Vision: Broadmeadows 2032
Eco-Acupuncture: Enabling localised design interventions

What might a sustainable suburb look like and how might we make it happen?
COVER LEFT: Residents live in more compact houses, sharing outdoor space and facilities. Sharing outdoor space allows more houses and a collective investment in sustainable infrastructure such as small local water recycling systems and productive gardens. Design: Linton Wood, Hao Meng, Teh Say Chun, Kei Kai Fung. Studio leaders: Barnaby Bennett, Malte Wagenfeld, Mark Burny, RMIT University.

COVER RIGHT: Meadowlink creates an active link with Merlynston Creek, opening up the creek to recreational activities such as community gardens. Design: Lily Hsu. Studio leader: Sidh Sintusingha, University of Melbourne.
ABOVE LEFT: The downsizing and relocating of industry within Broadmeadows creates opportunities and sites for change. The old Ericsson Factory was the site for the VEIL exhibition. *Photo: Maggie Bufe.*

ABOVE RIGHT: Old houses offer residents little resilience to the violent storms and heatwaves that are occurring because of changing weather patterns. Can these also become sites for change? *Photo: Maggie Bufe.*
Vision: Broadmeadows 2032
Eco-Acupuncture: Enabling localised design interventions

What might a sustainable suburb look like?

Setting up the Broadmeadows 2032 exhibition in the former Ericsson Building.

The Broadmeadows 2032 exhibition was held at the empty Ericsson factory. The exhibition offered the chance for former workers to visit the site.

Vision: Broadmeadows 2032
Hume City Council
Eco-Acupuncture
Design Hub – Professional Contribution
Introducing the Key Themes
Introduction to the Design Studios
Architecture Studio
University of Melbourne
Landscape Architecture Studio
University of Melbourne
Architecture & Industrial Design Studio
RMIT University
Architecture Studio
University of Melbourne
Industrial Design Studio
Swinburne University
Systems and Services Studio
Swinburne University
Visual Communications Studio
RMIT University
Industrial Design Studio
RMIT University
Industrial Design Studio
RMIT University
About VEIL

ROW 01: Lily Hsu; Brent Leheny; Natasha Susanto.
ROW 02: Alison Armstrong; Dai Le; Dai Le.
ROW 03: Christina Cham; Yee Hui Xian; Beaudene Fulwood.
ROW 04: Vina Kosasih, Lee Juen Yap, Linda Nguyen & Nae Hee Kim; Dai Le; Adam Papanicolou.
ROW 05: Philippa Hayden; Chris Rosetto; Michael Black.

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Vision: Broadmeadows 2032
Project introduction

Over the coming decades we will face significant increases in the price of oil, an increase in extreme weather events, and probably an increase in extreme weather events. How do Australian cities and communities respond to these changes?

One of the great challenges for the design of Australian cities is the re-visioning and re-fit of the existing low-density suburban fabric, the principal urban form of greater Melbourne and many Australian cities. How do we transform these locations into resilient low-carbon neighbourhoods and precincts, which are healthy to live in and support local employment and industry with appropriate provision of food, water, energy and transport?

This design research and visioning project, Eco-Acupuncture 2010: Broadmeadows 2032, is the most ambitious project yet to be undertaken by VEIL. It has involved a review of the large body of work from the earlier EBD (Ecological Business District) project and a commission by the Department of Sustainability and Environment to services, public infrastructure, new regions, covering social, landscape, water, transport, economic and CAD development, and future plans.

In the second half of 2009 and early 2010 a series of workshops were held with Hume Council staff, local experts, community representatives, design professionals and VEIL staff. Hume Council staff members presented an overview of the city and its regions, covering social, landscape, water, transport, economic and CAD development, and future plans. Other workshops were held with Hume Council staff presenting an overview of the city and its regions, covering social, landscape, water, transport, economic and CAD development, and future plans.

A design exploration workshop was held in the Global Learning Centre at Hume, opened by Jenny Mikakos, Parliamentary Secretary for Planning. The Mayor of Hume, Geoff Porter, the Director of Sustainability, City of Hume, Ken Collins, General Manager for Sustainable Environments, Sustainability Victoria, Geoff London, Victorian Government Architect; and Professor Chris Ryan, Director of VEIL, also spoke.

The ideas from that Design Event became an exhibition in the Global Learning Centre at Hume in March: Hume 2032 – Eco-Acupuncture 2010. This was opened by the Mayor of Hume, Councillor Geoff Porter. At the same time, eight design studios at the University of Melbourne, RMIT University, Monash University and Swinburne University took up the ideas as the briefs for the projects of around 150 students in architecture, urban, landscape, industrial and communications design.

On 19 July, 2010 the Vision: Broadmeadows exhibition opened in the disused former Ericsson factory in Broadmeadows as an anchor event in the 2010 Victorian State of Design Festival. The exhibition featured the work of 80 students who had participated in the University design studios and created a central conversation space, with furniture supplied by leading Broadmeadows-based companies, all pioneers in sustainable manufacturing and production. It was opened by Jenny Mikakos, Parliamentary Secretary for Planning.

Re-vision – and progressively transform – an existing urban precinct in Melbourne

During the second half of 2009 a large landscape design studio from the University of Melbourne – ‘Designing the Sustainable Landscape’ – was based at the Broadmeadows railway station. The council staff saw the VEL as an exciting complement to the CAD planning and development process. Additional consultations for this project involved Melbourne Water and Yarra Valley Water, the Victorian State Government Department of Planning and Community Development. The Local Sustainability Accord and Origin Energy. Experience was also drawn from two parallel VEL projects – participation in the studio for Island and a commission by the Department of Sustainability and Environment on visions of water-sensitive cities.

