait for government to supply infrastructure, so they have turned to onsite generation.

Other drivers such as a desire for renewable energy and greater control has led to the establishment of local green infrastructure: Woking in the UK is a global best practice example of this. Here a community decided it wanted to produce its own energy; bills were too high and the energy was carbon intensive. A local renewable energy network was set up to supply homes. This is a bold, sustainable best-practice precinct that demonstrates the power of leaders to drive change without government legislation.

Visionary public authorities have also led the way in Australia by putting in precinct infrastructure such as a waste plant or district heating system; they can then connect other local authority or council buildings to the system guaranteeing early adopters and revenue streams. This can inspire developers to follow suit. For many local councils this is the only approach as they have little authority to mandate. So they lead by example and persuade developers, utilities and companies to join in the vision.

Even with enabling regulations or legislation, sustainable innovations are often ahead of the regulators. Looking at the sustainable water and energy market in NSW, linking new sustainable systems to existing centralised systems and buildings is challenging governments and regulators. It's a bit like the Google driverless car. As they introduce it to new counties, government scrambles to control it. As a result of Google lobbying, though, four US States have passed laws allowing driverless cars with the first licence for an autonomous car issued in 2012.

7. Share

Linking precincts means you don't have to overinvest to create redundancy in each community. If you are producing excess in a community, you can help other communities – by interlinking and sharing you reduce upfront spend and risk. You increase efficiency, remove redundancy and create communities that work as a whole. It's not about us and them. It is about us together.

Terry Leckie is founder and managing director of Flow Systems.

Woking, UK is a global leader in local green infrastructure.

MAINSTREAMING SUSTAINABLE PRECINCTS: SHARING EXPERIENCES

Dr Vanessa Rauland and Giles Thomson, Curtin University Sustainability Policy (CUSP) Institute

Vanessa Rauland

When progressive developers and early adopters attempt to push boundaries and test innovative new approaches to delivering precinct-scale eco-infrastructure, they invariably hit a range of obstacles.

The built environment has a long history of planning and construction at the precinct scale, dating back to the birth of city planning as a profession.

However, it is only more recently that this scale has gained widespread interest for the potential it offers for integrating urban planning and infrastructure delivery, and in particular, the potential of integrated sustainable infrastructure, or **eco-infrastructure**, which can help reduce the ecological footprint of urban areas.

As **Newman and Kenworthy** note, "precincts offer greater efficiencies than the individual household scale due to the complex network of interaction between urban systems such as energy, water, food and transport that in combination provide opportunities for an integrated development."

Precinct-scale eco-infrastructure can help to address several of the environmental challenges we face including climate change and resource depletion, due to the numerous carbon reduction opportunities and resource efficiencies associated with decentralised infrastructure. But despite the existence of several promising demonstration projects, institutional inertia and the reluctance to shift from business-as-usual – largely due to a range of barriers – has meant uptake of sustainable precinct development remains slow in Australia, and is far from mainstream.

It is expected, when progressive developers and early adopters attempt to push boundaries and test innovative new approaches to delivering precinct-scale eco-infrastructure, they invariably hit a range of obstacles and stumbling blocks as they forge through largely unchartered territory. It is important, therefore, that we build on the knowledge gained from their experiences and mistakes to advance our collective understanding in how to better deliver this infrastructure, rather than as a reason to dismiss it.

False and misleading information and negative narratives about such infrastructure projects "not working" and being "plagued by problems" are particularly damaging, and will stifle innovation and progress towards delivering more sustainable communities.

Here we explore some examples of progressive projects and aspirational proposals for low carbon sustainable precincts, which have experienced or identified significant obstacles or barriers. These examples provide useful learning opportunities and help to identify where further research and creative solutions are needed.

The Dandenong Precinct Energy Project.
Image: John Gollings

Dandenong Precinct Energy Project, Melbourne, Victoria

The Dandenong Precinct Energy Project in Victoria is Australia's first multi-title, low carbon energy precinct. Places Victoria, the Victorian Government's land development agency, together with Cogent Energy (owned by Origin Energy), have been leading the innovative project, which was a key part of the "Revitalising Central Dandenong" Initiative. The project included the installation of a cogeneration plant in the centre of a new town square, and a network of thermal pipes to deliver thermal energy to a number of sites located within the district. OE retails the low carbon electricity through the local electricity distribution network via its retail licence.

Issues encountered and lessons learnt

Being the first project of its kind in Australia, PV and OE had to deal with a variety of obstacles:

Risk premiums for new approaches

Due to a general lack of commercial understanding about how to deliver precinct-wide co- and trigeneration in the Australian context, PV struggled to find a consultant who could provide a cost-effective solution for delivering the project. As a result, PV ended up spending considerable time understanding the technology and business case internally before proceeding. They ended up sourcing the technology and equipment themselves directly from Europe.

Avoiding excessive requirements on developers

Not wanting to put overly burdensome requirements on developers to mandate "green buildings" or connection to the system, PV needed to make it as attractive as possible for developers to want to connect to the low carbon (and theoretically low cost) energy network. PV thus highlighted the opportunity for obtaining "easy" Green Star points for connecting to the system. However, due to a range of issues (some highlighted below), connection has been lower than expected. Nevertheless, this may change in the future, as new developers come to the site.

Good governance and cultural change

It is important to ensure that knowledge and information is not lost with the change of personnel. In the case of the Dandenong PEP, several key people responsible for developing the project left after a few years (both from PV and to some extent at OE), inevitably resulting in knowledge loss. To avoid this in future projects, adequate protocols or governance arrangements need to be in place to ensure successful continued implementation. This issue of governance, together with considerable unanticipated financial challenges (highlighted below), may have contributed to a number of oversights when selling the land, including issues with demarcation of easements.

Dealing with the unexpected

The success of the gas-fired cogeneration system was somewhat contingent on having a carbon price, as well as a stable or increasing price of electricity. Therefore, the repeal of the carbon price and decrease in the cost of electricity (wholesale electricity prices have dropped 20-35 per cent), together with changes to a NABERS rule that had assisted the PEP, made the PEP a challenge to operate and OE's proposals to connect to the cogeneration system perhaps less compelling. Certain measures will need to be put in place to help to deal with similar issues in future projects.

It is important to ensure that knowledge and information is not lost with the change of personnel.

Benefit of demonstration projects

Successful demonstration projects can change or influence policy, regulation or political interest, in ways that untested concepts can not. We are now seeing some rules come in that support embedded generation, and hopefully soon virtual net metering will be available, which will assist many community energy projects.

This project also highlighted the importance of getting the right governance structure in place in terms of owning and operating the system. Without an effective and experienced operator, there is risk of the system becoming a stranded asset.

Stirling City Centre, Perth, WA

The City of Stirling, located approximately 10 kilometres North West of Perth's CBD had **bold plans** to develop a dense, integrated and modern mixed-use, transit-oriented centre around the Stirling train station. Development plans included a population target of 25,000 residents and approximately 30,000 jobs mostly located within 800 metres of the train station, as well as a range of district scale eco-utility services delivered across multiple precincts. The relatively low-density site is currently dominated by single detached houses, light industrial estates and box shopping centres and is largely car dependent.

In 2008, the city formed the Stirling City Centre Alliance. This Alliance structure ensured that key stakeholders (such as town planning, transportation and utility providers, and development agencies) were part of the decision-making process and involved in providing a range of deliverables to the Western Australian Planning Commission and the City of Stirling. However, after five years and a number of setbacks, the project has been shelved and the Alliance disbanded. Stephen Kovacs, strategic planning officer at the City Stirling and integral member of the SCCA, notes that the responsibility for planning and delivery of the centre has reverted back to a multiplicity of agencies. Re-establishment of the traditional siloed approach of urban governance has resulted in a much lower level of co-ordination and collaboration.

The main barrier identified was the fragmentation of urban governance.

Issues encountered and lessons learnt

Fragmented urban governance and utility service provision

The main barrier Kovacs identified was the fragmentation of urban governance. Kovacs highlights that land use plans for urban regeneration areas are often uncoupled from overarching infrastructure investment decision-making processes. In the case of CoS, they were waiting for critical transport infrastructure funding, as this would form the backbone of their transit-oriented development. Without this funding materialising, the project eventually ran out of momentum.

In terms of the delivery of decentralised eco-utility services, the fragmented ownership of the current services provision also posed a major impediment to reaching consensus on how the city centre could be serviced. While the formation of the SCCA was useful in getting key stakeholders and representatives from relevant departments and utilities in the room, it failed to get full corporate "buy in" and support from them. This is a key area that needs creative solutions in the future.

Artist's impression of the Scarborough Beach redevelopment in the City of Stirling,

Regulatory barriers

There are a number of regulatory issues and barriers, ranging from the requirement to obtain licences from the Economic Regulation Authority for provision of electricity and water services, to the absence of commercial feed-in-tariffs and the lack of regulation governing the use of thermal energy in WA. Local Government

Act restrictions on investment in business enterprise by local government also pose a problem for Stirling.

Having a clear government-led development proponent

Surprisingly, the project didn't have a clear development proponent, such as the Metropolitan Redevelopment Authority or LandCorp, to deliver the precinct-scale eco-infrastructure for the large vacant government-owned land. Kovacs suggests the idea of a model where a public authority (like MRA or Landcorp) takes on the land development and infrastructure provision, and then a local authority (the council) inherits the assets and manages them as a council-owned **District Utility Group**. This would also allow the authority or land developer to have the legal authority to apply the mechanism of levying developer contributions to recover monies expended on building the infrastructure (value capture).