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VEIL has been an invaluable provocateur running in parallel throughout the structural planning process and has challenged notions of what the near future may hold. By implanting alternative visions and illuminating pathways to them VEIL has, in a very real and tangible way, interacted with that process.

This intervention has been achieved most successfully by transcending the scale at which large-scale planning can operate. VEIL has discovered unique and local relationships and amplified them, and by doing so has provided a means of linking up the grassroots ideas with the big picture planning. This immersion with the local subject matter is the strength of VEIL’s program of engagement and has revealed a wealth of social capital that can drive the transition to a sustainable future.

VEIL has been an invaluable provocateur...
Eco-Acupuncture
Designing points of intervention in the current condition to ‘release’ new trajectories of development

In this approach to changing trajectories of development and overcoming paralysis and short-term resistance, our aim is to identify opportunities – small domains of potentiality – that can become sites of design intervention to shift the path of innovation on a new trajectory towards sustainable, resilient conditions.

The critical characteristic of design interventions is that they can ‘start small’ (so they are within the reach of community resources), and they have large systemic effects.

Our purpose was to intervene to reinvigorate the eco-system of urban life and change the path of innovation and development towards resilient, low-carbon living. Our aim was to design small interventions that can redirect the forces – the meridian lines – that shape development, towards a more distributed system with ultra-low environmental impact (particularly in relation to greenhouse gas production) and greater social wellbeing.

The result was new projects: on ‘the ground’ that can release new community energy and support for a new trajectory of development. We consider eco-acupuncture for the eco-system of urban life in the following ways:

A) Re-structuring essential ‘life support systems’: energy; water; food.
B) Realigning the essential ‘flows’ of social and economic life (to support the above): transport and mobility; information and knowledge.
C) Re-shaping the physical, constructed, environment to enable the above changes: physical infrastructure; residential; work/office/commerce.
D) Restoring essential social services to function in the new urban eco-system: economy and business; education; health.
E) Re-inventing lifestyles for community health and sustainable prosperity: creative expression; leisure; sharing.

Eco-acupuncture design thinking:

Eco-acupuncture is one way of working with the energy flows that define the human landscape, and a way of thinking about the environment in terms of the need to change the design of the ‘body’ of the eco-system, rather than the landscape, to reinvigorate the eco-acupuncture of urban life.

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Eco-Acupuncture (continued)

The metaphor of ‘urban acupuncture’ was apparently first used by Jaime Lerner, the ex-mayor of Curitiba in Brazil, to explain (in retrospect) the success of its urban development approach that has become such a global model and icon. Acupuncture seems rich and apposite to describe what VEIL aims to achieve in its work to revision – and change – existing (sub)urban residential and commercial districts.

The eco-acupuncture 2010 process for the Re-visioning Hume project exploratory work by VEIL in collaboration with the Hume City Council identified a series of likely intervention points (point ‘C’ on page 8) – physical locations that are seen as being domains of potentiality. Those are the starting points. As in any complex body, urban or otherwise, all these system lines will intersect and interact, and those interactions provide the design challenge and opportunities.

ENCOUNTER: Often new things just have to be seen – and experienced – to become a real possibility in the minds of those who would otherwise reject the idea. (For example, think of developments that offer smaller private space with greater, higher quality public space; a good idea that often has to be experienced before it can be accepted as a reasonable trade-off).

REPLICATE: Even a small design intervention can create interest in replicating (or adapting) it elsewhere. (If it works here, why not there?)

AMPLIFY: Taking something that currently exists from obscurity to prominence through design. Small things may be able to grow to be large enough to have a wider impact through the agency of design.

REGENERATE: Old things – cultural, physical or economic – can sometimes be renewed and reinvigorated through design – the lost becomes found again.

SIMPLIFY: The existing world can become so large and complex that connections can be broken, for example, the feedback between action and impact. Dependence on big systems can stifle imaginative action and local innovation.

MAKE TRANSPARENT: Life-critical resource provision (e.g. water, energy, food) is often hidden so the pathways of production and consumption are essentially invisible. Making things (and information) visible – transparent – can change consumer awareness and behaviour.

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Design Hub – Professional Contribution
A workshop to engage with Melbourne’s professional design community

During the iterative research and design process of the Broadmeadows project, VEIL held two design workshops that explored, tested and refined the research and design themes. The first, a stakeholder workshop with council and state government officers, explored the impending needs and opportunities of the local area. Material from this workshop tested emerging ideas and research from the Landscape Architecture Studio, University of Melbourne, and produced material that informed The Hub, and the second workshop, the Broadmeadows Design Event.

The Broadmeadows Design Event was a two-day design charette held towards the end of February 2010, prior to the commencement of the 2010 university design studios. The Design Event was an opportunity for VEIL to share the excitement of the Broadmeadows project with Melbourne’s professional design community. It also allowed VEIL to test and extend the thinking and design that had already taken place, encouraging some of Melbourne’s most creative minds to explore the complex issues facing a suburb such as Broadmeadows.

The event allowed VEIL to seed ideas within the professional design community, those who were likely to be directing the development in Broadmeadows in the near future. Designers who participated included: Denis Smitka (Swinburne University); Ian Wong, Tania Ivanova, Malte Wagenfeld, Simon Whibley, Julie Werner, Lan Tian, Huter Plaasam, Simon Venturi (all RMIT University); Ammon Beyerle, Nicola Dovey, Edan Weis (University of Melbourne); Dianna Yacoub, Matthew Wilson (Hume City Council); Ralph Webster (MCC); Yurie Tyblewych (AECOM); Andrew Maher (ARUP); Shayne Lacy (Lab Architects); Rudy Darmawan (Design Inc.); Peter Brew (SHD); Lisel Dole (Smirthwaite Architects); Nynke Klaassen (Rotterdam Eco-Innovation Lab); Berne Walton (Berne Walton Art & Design).