A new forum to resolve issues

Kovacs suggests the need for an integrated approach to urban governance, with local authorities working in close collaboration with planning and delivery agencies such as WAPC and MRA/LandCorp as well as public and private utilities. This would create a forum to progressively resolve the issues highlighted above, which in turn would ensure regulations are up to date and relevant to the needs of urban infill development in an ecologically sound manner.

Artist's impression of Curtin's Bentley campus redevelopment.

Greater Curtin, Curtin University, WA

Curtin University is Western Australia's largest university with over 50,000 students. The main campus is located approximately eight kilometres southeast of Perth's city centre in the relatively low-density suburb of Bentley. The campus is currently very car dependent, although has decent bus access. Taking a proactive stance to coordinate future growth, the university recently released the visionary Greater Curtin Master Plan to transform the Bentley campus from a largely mono-functional educational use into a vibrant "university city" complete with housing, light rail, civic, cultural, commercial and leisure activities. Significantly, the plan intends to deliver an innovative "network of integrated infrastructure systems" to ensure future growth occurs in an efficient and sustainable manner.

Issues encountered and anticipated

Curtin University Properties, Facilities and Development staff director Andy Sharp and Strategic Asset Planning Principal Rocio Bona identified several obstacles that will need to be overcome to ensure successful implementation of the precinct-scale sustainability initiatives and the overall innovative Greater Curtin Master Plan. They are mostly legislative or financial in nature.

Changing the Curtin University of Technology Act 1966

One of the key legislative issues currently facing Curtin is the need to change the existing act governing the university, which limits the range and mix of uses allowed on the site. This requires State Government approval. Changing the uses to enable residential and commercial development on the site will be central to transitioning from a purely educational university to vibrant "university city".

The plan intends to deliver an innovative "network of integrated infrastructure systems" to ensure future growth occurs in an efficient and sustainable manner.

Regulatory barriers to district energy

Other legislative barriers include the lack of community title in WA, which makes it almost impossible for communities to

Artist's impression of Curtin's Bentley campus redevelopment.

find ways to maintain/service/own district infrastructure. For example, the lack of physical and regulatory infrastructure for district heating (no legislation exists for how privately generated thermal energy could be passed through public infrastructure such as roads, nor any way of billing for thermal energy), limits the practicality of providing district heating. There are also barriers around getting developers to connect to low carbon district energy (including heating and cooling) and water systems. Restricting the choice of energy and/or recycled water supply to developers is not possible under current legislation. This is known as **third line forcing** and is prohibited under the ACCC.

Curtin University will therefore need to look at alternative ways of encouraging voluntary connection to alternative district-scale schemes, such as the approach taken by the Dandenong PEP initiative of promoting the benefits of achieving "easy" Green Star points. This may have more promising results in Curtin University's case, as they are currently seeking certification under the Green Building Council of Australia's Green Star – Communities rating tool.

The low cost of electricity

Financial barriers are also a significant issue for Curtin University as it attempts to implement alternative energy solutions on the campus. Curtin's low cost of electricity and the high price of gas in WA has a significant impact on the commercial viability of precinct-scale co- and trigeneration systems. Further compounding the issue is the lack of ability to export electricity across titles and the cost associated with metering hot and chilled water supply (thermal energy) in residential dwellings.

Moving beyond tradition ROIs

Fortunately, Sharp explains the university now has the ability to discuss broader project benefits with the Curtin Council that are not purely return-on-investment focused, but give much broader off balance-sheet returns, such as the research benefits associated with delivering precinct energy. While financial modelling has demonstrated that a trigeneration plant will provide much better returns down the track, it is about reaching the critical scale required to make it happen early on. Sharp suggests they are not far from it.

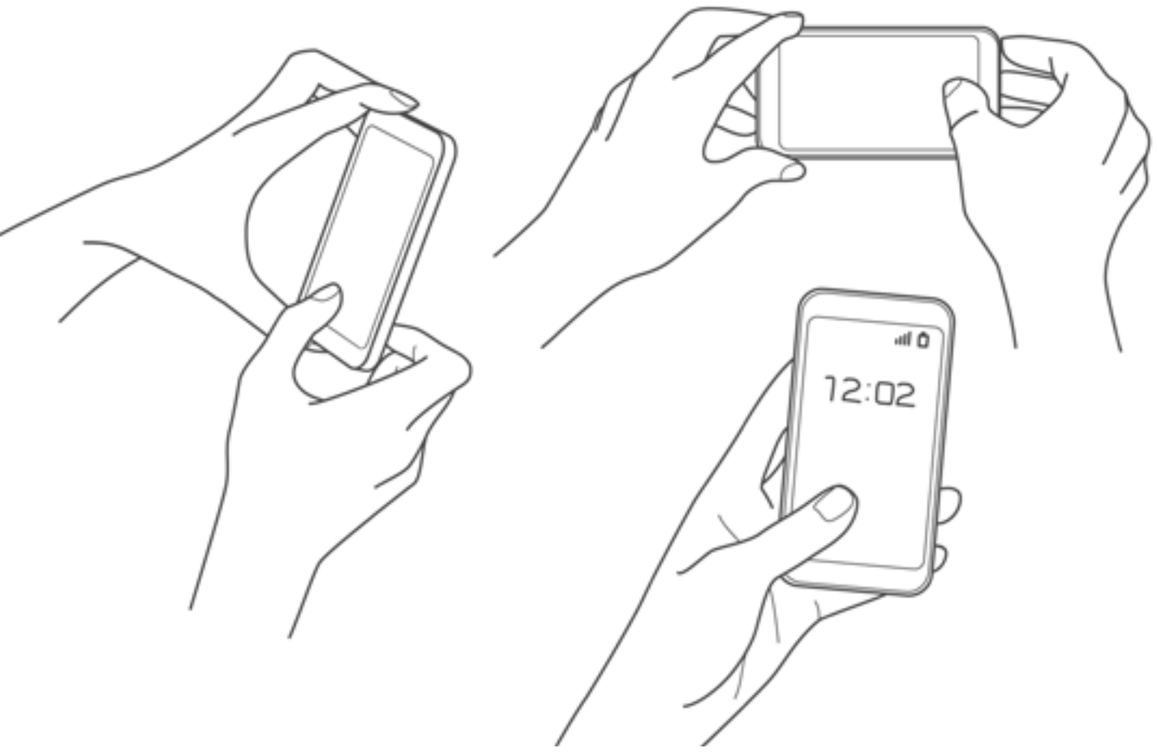
Key learnings

The case studies above demonstrate the need for strong leadership, good initial and ongoing governance structures and constant stakeholder engagement (particularly involving utilities, government departments, authorities and agencies, and local developers) to ensure successful implementation of sustainable precincts and communities. Changes to regulation are urgently required, which begs for greater communication and dialogue between key urban development stakeholders and regulatory authorities in order to create new legislation that supports innovative eco-infrastructure. New funding and financing models are also urgently required that can help to spread the upfront capital costs of sustainable district eco-infrastructure (which provides lower ongoing costs) over a longer time period.

As cities seek to transition toward low carbon communities, precinct-scale urban development provides abundant opportunities for experimentation with a range of integrated eco-infrastructure and service provisions that offer unique efficiencies, as well as the ability to experiment with new forms of localised governance.

As cities seek to transition toward low carbon communities, precinct-scale urban development provides abundant opportunities for experimentation with integrated eco-infrastructure and service provisions that offer unique efficiencies.

It is critical we take a proactive approach to analysing and addressing the obstacles faced by those breaking new ground, to learn from their experiences, prevent their mistakes being repeated and together begin to identify creative solutions and novel approaches to deal with challenges. Only through this process will we be able to advance our collective knowledge around delivering eco-infrastructure at the precinct-level and begin to mainstream low carbon, sustainable communities.



ENABLING NETWORKS: WHY WE NEED TO MOVE ON FROM PRECINCTS

By Ingo Kumic

I was recently asked whether I knew of any contemporary examples of "sustainable precincts" and without pause hit an intellectual impasse.

In part it was a reaction to what, with the greatest respect, I regard as a thoroughly outdated concept in this age of social disruption. But perhaps the greater visceral response was reserved for the fact that the idea of a "precinct" still suggests we have not moved on from our deterministic approach to the making of cities, an approach that reflects that we still regard a post-Cold War capitalist economy as the dominant form of social behaviour, and that "property" and "property developers" are the lead variables in the regeneration process.

Critically it is the immaterial evidence of the city, its complex systems of communities and productive processes enabled by what Jeremy Rifkin refers to as the "Internet of Things" – the convergence of the communications, energy and logistics pillars into a super internet – that underpins the making of the contemporary city and in turn the contemporary space of capital exchange.

In essence, the material evidence of the city is becoming less and less representative of the economy and therefore the social practices it harbours, and (urban) design, in an attempt to recall the good old days where architects and the like were the "authors" of the city's future, is retreating into an entirely self-referential mire becoming less relevant to the contemporary role of "design" as an "enabler" of city future's.

In his new book, *The Zero Marginal Cost Society: The internet of things*, the collaborative commons, and the eclipse of capitalism, Rifkin lays out an intriguing narrative concerning the future of social systems in which he declares: "The capitalist era is passing… not quickly, but inevitably. A new economic paradigm – the collaborative commons – is rising in its wake… a hybrid economy, part capitalist market and part collaborative space… where billions of people engage in the deeply social aspects of life."