Encouraging some of Melbourne’s most creative minds to explore the complex issues

Working with the Urban Design Team at Hume City Council, VEIL selected a series of sites that were domains of potentiality – opportunities for significant design intervention within the local area. Four sites were chosen: the two local activity districts of Dallas Shopping Centre and Olsen Place; the Eastmeadows precinct (including the Ericsson site and Broadmeadows Primary School); Seabrook Reserve, and the Central Activities District (CAD), the Hume Central Precinct. With the help of our partners, the Photographic College of Melbourne, the selected sites and their surrounding suburban fabric were photographically documented prior to the event. The photos became important tools for the design participants during the event.
The Design Event was an immersive experience aimed at introducing participants to the diverse nature of the area. Multicultural catering, a local tour by bus and lunch at the local kebab house, were all aimed at introducing the designers to the culture and the residents of Broadmeadows. Designers returned from their visit having collected cultural artefacts, images, ideas, and stories about the local community. Most were overwhelmed by the warm welcome they received from the local community, telling stories of BBQ invitations, tea drunk at the international coffee houses, food that was grown locally and sold to local retailers. Others had climbed through holes in fences to explore abandoned sites that had been transformed into rudimentary gathering places for local youth or as dumping grounds for unwanted goods.

Upon returning from their excursion the design teams developed their initial reactions and ideas. Each team was given a site, and had the task of identifying opportunities for distributed and connected design interventions across a variety of themes (eco-acupuncture meridians).

Responses included:

- Food corridors connecting the local activities districts while promoting walking and cycling; active food fronts in shopping centres and residential areas.
- Night markets at the CAD which celebrated the multicultural community and local food systems. The markets would activate the city centre and create a public space where families could feel safe in the evening.
- Urban Oases, public spaces that responded to heat stress, offering the community and wildlife some respite from the heat.
- A water recycling system at Seabrook Reserve. The system would efficiently reclaim water from nearby industrial sites and treat it, creating new recreational spaces that both celebrated water and improved the health of the creek.
- A renewable energy incubator based on the former Ericsson factory site. Over time the incubator would experiment, trial and implement innovative renewable energy technologies. The project would retrofit the ageing buildings while providing low cost or perhaps even free energy to the local community.
- A food and cultural exchange looks at linking the two local Activity Districts of Olsen Place and Dallas Mall with a trail of food and cultural activities.

The design event was run as an open studio, giving designers the dual task of exploring themes while producing material for an exhibition. A production team, comprised of students from the recently completed Broadmeadows ‘Designing the Sustainable Landscape’ landscape architecture studio, helped the designers with local information and the production of design material, visualisations and communication of the initial creative thinking and design responses.

The exhibition was held shortly after the event, with work from the design event forming an important part of the final exhibition and acting as a design brief for students who were about to begin their Broadmeadows studios. Many of the design ideas produced by the event were explored further by students in the following months, echoes of which can be seen throughout this publication.
Introducing the Key Themes
Identifying the principal areas of activity fundamental for a resilient future

16 Vision: Broadmeadows 2032

In early workshops, designers (from local and international design and engineering practices and the VEL university teams) were asked what changes could take place locally to help Broadmeadows meet their future daily needs. How could the community turn their 2010 pressures into local assets by 2032? What changes to vital systems of provision (water, food, energy, transport, built infrastructure) could provide for resilience and support a stronger local economy? What new businesses could develop? What new types of housing could be created? How could people interact with water, food, and energy? How could local systems be developed with ultra-low environmental impacts that also created a greater sense of social wellbeing?

The Broadmeadows project progressed through a series of design studios in the VEL partner universities. Key themes emerged, both from the workshops and the design studios: these became ways for designers to re-imagine Broadmeadows in 2032 as a more sustainable and resilient suburb, a community that was not simply surviving but thriving in a new low-carbon future.

Broadmeadows became an important and much needed human-scale connection across the railway and busy arterial roads. The project creates a recreational route that opens up Merlynston Creek to a range of community recreational activities. Its approach extends to new food-related corridors linking important local shopping strips.

Eastmeadows becomes a significant redevelopment intervention that greatly increases the housing diversity of the area, supporting the growth of a sustainable community, creating a culture for innovation and experimentation, taking on the mantle of a ‘living laboratory’ that proudly tests the effectiveness of new, sustainable technologies. Large parcels of land allow for grand visions, new infrastructures, new businesses, eco-industry and new models of living. Eastmeadows becomes connected to the city by building over the railway lines, creating new transit stations and residential areas.

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Introducing the Key Themes (continued)

The CAD development comes to reflect some of the vibrancy of the LADs and connection to Eastmeadows, and the transformed shopping strips create new openings for demonstration projects that allow CAD workers and residents to experience the benefits of new sustainable systems. Visible recycling and treatment systems create new public domains that increase biodiversity and adapt to climatic events. The environmental characteristics of the CAD extend beyond energy-efficient buildings into new and sustainable patterns of living.

CONNECTED COMMUNITIES

‘Connected communities’ describes a new trajectory for the conventions of suburban living that could emerge from eco-acupuncture interventions today. Environmental efficiencies and economic benefits are delivered through sharing of space, residential infrastructure and local resources. Design trajectories were based on the development of a more interactive community, with backyards used more productively, neighborhood cooperation for access to more productive and ‘semi-public’ as shared courtyards and garages to a range of new semi-public activities. The community lines up space for collective activities. Benefits and opportunities become clear to other residents and these land use patterns are progressively replicated.

In the first scenario, underused private space becomes productive and ‘semi-public’ as shared courtyards and gardens are progressively cooled up. Neighbors take down parts of fences and open up front yards and garages to a range of new semi-public activities. The community lines up space for collective activities. Benefits and opportunities become clear to other residents and these land use patterns are progressively replicated.

In the second scenario, a new suburban model of development emerges from a spirit of cooperation and connectedness. Small-scale infill development creates micro-communities as two to four suburban house blocks are reconfigured to provide for eight to ten residential houses. Density is effectively doubled, house blocks are reconfigured to provide for eight to ten residences. Other neighbors join the trend and the block is transformed.

Sustainable lifestyles are promoted through shared facilities, productive activities and new social opportunities with neighbours.

Having a more designed and coordinated development process is the key to these small-scale development visions. Rather than a piecemeal approach with small developers subdividing properties, there is a new role for councils to facilitate cohesive renovation for redevelopment of connected neighborhoods.

BROODY FOOD

Food, water and energy are critical systems of provision for human settlements. Currently these systems are centralised with resources supplied uniformly, often from a great distance. There is a clear and growing interest within the community for citizens to change their passive role as consumers to be actively connected with the production of vital resources. This is particularly clear in relation to food. Localized food systems can make efficient use of local resources and offer people a way of engaging with the ‘creation’ of food. Eco-acupuncture interventions can change the way people use public space, creating new productive urban landscapes that increase the diversity of food supply.

Broadmeadows offers significant opportunities for local food systems. It is close to the urban fringe with natural water and land assets. The area was once grassland between two creek-lines, with a long history of productivity. Pre-settlement Wurundjeri tribes used the area for hunting and fishing. It was later settled by pastoralists who were attracted to the flat grass plains and the water supply for cultivation.

Eco-Acupuncture 2010: Broadmeadows 2032

TOP RIGHT: An information website for the community explaining food miles and providing information about local food. Design: Studio leader: Mark Strachan, Swinburne University. Studio team: Edwin Tan, Tom Giraud, Lea Zarnowski, Barnaby Bennett, Malee Wilpington and Mark Burry, University of Melbourne.

BOTTOM: New patterns of development emerge. Here four residential houses are combined and shared to create a micro-community. Design: Studio leader: Mark Burry, University of Melbourne. Studio team: Malte Wagenfeld, Ammon Beyerle and Lisa Dew, University of Melbourne.

Eco-Acupuncture 2010: Broadmeadows 2032

TOP RIGHT AND LEFT: Neighbors initially take down a fence to help maintain a large vegetable garden. Over time the trend continues and the back yards become shared community systems. The neighbors self-organize to create small-scale energy systems. Design: Brent Leheny. Studio leaders: Ammon Beyerle and Lisa Dew, University of Melbourne.

Eco-Acupuncture 2010: Broadmeadows 2032

OPPORTUNITY VALUES PURSUIT

-INITIALLY 4 PLOTS ARE SOUGHT AND DEVELOPED

-RELABLING EXISTING RESIDENCE DEVELOPMENTS AND SMALL LANDS IS ENSURING PARTNERSHIPS WITH NEIGHBOURS

DEVELOPMENT MOVES TO ENTER

CHEMICAL RELATIONSHIP BETWEEN ALCOHOL AND WATER

-Inhibitory outcome with tenants that do not wish to enter share

-Possible outcome with tenants that do not wish to enter share

-Possible outcome with tenants that do not wish to enter share

-OPTIMAL OUTCOME PROVIDING LARGE AND VARIABLE SUBURBAN SPACES

Ammon Beyerle and Lisa Dew, University of Melbourne.

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Introducing the Key Themes (continued)

Design scenarios saw growing opportunities for localized food systems from parcels of underutilized land. Productive gardens emerge near underutilized water assets, with strong community involvement. Food-related developments take a central place in community development:

- Council facilities: urban orchards that recycle water from residential areas, creating markets, educational and business opportunities (such as community cooking facilities and classes).
- Multischool gardens quickly diffuse out into residential areas. Residents from different cultures grow their traditional foods alongside each other, leading to cultural knowledge and increasing diversity.
- Gardens and markets are located along the creek lines with new bike paths and pedestrian walkways creating new, vibrant recreational areas.
- Demonstration gardens appear in the centre of the city, making use of organic waste and water from residential areas, creating markets, and urban farming, all developing rapidly.

... continued in the next page...
A local renewable energy company uses the existing skill-set of local workers supported by Kangan Batman TAFE. The natural wind assets of the area are utilised to support a diverse range of wind power systems. These are relatively low-tech and low-cost compared to other energy technologies. This demonstrates that renewable technologies can have multiple benefits of job creation, education and training, new manufacturing and clean energy. Community uptake occurs in diverse private companies offering residents innovative share and renting schemes. Community energy cooperatives are supported by the council and this state government. These local eco industries (such as Aquaponics and Hume Wind) show that new industry can grow from existing conditions and assets within the community, supported by local education, businesses and ‘linking’ incubators.

A NEW MOBILITY
In 2010 Broadmeadows is a typical sprawling suburb; road use is rearranged in residential areas, by most people. Cycling becomes the focus for support programs; road use is reasserted in residential areas, with off-road cycling corridors, on-road way-finding systems for cyclists and new inter-modal connections. Amenities and hubs support the community to undertake many of their daily activities by bike. The growing shift in behaviour sees new businesses forming, including small bike manufacturers producing new local ‘Breadly’ bikes, bike labs and bike-based delivery services, which are very popular around Clean Place, Eastmeadows and Dallas shopping centres. There is a new emphasis on moving people around rather than through the suburb and new bus exchanges appear in the LADs.