Rifkin's work is a continuation of a broader stream of consciousness that he and other commentators such as David Harvey, Richard Sennett and Edward Soja, to name but a few, have presented for the past two or more decades. In essence, our cities, which we've always understood as powerful mediating elements in themselves, now comprise the means by which the power of mediation has been devolved. Technology has made everyone and every "thing" a potential mediator of relationships.

Not all that long ago, television, newspapers and radio were the dominant forms of media in which they would mediate the relationship we had with each other and the rest of the world. Now, technology has become a means by which we mediate relationships and enable the rapid disruption of traditional associations and in turn the rapid re-association of people and entities into new productive relationships.

This point is important in the discussion about "sustainability" and what it is we think we're building or enabling. As Rifkin

Ingo Kumic

goes onto suggest, this new economic system – the collaborative commons – "might bring marginal costs to near zero, making goods and services priceless, nearly free, and abundant, and no longer subject to market forces".

Urban design must subordinate the technical challenge of building "sustainable" precincts to the political challenge of enabling "sustainable" networks.

We're already seeing this play out across the music, film and news industries. Rifkin believes that this phenomenon will help alleviate rather than exacerbate sustainability challenges because overconsumption is driven by a fear of scarcity and if we know we can have whatever we want then fear and anxiety cease to become drivers of consumption. Furthermore, he suggests that "markets are beginning to give way to networks, ownership is becoming less important than access, and the traditional dream of rags to riches is being supplanted by a new dream of a sustainable quality of life". And driving this are the Millennials who have already come to the conclusion that freedom is not predicated on how much we can accumulate but is instead based on developing networks and promoting equity in consumption rather than in consuming for its own sake.

This shift in economy should have profound consequences for the way in which we see the contemporary city and our part in its making. So as to respond to this new and emerging economy, urban design must subordinate the technical challenge of building "sustainable" precincts to the political challenge of enabling "sustainable" networks. That is to say that the sustainable performance of a city is entirely dependent on the emergence of a network of productive relationships that in themselves must be able to be sustained. This redefines the agency of the "designer" and assigns his or her value as someone that enables the building of communities and not simply building in spite of them.

This principle is best illustrated by a recent set of contrasting presentations on local government and place management hosted by the University of Melbourne. Leading off was a presentation by a colleague from the City of Monash. The emphasis of the presentation was to demonstrate the effectiveness of an unencumbered "design" process in which the council's design team, faced with an underutilised public space, took it upon themselves to author a design solution without involvement from the community or other stakeholders. The solution took the form of a small "pop-up" facility erected early Saturday morning and dismantled again at the end of the day. The "pop up" proved hugely successful and was well patronised, so much so that the council has been inundated with calls to erect the facility again. In contrast, a later presentation by two University of Melbourne students, focused on a similar problem of underutilised and quite hostile space. The students, in contrast, enabled the community and other stakeholders – through design – to became authors of their own a solution. Interestingly enough, the solution proposed was also a "pop up" facility that was to be a one-off, conducted on a Saturday morning and which took the form of a small meet'n'greet venue where neighbours who had never met could grab a coffee and get to know each other. This solution was also a great success and with many calling for it to be run again.

Enabling a sustainable network

If one were to look at images of both events, neither would appear to be demonstrably different from the other. And yet, nothing could be further from the truth. The differences do not lie in the technical resolution of the pop-up itself but rather in its political resolution. The former failed to build a sustainable network of community, and therefore benefactors, resulting in council having to finance the "pop-up" into perpetuity. It promoted consumption for the sake of consumption and contributed little to the making of community. On the other hand, and in stark contrast, the two students had enabled the emergence of a sustainable network of community members for a shared-productive purpose. These people became the stewards of their own pop-up facility and faced with increasing demands to run the pop-up on a regular basis developed a business model that would allow them to finance the event themselves.

There is a vanguard of designers and organisations who exemplify the pop-up principle on a far grander scale and have taken the contemporary challenge of building sustainable networks head on. Designers like Indy Johar (Architecture 00), Dan Hill (Catapult), and Megan Antcliff (South Australian Department of State Development) embody the shift from author to enabler, one which is an exemplar of contemporary leadership in the building of empowered networks and complex communities. There's no point scouring pretty pictures of precincts to discover their genius; that lies in the software.

Ingo Kumic has 20 years' experience as a strategic design lead and strategist assisting city governments with the planning, programming and integrated delivery of city futures.

School of Life pop up space.
Image courtesy of CoDesign Studio.

PRECINCTS AND OUR HEALTH

Professor Susan Thompson and Dr Greg Paine,
City Futures Research Centre

To be sustainable, the precincts we create need to support our health and wellbeing in the same way as supporting our ecological and economic imperatives – all of which are, of course, closely intertwined.

There is now abundant evidence on the link between the way we design and live in our cities and the increasing prevalence of "lifestyle diseases" such as obesity, diabetes, coronary and respiratory conditions, cancers, depression and anxiety.

Reduced opportunity for daily physical activity, car-dominated transport, easy availability of fast food relative to fresh food, and lack of social connection are all implicated. Housing distant from commercial and cultural centres and jobs, with low residential densities, segregated land uses, disconnected street patterns, and limited public transport encourage car-dependent, physically inactive and socially isolated lifestyles. All of which can make us unhealthy.

These environmental and social conditions also contribute to greenhouse gas emissions, and on city fringes impact on biodiversity and land available for growing food. Alternatively, environments with residential densities supporting public transport, together with shops and homes within easy walking and cycling distance, make a positive contribution to health. Such neighbourhoods are also good for ecological sustainability. Providing public transport and easy access to shops selling healthy food up-front in new residential precincts can avoid incoming residents adopting "unhealthy" habits that can then be difficult to reverse.

In 2013 29 per cent of Australians ranked as obese (BMI ≥ 30), compared to 16 per cent in 1980.

Australian Health Survey, 2013 (ABS)

Artist's impression of Ferrars Street Precinct, Fishermans Bend.

To address the epidemic of lifestyle diseases we need to shift our health focus to prevention, rather than rely on costly medical interventions once we get sick. Our urban planning and acceptance of better, healthier models for the suburbs needs to catch-up. The best chance of success is through collaboration and knowledge sharing – with health, built environment professionals, precinct developers and residents all working together.

A wide range of research evidence and "healthy built environment" design checklists and guidelines are available to assist. Universities are also playing an important role. **The Healthy Built Environments Program** in the City Futures Research Centre at the University of NSW is one example. This Program has identified three key domains that precincts need to address to support good health:

1. **Getting people active (incidental and organised physical activity – to reduce obesity and the risk of heart disease, some cancers and depression). Key questions to ask of precinct development are:**

- Is the grouping, layout, travel and time between activities, particularly destinations frequented on a daily basis, conducive to "active transport" (walking or cycling)?
- Is access to different destinations easy using public transport, with stops readily accessible by walking or cycling? Are transport waiting shelters and bike racks provided?
- Are walking and cycling routes comfortable, safe, convenient and attractive, with seats, bike racks and shade?
- Does the design of public space invite

people to use it, as well as providing for both moderate and intense physical activity?

- Are commercial spaces available for other recreational physical activities, with opening hours related to residents' needs?
- Are stairs designed to encourage use for those who are able-bodied, rather than a proliferation of lifts or escalators?

2. Connecting and strengthening community (incidental and organised social interaction – to reduce risk of mental illness and depression).

Key questions to ask of precinct development are:

- Are public spaces and facilities designed to be well-used, comfortable, safe and attractive? Do they cater for all neighbourhood groups, encouraging incidental social activity?
- Are other community spaces available for organised social activities on an as-needs basis?
- Are streets designed as public space for all, not just for vehicular transport ("complete streets")?
- Are common areas of buildings designed to encourage incidental social interaction?
- Are building frontages and public spaces designed with "active" uses to encourage incidental social interaction?

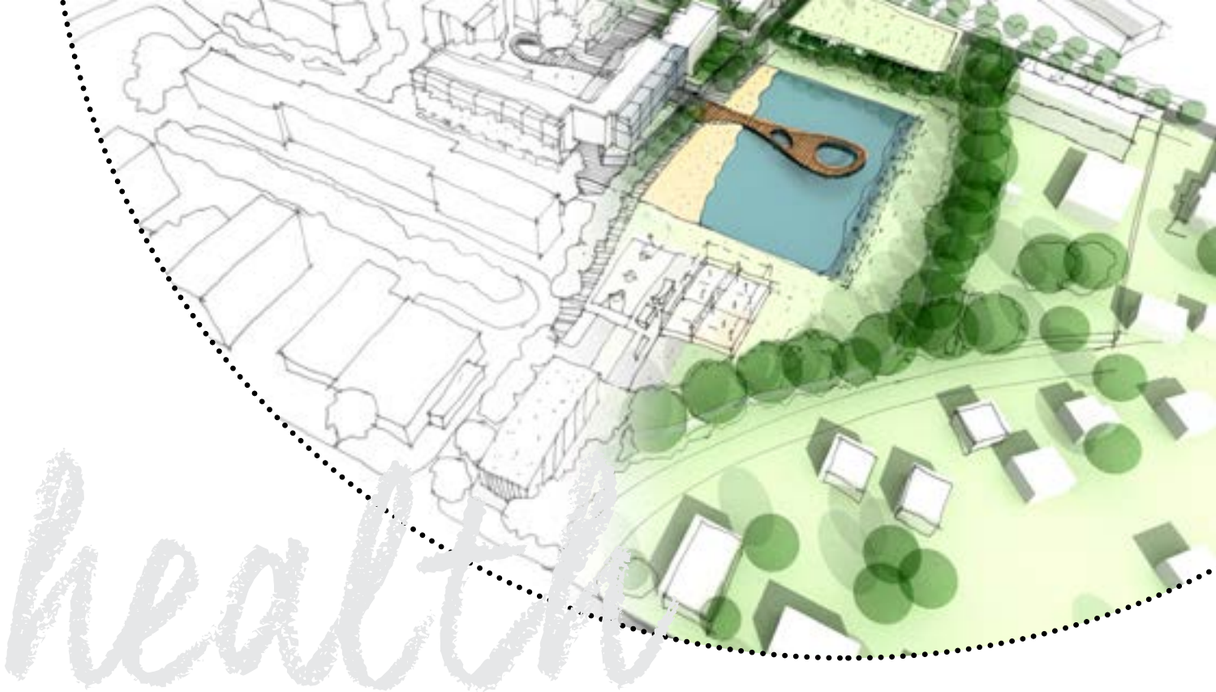
In 2011-12 26 per cent of trips under one kilometre (within 15 minutes walk time) in Sydney were made by car.