WATER-SENSITIVE
Andreas认为，在Broadmeadows，有许多本地的环境系统，促进溪流健康并保持活力。溪流是社区的最珍贵资产——一个土耳其浴屋，位于Seabrook Reserve，旁边是Melbourne Water的水库。Baths出现了，保持了Broadmeadows的水敏感文化和遗产。新出现的水处理和回收系统；溪流和社区的水箱为当地居民持续提供水资源；废水被收集和处理，用于非饮用目的。身体和淋浴室可以使用雨水，而雨水敏感的社区庆祝但不浪费水。

Water is celebrated in different ways, reflecting its aesthetic, cultural and economic value. Water becomes a ‘cyclical’ resource within local areas. Suburban catchments capture and treat water locally, wetlands, rainwater tanks and community tanks store water for local use; waste water is cleaned and reused for non-potable purposes. Recycling and treatment sites create vibrant public spaces that engage the community, while providing opportunities for education and performance of local water systems. Wetlands and rain gardens create small oases that increase biodiversity, and create micro-climates, offering respite during heatwaves and reducing the heat island effect.

Introducing the Key Themes (continued)
Introduction to Design Studios

Releasing the potential for local opportunities through design visioning

At the core of the action research undertaken by VEIL is an evolving ‘think-tank’, referred to as The Hub. The Hub has design academics seconded from the design schools of Victorian universities. Researchers from various academic and other institutions, representatives from industry, government, environment and community groups, also contribute to the thinking of The Hub. The work of The Hub combines research, analysis, design speculation and evaluation, resulting in visions, concepts, reports and papers that identify fruitful long-term (typically 25-year) scenarios for sustainable solutions products, services, systems, lifestyles, built environments and infrastructure. These long-term visions and eco-innovation ideas are then formulated as ‘design studio’ topics for the university design schools. Through these design studios, ideas and visions are further researched and tested by hundreds of later-year design students as part of their academic learning.

The work of the eight design studios, engaged as part of the Vision: Broadmeadows 2032 project, spans a broad range of design disciplines from architecture and landscape architecture to industrial design, communication design and service design. While each of the design studio visions can be viewed in isolation, each addressing a particular design challenge, it is the intersections between the individual projects and the combined impact of the design thinking that builds the transformative VEIL design vision and trajectories for this project.

At the end of this design studio process, the student work was exhibited at the former Ericsson Building in Broadmeadows, a vast, disused factory complex which itself featured in a number of the design projects. This exhibition was presented as a major event in the 2010 Victorian State of Design Festival program. Feedback from the public, community groups and government was sought. The ideas canvassed in the exhibition by the students are now forming part of a Hume City Council initiative to implement innovative sustainable design projects within the city, seeing a further development of those ideas by the council, the state government and professional designers.

TOP RIGHT, BOTTOM LEFT AND RIGHT: A small exhibition was held at the Global Learning Centre, informing students about to embark upon their Broadmeadows studio projects.

TOP RIGHT: Walking groups are coordinated as a health and social activity for an ageing community. Dedicated routes are identified and assistance points and wayfinding information are located along the routes. Design: Daniel Nguy. Studio leader: Simon Curlis, RMIT University.

BOTTOM LEFT AND CENTRE: Walking groups are coordinated as a health and social activity for an ageing community. Dedicated routes are identified and assistance points and wayfinding information are located along the routes. Design: Daniel Nguy. Studio leader: Simon Curlis, RMIT University.

BOTTOM RIGHT: Large parklands offer great opportunities for local water storage and use. The wetlands enhance the parks while creating opportunities for community education and engagement. Design: Adam Papanicolou. Studio leader: Sidh Sintusingha, University of Melbourne.
In this studio we wanted architecture to engage with the everyday. Mess: Everyday Babylon was about suburban ecology, dispersed networks, people, diversity, social and material flows and filters – not just architectural aesthetics. Students endeavoured to participate with, respond to and create messy reality, very different from their previous studio experiences.

With the use of iterative visions, diagrams and images, re-imagining a sustainable future became about listening and speaking, imagining, proposing and positively critiquing norms, while remembering to answer the big question: how do we get there?

Our studio discussion involved multidisciplinary guests and critics throughout the semester.

STUDIO LEADERS: AMMON BEYERLE AND LISA DEW

Ammon Beyerle teaches architecture and urban design at the University of Melbourne, recently commencing a PhD in Architecture and Landscape Architecture. He has worked as an engineer and architect in Australia, France and Japan. Ammon Beyerle has undertaken research and taught at the Universities of Melbourne and Monash University. He has worked as an architect in Australia, England and Singapore.

TOP RIGHT: As behaviour in the community changes, streets are realigned to accommodate more community activity, mess, shared public spaces are built in close streets offering the community more connected public space. Design: Phillip Mak. Studio leaders: Amnon Beyerle and Lisa Dew, University of Melbourne.

MIDDLE RIGHT: The Olsen Place activity district has been transformed from a shopping mall into a vibrant public place. Goods and community information are exchanged. Design: Robert Ventresca. Studio leader: Amnon Beyerle and Lisa Dew, University of Melbourne.

BOTTOM LEFT AND RIGHT: Local Activity Districts are places of community interaction, local centres of house activity reconfigure the street and increase opportunities for passive interaction. Design: Li Ming. Studio leaders: Amnon Beyerle and Lisa Dew, University of Melbourne.
Sustainable Sprawl
Landscape Architecture Studio, University of Melbourne

The studio engaged with Environmentally Sustainable Design (ESD) principles as applied to the open spaces of Hume City Council (HCC). For the second time, the subject ran in conjunction with VEIL, conceptualising VEIL’s project site at Hume’s designated ‘Central Activities District’ (CAD) at the current Broadmeadows Shared Vision Precinct as the catalytic site for alternative, ‘sustainable’ developments that potentially ‘sprawl’ into the rest of HCC with an area of 504 km².

In the first group phase, students investigated open spaces and ecological/urban patterns of HCC and CAD, and then speculated on alternative future scenarios framed by design/planning interventions over time. From these broad design/planning frameworks, students individually defined their own sites for finer-scaled landscape interventions, integrating their personalised interpretations of sustainability and selected ESD techniques.

The landscape architecture studio served as a pilot, providing highly diverse conceptual and spatial frameworks and references, for the later VEIL studios addressing other disciplines. As this was a new cycle of VEIL projects, cross-disciplinary design ideas and processes from the previous EBD project informed and enriched the studio, expanding both conceptual and practical possibilities. As Hume is an economically disadvantaged area, relative to other city councils of Melbourne, and also designated as one of the major growth areas, it provided an ideal experimental context for bold urban ideas and interventions on multiple scales.
NextGen: Affordable Housing
Architecture and Industrial Design Studio, RMIT University

NextGen: Affordable Housing was run as a transdisciplinary studio at RMIT with students from architecture and industrial design. It was one of two sister studios, along with a class led by Professor Tom Barker at UTS in Sydney, which focused on the growing problems of building sustainable cities and housing affordability in Australia. Currently, Australia has the least affordable housing anywhere in the world and a patchy record of effective urban design. Its vast, sprawling cities are infrastructure intensive, especially transport and services, and consequently require disproportionate amounts of energy input, with correspondingly high greenhouse gas emissions. Fundamental to this course was a commitment to the socio-cultural transformative capacity of architecture and industrial design. The studio followed a collaborative design research approach that used sketch models to elaborate and test design propositions.

The broad focus on a society with all too real planning and design problems highlights the true nature of design-led research where teaching is a cooperative process without predetermined outcomes. The real power of such a studio model is to challenge both students and academics to tackle increasingly acute and difficult problems such as food supply, energy, transport and complex communities, where answers are not easy or solvable. The overall aim of this type of studio is to focus the energies of our youngest and brightest designers onto the clear and present dangers of tomorrow. The Broadmeadows site and the challenges of the vision brief allowed students to develop their ideas in the context of a real site with very complex issues. This gave the students great focus while exposing the real difficulty of dealing with such a design task.

STUDIO LEADER: MALTE WAGENFELD
Malte Wagenfeld is a designer and researcher whose explorative designs and writings have been internationally exhibited and published. Current research at Spatial Information Architecture Laboratory (SIAL) is investigating approaches to creative atmospherics in the face of climate change. Malte is Senior Lecturer and Program Director of Industrial Design at RMIT University.

STUDIO LEADER: BARNABY BENNETT
Barnaby Bennett is a Melbourne-based designer and researcher at RMIT’s Arts by the Bay as a senior lecturer, press officer and researcher. He manages the band Spartacus R.

STUDIO LEADER: MARK BURRY
Mark Burry is Professor of Innovation and Federation Fellow. He is the Founding Director of SIAL, RMIT University, Founding Director, RMIT University’s Design Institute, and Executive Architect and Researcher to the Temple Sagrada Familia, Barcelona, Spain.

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The studio program was practical and project-driven. Our catch phrase was ‘real sites, real research, real communities, real concerns, real constraints, real approach, real results’. We had a mission to present a vision for an ecologically and socially sustainable civic gesture in Broadmeadows which would act as a catalyst for further positive change in the community. The students had private tutorials with experts in structural, facade and services engineering, urban design, building standards, ecological sustainability and graphics. While the studio was pragmatic, it was not dogmatic, and students were encouraged to push their proposals to be vibrant and expressive of their chosen focus. Cultural, environmental and community sensitivities were paramount.

Concepts and counsel presented by VEIL throughout the semester provided the students with a valuable springboard and sounding board to inspire and guide their work. Students had an experience close to a working architect. Those who addressed the range of constraints and concerns as if the project would be built while imbuing the project with an architectural charisma did best.

STUDIO LEADER: SIMON COOKES
Simon Cookes completed a Bachelor of Property and Construction / Architecture with Honours at the University of Melbourne. He worked for Mills Gorman and ARM Architects in Melbourne and Edward Suzuki Architects in Tokyo. Now, Simon’s firm, duckBuilD, is busy providing architecture, design and environmental sustainability services in a range of projects around Victoria. Simon is also a BIM software consultant.

STUDY LEADER: COOKES

TOP CENTRE AND BOTTOM RIGHT: Like terraces—a Turkish bathhouse conversion of a disused public swimming pool, cultural overlay with an Australian material palette. It featured an elegant use of light, water treatment and thermal movement to create a rich, sensorial experience. Design: Beaudene Fulwood. Studio leader: Simon Cookes, University of Melbourne.

BOTTOM LEFT & RIGHT: SportEX — this project proposes a significant sporting complex and community education facility at the western end of the CAD precinct. The iconic building combines sustainable building systems with an iconic public/civic role. The project maximises green energy in the era of peak oil and peak water. The project was shortlisted in the global RTKL Awards. Design: Dusk Architects. Studio leader: Simon Cookes, University of Melbourne.

TOP LEFT: The former Ericsson factory site is repurposed as a business incubator and apartment complex. The prefabricated building modules are constructed onsite and the complex grows organically over time. Design: Philippa Hayden. Studio leader: Simon Cookes, University of Melbourne.

TOP RIGHT: This project integrated a below-ground shopping complex with a vertical farm to create a locally self-contained food centre on the current Dallas shopping centre site. Easy access was provided from all boundaries. From above the site resembled parkland. Design: David Tanasa. Studio leader: Simon Cookes, University of Melbourne.