NSW Bureau of Transport Statistics

3. Providing healthy food options (nutrition – to reduce obesity and the risk of heart disease and some cancers). Key questions to ask of precinct development are:

- Is there up-front provision of spaces to retail fresh foods, at opening hours related to residents' needs? Are spaces for fresh food community markets provided?
- Is there a favourable balance between commercial spaces retailing fresh food and energy-dense, nutrient-poor foods?
- Are there opportunities for residents to grow fresh food?
- Is advertising of food and the visibility of food generally balanced between healthy and not-so healthy foods?

Professor Susan Thompson and Dr Greg Paine, Healthy Built Environments Program, City Futures Research Centre, University of New South Wales.



health

The Australian Heart Foundation:

- Substantial reference material, guidelines and checklists for healthy urban design responses and promotion of active living, both nationally and State-specific.

Healthy Places and Spaces:

- A national website sponsored by the Heart Foundation, Planning Institute Australia and the Australian Local Government Association comprising a guide to creating healthy spaces and places, and links to research and other work by others, including international and Australian State Government guides and checklists.

University of NSW Healthy Built Environments Program:

- An ongoing literature review on the links between health and built environments, together with best-practice responses. Fact sheets on key matters. Other reference material, research work and online lectures and resources.

University of Melbourne Place, Health and Liveability Research Program:

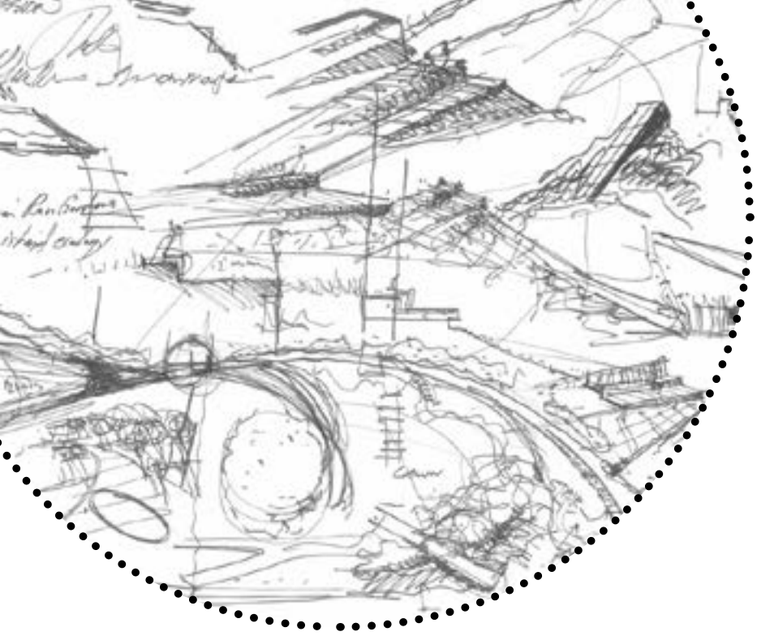
- Lists key projects, research work and publications, including a major project on indicators of "community wellbeing" in Melbourne.

University of Western Australia Centre for the Built Environment and Health:

- Lists key projects, research work and contributions to healthy built environments guidelines and checklists.

Inquiry into Environmental Design and Public Health in Victoria:

- By the Victorian Parliament, but applicable generally. Comprehensive summary of issues, health data, desirable design responses and policy.



REGENERATION: TACKLING THE GREYFIELDS

Professor Peter Newton

A major challenge for urban Australia and its fast growing cities in particular is the provision of an adequate supply of appropriately located, affordable and sustainable housing across a range of dwelling types.

A related challenge involves attempts by the metropolitan planning agencies in the capital cities to restrict residential sprawl and deliver more compact cities: attracting built capital and population inwards rather than outwards.

Residential infill in the established suburbs has emerged as one of the principal urban planning policies designed to address this challenge. Infill targets, typically in the 50-70 per cent range, are now integral to all capital city planning strategies.

Infill is a term that has been widely ascribed to all urban redevelopment occurring in the established suburbs. **Research by Newton and Glackin**, however, has established that infill occurs in two distinct urban arenas: brownfields and greyfields. Brownfields are the now well-established locations for precinct scale regeneration of abandoned industrial and commercial sites in our cities. Development models for these types of precincts are now well established as a result of joint government-industry projects undertaken in the Better Cities initiatives of the 1990s. Performance criteria for this class of redevelopment are improving (for example, compare Barangaroo and Docklands).

Greyfields is a term to describe technologically outdated, environmentally and physically failing, under-utilised real estate assets where economic value lies in the land rather than the building. Unlike brownfields, there is usually no need for remediation. Greyfields reflect a greater development challenge than brownfields or greenfields, however: they are localities with occupied housing stock and multiple property owners who will require an attractive value proposition to consider releasing their land for redevelopment – as precincts (which is possible with site consolidation). The attraction of most greyfield housing from a redevelopment perspective is that it lies within a radius of 5-25 kilometres from the CBD – the zones in most large Australian cities that are public transport-services-and-jobs rich compared to the outer suburbs. Property prices reflect this higher amenity.

Regeneration of existing suburbs in Australia's major cities has, to date, been sub-optimal.

Regeneration of existing suburbs in Australia's major cities has, to date, been sub-optimal. Extensions and renovations to existing housing have been significant – especially in inner city suburbs. They make no net contribution to new housing stock, however. A change of planning and building regulations since the early 1990s – designed to generate urban consolidation by an almost as-of-right ability to build two dwellings on land parcels originally subdivided for one single, detached house plus garden (for example, **Rescode** in Victoria) – has

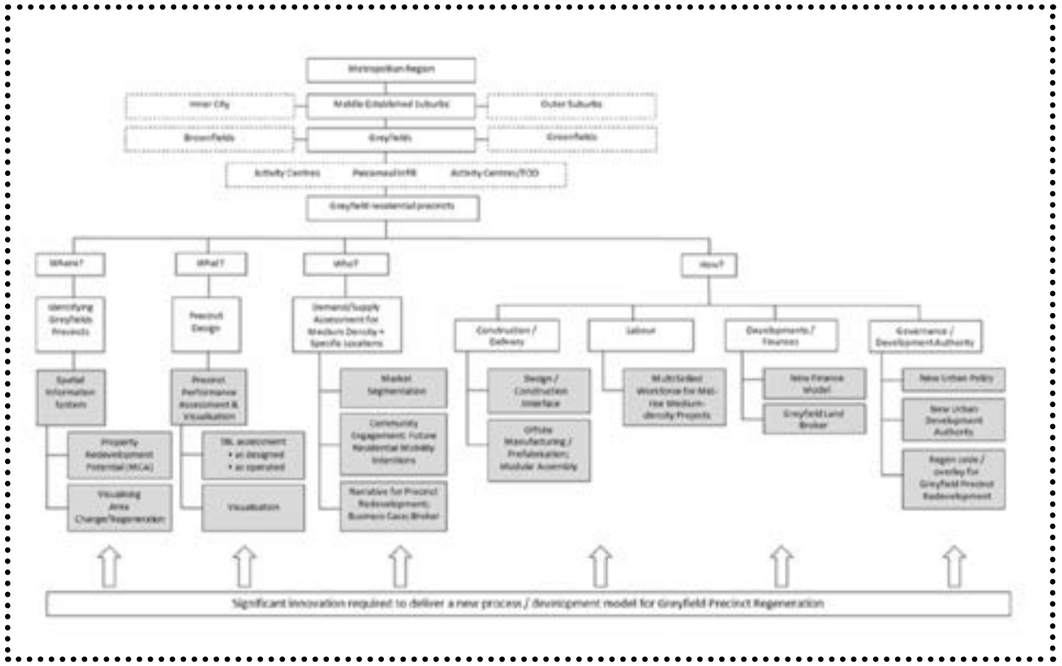


Figure 1: Innovation Arenas for Greyfield Precinct Regeneration. Source: Adapted from Newton et .al. (2011).

delivered a fragmented process of infill development. This process of knock-down-rebuild has generated insufficient net additions to housing stock relative to demand – typically between 2-4 dwellings for each residential property demolished.