BOTTOM LEFT: The Broady Bridge—a bridge alive. Inspired by the Ponte Vecchio and the NY High Line Park, this bridge facilitates work, rest and play on top of a pedestrian and cycle connection over a major arterial obstruction. This project creates greater density in the centre of Broadmeadows and provides a way of moving around this part of the suburb easily without a car. Design: Allison Armstrong. Studio leader: Simon Cookes, University of Melbourne.

TOP RIGHT: The project integrates a below-ground shopping complex with a vertical farm to create a locally self-contained food centre on the current Dallas shopping centre site. Easy access was provided from all boundaries. From above the site resembled parkland. Design: David Tanasa. Studio leader: Simon Cookes, University of Melbourne.

Eco-Acupuncture 2010: Broadmeadows 2032

Real Sites, Real Research, Real Communities

Architecture Studio, University of Melbourne
Peri Urban Lounge Room
Industrial Design Studio, Swinburne University

Peri urban is a term used to describe areas situated on the edges of a large city. These fringe locations are often fragmented, culturally diverse and disenchanted communities, and it was our intention to offer a socially driven and ethically motivated design studio.

Broadmeadows is one such community. It is also an industrial centre with many nationalities, countless religions and a car culture that does little to foster human interaction. There is a dearth of public spaces to promote any sense of community and the few areas that do exist appear neglected.

Two sites – Olsen Place and Dallas shopping centre – were chosen for our studio. They offered great potential and we sought exciting solutions that might become potential blueprints for future sites. The metaphor of a lounge room was deliberately chosen to suggest the possible nature of the regenerated sites. As with lounge rooms, these sites could be seen as places for people to gather and to encourage interaction.

Each student designer was asked to develop a suite of elements to create this ‘lounge room’, and although these elements were being designed for a specific site we sought a system of parts that could be used elsewhere as well. We proposed that these public sites (shopping areas) could also be perceived as ‘oases’. Oases are traditionally places of rest and refreshment as well as places that draw together different living beings. They are places of refuge and are strongly linked – and sensitive to – the surrounding environment. Like oases, the objects student designers proposed needed to be sensitive to the environment. Sustainable aspects, such as energy (wind or solar), water conservation and shelter from the elements (sun, wind and rain), were part of this brief, in addition to the more widely known design for environment strategies (DfE).

Peri Urban Lounge Room
Industrial Design Studio, Swinburne University

STUDIO LEADER: DENIS SMITKA

Denis Smitka has been active in the industrial design community for several decades. Commencing in exhibition, shop-fitting and branding roles he established an architectural lighting business in the mid 1990s. Concurrent with this enterprise he has been Denis's academic career, which has involved lecturing at RMIT in Industrial Design and more recently at Swinburne University. Denis joined the Design Centre team in 2007 as manager of honours level industrial design students and also lectures in 2nd and 3rd year industrial design subjects. Denis's passions lie in the public realm with postgraduate studies dedicated to public lighting and pedestrian interest in urban planning, continuously building and maintaining networks within the industrial design community.

STUDIO LEADER: KATE BISSETT-JOHNSON

Kate Bisset-Johnson is an industrial designer whose interests lie in the intersection between people and products. She teaches in the Industrial Design and Product Design Engineering programs at Swinburne University. Kate’s inspiration for the Peri Urban Lounge Room project was driven by the belief that industrial design can be site-specific and culturally relevant by better understanding users within a specific social context. Her proposition for the project was that a sustainable solution needed to involve the coming together of people, place and planet.
The students were challenged to explore what systems and service design outcomes could potentially evolve within the realms of the everyday activities, environments, organisations and communities of Broadmeadows. Using sustainability as a catalyst for change, the students addressed the theme of either health and wellbeing or food and drink, and then applied a number of design methodologies that specifically focused on the users and stakeholders with the intent of envisioning new and engaging systems and service outcomes for 2032, which in turn, would bring about positive change in individuals, neighbourhoods and communities in Broadmeadows.

Having Broadmeadows as a real-world focus for the project was very beneficial to the Design Systems and Services studio as it provided a very challenging context for the 160 students who worked together in inter-disciplinary teams to tackle ‘wicked’ problems in a real-world context, as opposed to a theoretical academic exercise. The VEIL framework provided scope for new approaches and, coupled with the opportunity to engage with Hume City Council, it proved to be most productive and rewarding engagement, further evidenced by the students’ own positive feedback after the completion of the studio. It provided an excellent topic for a systems and services studio with the opportunity to address social innovation. It was also valuable to see the projects so well received when they were exhibited in Broadmeadows.

STUDIO LEADER: MARK STRACHAN

The studio was led by Mark Strachan, a Swinburne University lecturer, who specialises in interaction and product design, systems and services, and sustainability. Key tutors and contributors included Emma Luke (designer and entrepreneur), Andrew Hazewinkel (designer and contemporary artist), and Nicholas Riddett (service designer).
Adventures in Interaction Design
Visual Communication Studio, RMIT University
The studio was framed as ‘Adventures in interaction design design’ with the directive: ‘Design for cultural change and exchange, communication and information’. Students chose from a range of themes addressing communication and culture: mobility and culture; food and culture; conversations and stories; water and/or energy viability. Students applied a 3D methods of user research, scenarios, prototyping and testing to create services and events that promoted or enabled more sustainable ways of living for the residents of Broadmeadows.

Among the main benefits of participating in the project as a lecturer was meeting studio leaders from other design disciplines who had the same passion and commitment to design for sustainability that goes beyond materials efficiency, and our shared vision of passing this on to a future generation of designers.