The challenge is to **scale up greyfield regeneration to precinct level**. To date, metropolitan strategic plans have attempted to accomplish this by encouraging more intensive redevelopment around designated activity centres and along major public transport corridors. Both of these are necessary but not sufficient… a majority of infill redevelopment continues to occur in a **fragmented, suboptimal fashion** outside these designated areas.

A new greyfield residential precinct redevelopment process is required to unlock the regeneration potential that exists in the established middle ring suburbs of Australia's cities. The benefits of precinct scale residential redevelopment are considerable:

- Housing can be designed to deliver a mix of dwelling types, styles and sizes, at higher density and greater affordability, with some mixed land use, while at the same time delivering a more aesthetically pleasing and higher amenity neighbourhood than its predecessor. The precinct can also be "wired" as an e-village to support neighbourhood engagement as well as providing better access to information on a range of community services.

Modular construction represents an emerging opportunity for more affordable housing as well as more rapid assembly of new dwellings in congested city neighbourhoods. Housing precincts can also be better designed to reduce future heat island effects

- Energy can be supplied in a manner that can achieve carbon neutrality with the introduction of distributed renewable energy and storage as new elements of "hybrid buildings" (energy efficient shell and appliances plus distributed renewable generation; **Newton and Tucker, 2011**). Energy is generated for local use as well as for the national grid
- Water can be supplied via water sensitive urban design principles and practices capable of application at precinct scale with an appropriate mix of technologies for local water capture, storage, treatment and end-use in an eco-efficient manner
- Land previously dedicated to roads, verges, driveways and garaging can be reconfigured within a medium density precinct for alternative uses, including housing, community spaces and communal food cultivation

A range of design assessment and rating tools are now emerging with a capability of more rapidly evaluating the performance of any precinct development…as a basis for demonstrating value to governments, developers and potential occupants (see **here** for a recent review).

The next level of innovation in built environment sustainability requires a focus on precincts – in brownfields, greenfields and, in particular, greyfields.

It is now apparent that the next level of innovation in built environment sustainability requires a focus on precincts – in brownfields, greenfields and, in particular, greyfields. The Australian Housing and Urban Research Institute's **greyfields project** canvassed input from over 70 leading academics and practitioners involved in city development, in relation to the challenge of regenerating the established suburbs of Australia's major cities and attempted the articulation of a new model for greyfield residential precinct regeneration. Much of the innovation needed was found to be organisational, institutional and social in nature, supported by some

technological innovations. It concluded that innovation was required in four key arenas (see Figure 1), which were:

- Identifying the most prospective locations which developers and planners should target for precinct redevelopment (“where”)
- Improving the urban design processes needed to achieve this (“what”)
- Understanding contemporary and possible future housing and locational preferences in terms of framing the demand for medium density living in established middle ring suburbs (“who”)
- Establishing new pathways for achieving residential precinct regeneration, including finance and delivery, stakeholder engagement (governments, community, developers) and new governance processes for the creation of this new urban product (“how”)

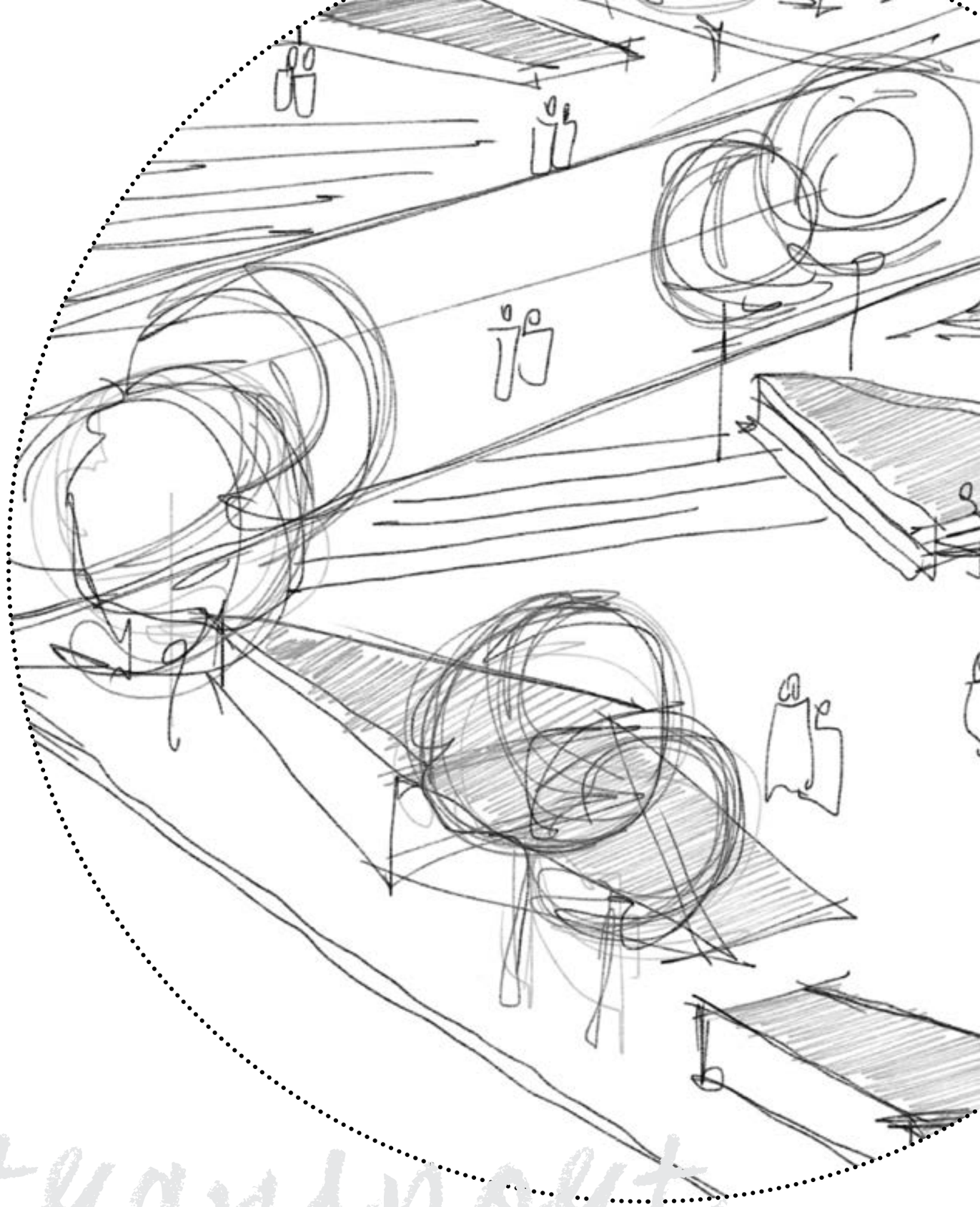
More detail is available on each of these innovation arenas in the links throughout this article.

A new greyfield residential precinct redevelopment process is required to unlock the regeneration potential that exists in the established middle ring suburbs of Australia’s cities.

Applied research and development on greyfields residential precinct redevelopment is now well advanced across all the innovation arenas listed above, drawing upon precinct scale research being undertaken in all three Co-operative Research Centres that focus on sustainable urban development:

- **CRC for Spatial Information**
- **CRC for Water Sensitive Cities**
- **CRC for Low Carbon Living**

Peter Newton is Research Professor in Sustainable Urbanism, Swinburne University of Technology.



THE IMPORTANCE OF CITIES, AND WHY WE NEED TO DO THINGS DIFFERENTLY

James Rosenwax, AECOM

Australia, like every other developed country, is subject to emerging global challenges that need to be factored into our planning for cities and precincts. This includes the need to factor in climate change, the need for affordable housing near central urban nodes, transport and congestion issues, the potential of biomimicry, and technology that is changing the way we relate to each other.

Housing affordability makes economic sense

While our cities might be recognised as desirable and successful, it doesn't feel like that for everyone.

Congestion is one outcome of the disparate relationship between key worker jobs and affordable housing, and now hangs like an anchor on our productivity. If nothing is done it is predicted it will cost us $20 billion by 2020. One logical way to address this is with more affordable housing close to the city centre.

On the most part, provision of key worker housing has not occurred in most of our big cities where housing prices continue to rise and affordable housing for workers is in gross undersupply. It's an issue, and incentives like zoning concessions is one answer, but we need to work on better integration.

Transport congestion

Meanwhile, crowding on our urban rail systems during peak times in our major cities is now endemic, with at least 40 per cent of passengers forced to stand for half, or sometimes all, of their journey. Australian transport planners have an enormous task to satisfy our need to get around our cities today, let alone into the future.

What is evident is that Australia must take a historic reappraisal of our infrastructure priorities. Yes, we Australians love our cars and the provision of safe high-standard roads is crucial. But with one single rail line offering the same carrying capacity as a 10-lane highway, the future of our cities cannot simply depend on building ever more roads. As the Danish architect Jan Gehl correctly points out, build more roads and they will soon fill with cars.

We all know this. Yet the current federal government has cut funds to a range of public transport projects such as the Melbourne Metro and Brisbane's Cross-River Rail, and has stated it will be investing only in roads.

This single-focus approach has been rejected in many other cities across the world The question is not how many more cars can we move down this street, but how many more people.

"With one single rail line offering the same carrying capacity as a 10-lane highway, the future of our cities cannot simply depend on building ever more roads."

More extensive and comprehensive public transport needs to be backed up with a well-developed pedestrian and cycling network that services not just the residents of our inner-cities, but connects all our major rail, bus, educational and employment hubs.

Right now, 85 per cent of short trips in Australia are still undertaken by car. Imagine if just a fraction of these trips were done instead on foot or by bicycle. It could mean walking or cycling to the local railway station for the trip to work. Or using the bike basket rather than the car boot to carry home a few groceries. However, for there to be a

widespread change in the travelling habits of Australians, vast improvements are needed to get our cycling and pedestrians pathways up to scratch.

People must feel safe and they will not feel safe if a cycle path is nothing more than a painted line on a public road. For everyday Australians to hop on a bicycle, they need dedicated cycle paths separated from car and bus traffic.

New York, Portland, Stockholm, Berlin and Copenhagen are just some of the leading world cities that have embraced this approach. Since 2007, New York has built some 500 kilometres of cycle paths and the proportion of people that ride to school or work as doubled since then. Portland has set itself a target of 25 per cent bicycle mode share by 2030.

In Sydney, every metre of new cycleway in our CBD has been hard fought for, with enormous resistance from the pro-car lobby and local shock-jock.

In Sydney, every metre of new cycleway in our CBD has been hard fought for, with enormous resistance from the pro-car lobby and local shock-jocks who fail to recognise that every person on a bicycle means one less car on our congested roads.

There are added benefits. Jan Gehl argues that investing in pedestrian and cycle paths makes cities friendlier places. Gehl worked closely with the City of Melbourne and it is no accident that the laneway culture, the outdoor dining, the gradual erosion of the pre-eminence of the car in favour of the pedestrian and cyclist have all combined to make the City of Melbourne so liveable.

But Gehl recalls walking through the deserted streets of Melbourne in the 1970s: “It was neutron-bombed, not a soul – not even a cat,” he says.

Yet when he proposed Melbourne follow the example of the grand boulevards of Paris and communal squares of Rome, he was ridiculed by those who pointed to a city famous for its icy southerlies and four seasons in a day. Melbourne today has the highest proportion of street furniture in the world with 600 outdoor cafes, compared to just 50 in 1990.

We need to consider and replicate the inspiration of cities such as inner Melbourne, Copenhagen and Stockholm wherever possible across our Australian cities and suburbs. Local and state authorities must put the needs of people rather than the car at the heart of decisions about how we use public space.

Healthy cities

Not only does placing humans first make for more liveable neighbourhoods, it also makes for healthier people. New York has managed to halt the rise in obesity by a government-wide effort to build healthy design into all its decision-making – simple things like signs pointing out where the steps are in its office towers and installing lifts that stop at only every third floor, encouraging people to climb a little. They have increased the number of water bubblers so people have an alternative to soft drink. And they are encouraging people to walk by closing streets to cars, as we have seen in Times Square.

Facing climate uncertainty

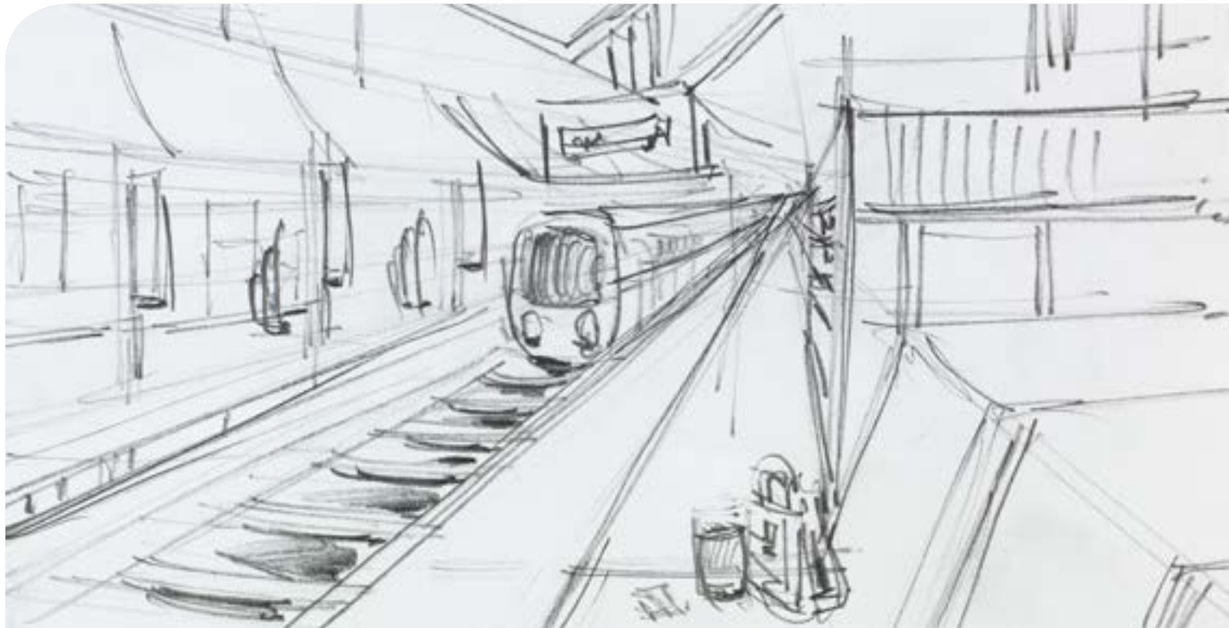
People are often surprised to learn that it is not fire or flood that are our biggest killers, but heatwaves. In Adelaide, our hottest and driest state capital, the population is particularly vulnerable. The severe heatwaves in Melbourne and Adelaide in late January 2009 caused 400 deaths above the average.

In France, at the end of a prolonged heatwave in 2003, an additional 15,000 deaths were recorded.

The summer of 2013-14 in Australia recorded the hottest January, the hottest summer and the hottest day on record.

For the first time ever, there were seven consecutive days of temperatures over 39 degrees right across the country. Responding to threats from climate change and extreme weather events is new territory for governments and requires strong national leadership. The heating of cities is not just a health hazard, it also places great pressure on our energy supplies. For example, a temperature rise of just one degree Celsius increases airconditioning use by around five per cent.

Australian authorities are responding in a variety of ways. In the City of Sydney, a “cool roads” policy is being put in place where paler road surfaces are being used to counter the heat island effect, caused



by vast expanses of bitumen heating up neighbourhoods. It is being aided by the planting of thousands of trees.

In Victoria, the City of Geelong found that traditional tools were inadequate in preparing authorities for the effects of climate change. In partnership with RMIT, it has created a climate change adaptation toolkit that is online and freely available to decision-makers.

Detailed climate change risk-management strategies must be front and centre of all government and private-sector decision-making. These no longer being an option, rather an intrinsic part of the design process.

City-shaping disruptions

We are seeing in our cities new ways of consuming and a change in mindset about how we live and travel. For example, fewer young people are choosing to drive. It is not just here but also in countries such as Germany, Japan and Korea.

For young people, a car can be more of a hassle than a convenience. Mobile devices mean they can use their travelling time more effectively on public transport and the internet connects them to friends without having to leave home. It's a trend that has not been missed by manufacturers, with the head of Toyota, Akio Toyoda, recently describing it as quite frustrating.

At the same time, we are seeing a growth in car-share schemes such as GoGet and spectacular take-up of the online car service Uber, which is sending a chill up the spine of the Australian taxi industry. This San Francisco-born low-cost travel alternative depends for its survival on good customer service and allows passengers to deal directly with their driver, with the trip billed straight to a credit card and no hefty credit card fee. Interestingly, not only do you rate the driver, they also rate you.

We're seeing a similar phenomenon with Airbnb, which is challenging – in a modest way – the conventional hotel market. Renting a spare room in someone's home is, like Uber, often a much more authentic, personal and pleasing experience.

This new era of internet-enabled intimacy is being described as not just an economic phenomenon, but a cultural one. As the online technology magazine Wired notedit is made possible by a sophisticated system of mechanisms, algorithms and carefully calculated systems of rewards and punishments. This is technology that enables and encourages us to trust our fellow human beings.

These initiatives are in some ways replicating the old-style village economy, where people dealt directly with each other, creating mutually agreeable deals and trades.

There is something very human, very ancient and very satisfying about this. It puts people in control and at the heart of decisions about their day-to-day lives.

The time of sharing everything, enabled by technology, be it waste, excess energy or a screwdriver, is closer than you think.

This trend is also prompting a raft of new service industry jobs, perhaps replacing those in older industries that relied upon the mass consumption and disposal cycle.

This begs the question, does the secret of the future city lie within the past? As a modern population we continue to propel forward in terms of advancements in technology, but we are also rediscovering the age-old lessons of nature – to be more self-sufficient and tread lightly on the planet?

Biomimicry

Biomimicry is the practice of seeing nature as a design partner to teach us new techniques and technologies. One-off examples of biomimetrically themed products can be found in all corners of the our markets, like Panelite honeycomb glazing, which uses nature's bee hive honeycomb structure to redirect sunlight and reduce heat gain in buildings.

Does the next evolution of biomimicry conceive of entire communities as biometric systems, including businesses,

government bodies and the very products used to shape our built environment?

If we were to plan like this, we would need to embrace upfront complex modelling that looks at balancing economic relationships, energy, reappropriating waste, social interactions, land use and essential infrastructure provision – all while acknowledging the global market bearing down on us.

The time of sharing everything, enabled by technology, be it waste, excess energy or a screwdriver, is closer than you think.

City branding and leadership

To drive the growth and prosperity of any company, there needs to be a clear purpose and vision that people align and deliver upon. Similarly, successful cities need to have a very clear purpose, vision and plan that guides them into the future.

Adelaide is an example of an Australian city with a degree of vision lacking in other Australian cities, such as Sydney.

It is clear what Adelaide stands for:

- a vigorous, well-recognised creative sector
- leadership in renewables – Adelaide has the highest uptake in the nation of solar and gets more of its power from wind than coal
- a growing list of technology, bioscience and clean industry hubs, located often in the disused factories of the past

Despite its status as an alpha city, a global city, I suspect Sydney's natural assets have allowed it to shine far brighter than it deserves. What is its vision? What does it stand for? How seriously is it facing up to its inadequate and unconnected transport networks, its growing congestion, its prohibitively expensive housing and its lack of jobs within a fair commuting distance of people's homes?

Recently, a Metropolitan Strategy was released that seeks to address these chronic problems, at the same time preparing the city (which is hemmed in by the ocean and a mountain range) for an extra million-and-a-half people by 2031.

For Sydney to retain its status as a truly global city, to continue to attract the brightest and best minds from around the world, it will have to work harder to address the threats to its productivity, sustainability and liveability.

With globalisation, competition for human capital has never been greater. A seismic shift in thinking about how people get around Sydney is crucial – not just more heavy rail, light rail and rapid-transit buses – but safer pathways so that people can safely walk and cycle if they choose. There is no shortage of cities around the world that can show Sydney how it is done, improving public health at the same time.

Let's conclude with some futuristic thoughts:

- What if just some of the ever-growing money currently being invested in roads was diverted towards an integrated, connected pedestrian and cycle network in every major city?
- What if super funds were able to invest in social infrastructure like cycleways, public open space and connected walkways and derive a return on this investment from the government which was equal to the savings in public health costs?
- What if South Australia's magnificent achievement with wind power prompted a determination by every other state to exceed it?
- And what if all of our capital cities were led with a razor sharp vision that meant we all knew what our potential was, and importantly what our role was in helping to achieve this?

Cities are no different to companies, communities and sporting teams – it is the leadership that makes them achieve extraordinary feats.

James Rosenwax is managing director, Design + Planning at AECOM.

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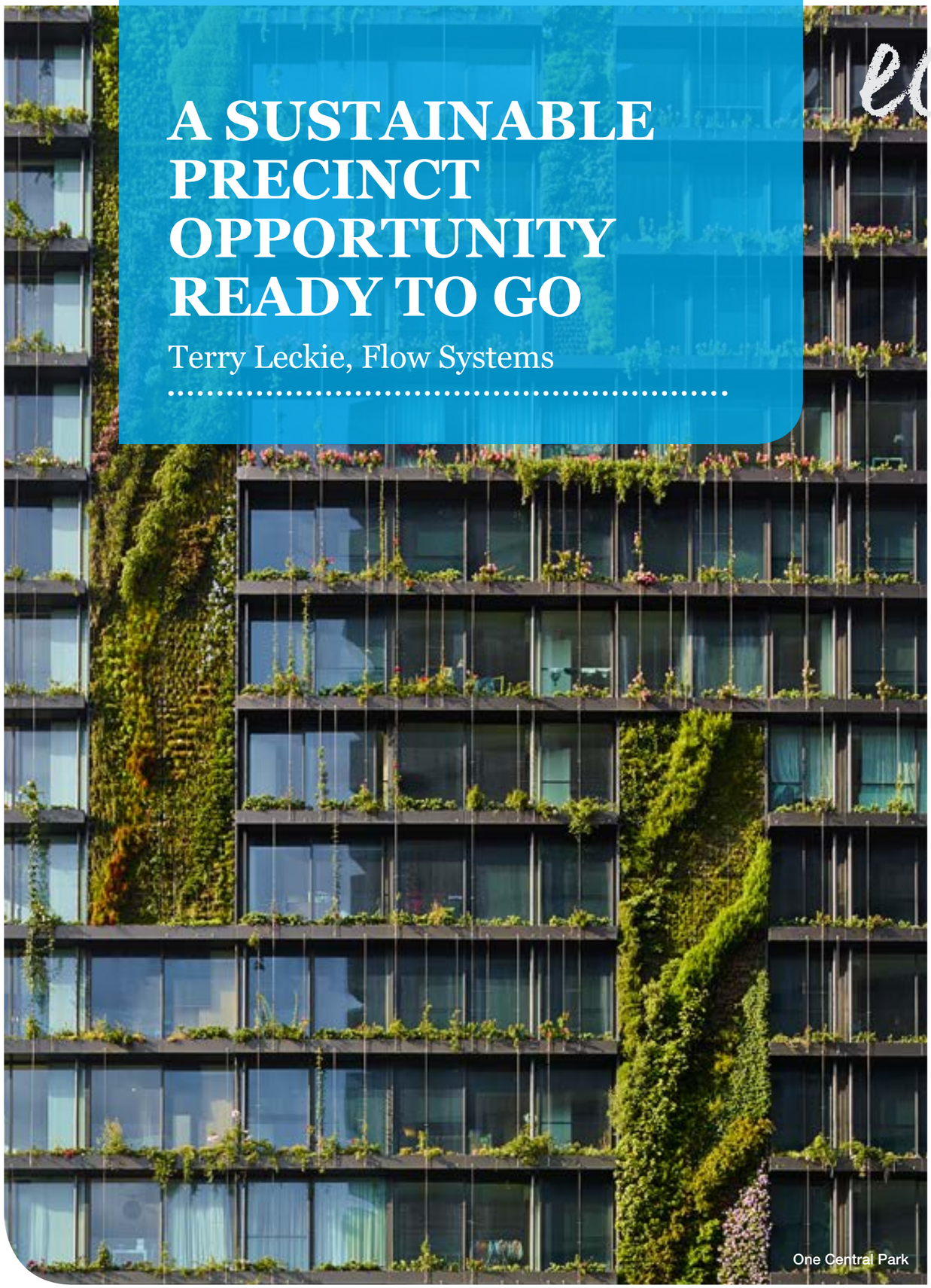
A SUSTAINABLE PRECINCT OPPORTUNITY READY TO GO

Terry Leckie, Flow Systems



One Central Park

Barangaroo, Central Park and Green Square combined could become Australia's first renewable energy precinct – the opportunity is right in front of us now.

Today, three of Sydney's largest developments have an unprecedented opportunity to unite to form world first sustainable green precincts stretching through the city. Fed by renewable energy, purified water and green innovation these sustainable arteries would become the new life source for a growing, thriving Sydney into the future.

With commitment, a strong economic model and a coordinated approach these developments have a real chance to leave a green legacy that will fulfil the collective vision of self-sufficient communities – the long awaited break from carbon-intensive living.

Not only would this turn vision to reality, but it would catalyse much more. It would create the first links in what could be a much longer chain of renewable energy and water supply from: Barangaroo to the new Entertainment and Convention Centres; the Powerhouse Museum and Ian Thorpe Aquatic Centre up to UTS; then Central Park, Chippendale, through Central to the Eveleigh corridor right up to Green Square. Once there, these green energy and water arteries would feed an explosion of 25,000 new residents planned for the area over the next 20 years.

In just 5.5 kilometres you could service hundreds of thousands of people with renewable energy and recycled water, bringing to life the vision of many of our city planners, giving rise to a whole new range of innovation and development possibilities.

What we can deliver, with fresh thinking and this focused commitment, is a robustness and resilience in sustainable energy and water that we just don't have right now.

These precincts provide the opportunity to create a spinal grid that could power communities sustainably over generations. What we are talking about is the latest thinking about modern cities, embracing cutting edge technology at a global scale.

Already, despite the lack of state or federal enabling legislation, leading utilities, developers and governments have moved ahead through many

Barangaroo artist's impression.

barriers in the firm belief that sustainable communities are both achievable and economically viable.

Driving them is the fact that the next generation of homeowners and business leaders want to live sustainably, they want that choice available to them and they want this through the essential services offered. With utility bills continuing to rise, consumers expect value add and they are just not getting it.

While there are barriers preventing investment in renewables and sustainable technologies at a large scale, it's at the precinct level that the barriers are being removed and the benchmarks are moving.

Already in commercial buildings, with the implementation of NABERS, a 4.5 star rating is a minimum. Similarly, in precincts, the new benchmark is for onsite water and energy supply.

The next step in benchmarking is self-sufficient precincts and from there, precincts that can export their energy and water resources to surrounding neighbourhoods, generating revenue for themselves and supporting a greater resilience in how our communities are resourced. It's here we see the immense opportunity to link Sydney's three largest developments.

And while this thinking is ahead of the market right now, developers, governments and the community leaders should be taking up the opportunity to turn ideas into reality.

A model for sustainable precincts and communities that are affordable and easier to build is emerging. It involves a blend of new thinking, persuasion and hard-headed economics.

Ultimately, it is a different economic model, which will allow green utilities to fund closed systems in energy and water that makes sustainable infrastructure affordable from a customer and developer point of view.

Terry Leckie is founder and managing director of Flow Systems.

Green Square artist's impression.

Elizabeth Quay, Perth
Image courtesy of Metropolitan Redevelopment Authority.

Artist's impression of Caloundra South.
Image courtesy of Leighton Properties.

KEY PRECINCTS UNDER DEVELOPMENT

Central Park, Sydney

Urban gardens at the Tonsley redevelopment, Adelaide.

Parramatta Square, Sydney

Fishermans Bend, Melbourne

Kurilpa, Brisbane

The Nishi building, part of the New Acton precinct, Canberra.
Image courtesy of Molonglo Group.

OUR PICK OF THE MOST EXCITING, INTEGRATED MIXED-USE PRECINCTS CURRENTLY UNDER DEVELOPMENT.

NAME	STATE/ TERRITORY	DESCRIPTION	SUSTAINABILITY HIGHLIGHTS	PROPONENTS AND PARTNERS
Barangaroo	NSW	22 ha site on Sydney Harbour featuring Central Barangaroo – 5.2 ha with recreational, residential, retail and commercial; Barangaroo South – 7.7 ha with commercial, residential, hotel and cultural facilities; and Barangaroo Point – restored headland and public park. Project scheduled for completion in 2022.	Goal to be “climate positive” – to generate more energy than used, recycle and export more water than is used, and recycle more waste from the city than is generated. Affordable housing provided to key workers.	Barangaroo Delivery Authority; Lend Lease, Barangaroo South
Central Park	NSW	5.8 ha multi-stage mixed use urban renewal project in Chippendale with residential, commercial, retail and the possibility of hotel accommodation.	On-site trigeneration plant and water recycling plant. Minimum 5 Star Green Star ratings for buildings. Extensive green wall on One Central Park tower. Car share facilities to reduce private vehicle use. $32 million contributed to affordable housing.	Frasers Property and Sekisui House
Bays Precinct	NSW	2 km west of Sydney CBD, the Bays Precinct comprises 80 ha of land and 94 ha of water to turn into new housing and areas for recreation, retail, tourism, commercial and maritime use.	TBC. A recent summit called for sustainability outcomes. See **our stories**.	Led by UrbanGrowth NSW
Parramatta Square	NSW	3 ha mixed-use redevelopment located in the Parramatta CBD. Six stages that will feature commercial, retail, residential, civic facilities and public space.	Registered for Green Star – Communities, with all buildings built to 5 Star Green Star standards.	City of Parramatta; Leighton Properties
Bondi Junction	NSW	The Bondi Junction 2030 strategy aims to create a sustainable precinct with active streets, accessible transport and efficient buildings.	Aims to reduce emissions by 30 per cent by 2020. Sustainable solutions under investigation include underground waste collection, distributed energy and water systems, and light rail.	Waverley Council
Green Square Town Centre	NSW	A 14 ha precinct in Green Square at the heart of a 278 ha urban renewal project, comprising residential commercial and retail built around a series of public plazas, parks and community facilities.	Stormwater drainage and recycling system; trigeneration plant and “private wire” system to share electricity. Three per cent of residential floor area must be affordable housing.	Urban Growth NSW and the Green Square Consortium (Mirvac Green Square) delivering ~40 per cent of private buildings; City of Sydney
Docklands	Victoria	Mixed-use urban renewal project 2 km west of Melbourne's CBD with residential, commercial and retail over 190 hectares, including 44 hectares of water. Precincts include Waterfront City, Digital Harbour, NewQuay, Central Pier, Victoria Harbour, Yarra’s Edge, Stadium Precinct and Batman’s Hill. Due for completion in 2025.	Features highest concentration of Green Star projects. Mandatory minimum ESD guidelines for all projects.	Places Victoria
Fishermans Bend	Victoria	An industrial area near Port Melbourne being transformed into a 248 ha mixed use precinct to be progressively developed over 40 years.	The former Coalition government did not commit to sustainable development benchmarks above required minimum in code, though a previous Places Victoria plan imagined affordable housing, sustainable housing and integrated public transport, and the City of Port Phillip is pushing for better sustainability outcomes.	Metropolitan Planning Authority, City of Port Phillip, City of Melbourne, Places Victoria
Tonsley	South Australia	A 61 ha site agricultural and industrial site 12 km from Adelaide CBD to become combined industrial, commercial, education and residential precinct expected to house around 1500 people.	Seeking a Green Star – Communities rating. Sustainability features include adaptive reuse of existing buildings and materials, minimisation of waste and maximisation of water and energy efficiency, mix of densities public transport connection.	RenewalSA
Bowden	South Australia	A 16.3 ha site on the edge of Adelaide's CBD being developed into a sustainable community with a focus on placemaking.	Seeking a Green Star – Communities rating. All buildings will use sustainable design principles with regard to solar access, ventilation, and resource, energy and water efficiency. All buildings will meet 5 Star Green Star standards. Bikes and public transport as primary transport mode.	RenewalSA
Minda	South Australia	Mixed use multistage development in Brighton, Adelaide designed around the needs of people with intellectual disabilities and the aged, accessible to the broader community. Includes residential, commercial, retail and lifestyle activities.	Master plan embeds sustainability, including energy efficiency, vegetation protection and enhancement, and wetland stormwater capture and purification scheme.	Minda

NAME	STATE/ TERRITORY	DESCRIPTION	SUSTAINABILITY HIGHLIGHTS	PROPONENTS AND PARTNERS
Kurilpa Riverfront Renewal Project	Queensland	25 ha of land and 1 km of river frontage home to industrial to be transformed into a mix of commercial, retail and residential development with public space. Final master plan due mid-2015.	Draft master plan says climate resilience to be embedded into buildings through passive solar design and natural ventilation, as well as community gardens and green roofs/walls.	Brisbane City Council and Queensland government
Northshore Hamilton	Queensland	304 ha site with 2.5 km of riverfront 6 km north-east of the CBD to be turned into residential, commercial, retail, community events and public space.	Queensland government says it is committed to ensuring ecological sustainability is incorporated into planning and development activities. Awarded UDIA EnvironDevelopment certification.	Economic Development Queensland
Caloundra South	Queensland	A masterplanned community to be built on a 2310 ha former forestry site on the Sunshine Coast. Marketed as a community of interconnected villages with local hubs comprised of parks, community services, retail and schools. Developer Stockland says it can achieve self-sufficiency in jobs, education and services.	Seeking a Green Star – Communities rating. 700 ha to be set aside for conservation. Stockland intends to implement a whole-of-site integrated water management system including water capture and reuse, and stormwater treatment through rain gardens. Will also encourage renewable energy, alternative transport and waste management.	Stockland
Riverside	Western Australia	A 40 ha develoopment with a mix of residential, commercial and public spaces. Key precinct is Lend Lease's 6 ha Waterbank, built on a reclaimed landfill site, which will feature green space, wetlands and a beach.	Waterbank will seek a Green Star – Communities rating, with buildings designed to 5 or 6 Star Green Star. Blackwater recycling, green roofs, waste management systems and climate adaptation measures will be built in.	Metropolitan Redevelopment Authority; Lend Lease
Perth City Link	Western Australia	Urban transformation of 13.5 ha of rail corridor, vacant land and old building stock, reconnecting the Perth CBD with Northbridge. A mix of mix of retail, housing, entertainment and commercial venues. Kings Square to be a key commercial precinct.	All commercial buildings in Kings Square seeking 5 Star Green Star ratings, using lifecycle analysis. Light rail connection planned, though has been delayed.	MRA, Public Transport Authority, City of Perth; Leighton Properties. Mirvac
Elizabeth Quay	Western Australia	10 ha of public green space, high-density residential, hospitality and commercial office space on Perth waterfront.	Extensive green space and native vegetation. Elements to reflect tradition owners, the Noongar people. Prioritising public transport, walking and cycling. Waster sensitive urban design. Minimum 5 Star Green Star or equivalent.	MRA
Greater Curtin	Western Australia	114 ha site to transform into integrated city home to education, business, housing, public transport, arts and community space at Curtin's Bentley campus.	Public space to encourage connectivity, light rail connection, innovative sustainable buildings, integrated biodiversity, water sensitive urban design, low embodied energy.	Curtin University
The Avenue	Northern Territory	Masterplanned, mixed-use precinct over 1.7 ha in Darwin featuring residential apartments, strata-titled commercial tenancies, entertainment and retail.	First sustainable precinct in Darwin. Has UDIA EnviroDevelopment accreditation. Centralised chilled water airconditioning systems with waste heat used for hot water and condensation used for irrigation. Edible gardens, solar, lighting control and LED lighting.	Osborne Family Holdings
New Acton	ACT	Mixed use precinct incorporating landscaped gardens, art, retail, residential and commercial space close to Lake Burley Griffin. Focus on placemaking. Features energy efficient Nishi building – home to hotelhotel, commercial space and residential apartments.	Nishi delivers an average 8 star NatHERS rating, with efficient appliances, fittings and fixtures. Features solar thermal hot water, passive solar design, natural ventilation, rainwater collection and high-performance glazing.	Molonglo Group
The Loop	ACT	A 40,000 sq m mixed-use development in Canberra combining apartments, retail and office space designed to be a socially, economically and environmentally sustainable community.	Community-oriented, with shared paths, public transport, community gardens and BBQ areas. Rooftop solar, wind power and geothermal systems. Waste water treated and returned to precinct. Residents can monitor energy use with precinct-wide energy management system. Plug-in points for electric vehicles.	Rock Development Group

THE FIFTH ESTATE'S
CREATING SUSTAINABLE PRECINCTS

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