STUDIO LEADER: TANIA IVANKA
Tania Ivanka lectures in Communication Design at RMIT, focusing on interaction and service design methods as a strategy for embedding socially responsible and sustainable design practice into undergraduate curricula. Her research interests include exploring urban grassroots sustainability movements, recirculation and resistance.

TOP RIGHT, CENTRE AND BOTTOM RIGHT: Wonderfarm is a local sustainability education centre. The centre has a focus on food production but also runs other sustainability programs. Children coming back semi-regularly to visit and maintain their garden patches. Design: Vina Kosaaih, Lee Juen Yap, Linda Nguyen and Nae Hee Kim. Studio leader: Tania Ivanka, RMIT University.

Below: Broadmeadows Community Garden promotes fresh food cultures and encourages cultural integration. The idea is that children from different local schools participate together at the local community garden. The program gives children who may not integrate the opportunity to work together. The program is led by volunteers in the community. Programs include to encourage other community groups. Design: Stacey Karayannis, John Wegman and Wilba Simson. Studio: Tania Ivanka, RMIT University.
This particular studio operated as a sustainability think-tank. For the students, the first imperative was to immerse themselves in Broadmeadows and then propose a strategy for resilient reaction to climate change and peak oil that responded to particular community needs. The studio participants determined their own terminologies for design intervention based on community or industry sectors, including mobility, energy, food, elderly and youth stakeholders.

The outcomes of our studio envisage a community that has food and energy security, the adventuring of new industries and innovative means of investing in its establishment. Through their investigation the students demonstrated that a community requires significant investigation, appreciation and envisioning before radical change can be proposed. Additionally, nurturing the community through the change rather than compelling them to change offered an increased transition success. Wind power can act as a catalyst for a community, as demonstrated in Windy Futures, that active transport embodied multiple beneﬁts at comparatively little cost. The site of Broadmeadows is suitable to test free transport viability where economic capacity is limited but social and cultural capital are high, although under-valued by many of the participant citizens and external stakeholders.

Our studio outcomes are challenging and provocative to the status quo, the radical change is not present at this user end, but requires a signiﬁcant re-think from government and commercial institutions. For the students, students advocated for community resilience and representation in decision making and propose that residents will actively engage in sustainable practices, from government and commercial institutions. The studio set out to envision pedal powered alternatives to address a future without the convenience of the car. The Broadmeadows urban proﬁle stars one to dream of free public transport, active transport that beneﬁts community health and which is locally sustainable, maintainable, designable, economically beneﬁcial and achievable. The community of Broadmeadows became a topos to test free transport viability where economic capacity is limited but social and cultural capital are high, although under-valued by many of the participant citizens and external stakeholders.

STUDIO LEADER: SIMON CURLIS

Amar’s Mobile Food Van

If we imagine that tomorrow petrol was not available in Broadmeadows, the question facing the populace is, ‘How does one adapt to the lack of mobility options available?’. The site of Broadmeadows is suitable to SLOW transport (super low consumptive transport), such as cycling and walking. Current bicycles are inappropriate for people with reduced capacity, the elderly, primary carers with infants and public amusements. With these target groups in mind the studio set out to envision pedal powered alternatives to address a future without the convenience of the car.

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The Victorian Eco Innovation Lab (VEIL) seeks to identify and promote emerging technical and social innovations for future sustainable systems. VEIL is a response to the critical challenge of our times: the urgent need for fundamental social, technical and structural change to bring about what is now widely referred to as a ‘low-carbon’ economy. A low-carbon society also has to be more resilient, to changes in the climate, including extreme weather events, and to the effects of escalating prices as global demand outstrips supply.

VEIL operates on a model similar to an innovation-led design company, but in the public arena. With public funding, research grants and donations, and a design and research team drawn from staff and students in participating universities, VEIL works to envisage future concepts and prototypes for goods, services, built infrastructure, systems and lifestyles, for a sustainable Melbourne in 25 years. VEIL has the explicit mission of changing expectations, redefining the conceptual landscape of the future market and urban communities. This is the basis of the term ‘eco-innovation’ in the projects title.

VEIL takes an ‘open innovation’ approach to its work. Members of the public (both locally and internationally), VEIL invites participation in its projects. This is effectively a public laboratory for examining the possibilities of what is possible, to ‘re-invent’ rather than merely ‘reconstruct’ the future. With a wide network of professionals and members of the public (both locally and internationally), VEIL takes an ‘open innovation’ approach to its work. The approach emphasizes the following characteristics:

- **Changing systems of production and consumption (and resources provision):** A substantial body of modelling and research shows that it is not possible to ‘re-invent’ rather than merely ‘reconstruct’ the future. With a wide network of professionals and members of the public (both locally and internationally), VEIL takes an ‘open innovation’ approach to its work.
- **Solutions-oriented – focusing on optimistic, desirable futures:** VEIL focuses on solutions and the projection of alternative futures that are both desirable and sustainable, building a movement of expanding optimism.
- **Visions – not (just) words and data:** To change community expectations for a future based on projected threats alone will be enough to induce people and society to make changes. VEIL focuses on plausible trajectories and beginnings – ‘revealing’ that new technical capacities can be ‘invented’ to resolve problems.
- **25-year horizons (time shifting):** VEIL uses a 25-year horizon. This fits well with the timelines for action on fossil fuels and is generally regarded as long enough for real structural changes, but not so long that it makes it clear that new technical capacities can be ‘invented’ to resolve problems.
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VEIL was established through Our Environment Our Future – Victorian Sustainability Statement in 2006 and is funded through the Victorian Government Sustainability Fund, managed by Sustainability Victoria. The project is a partnership between the University of Melbourne, Monash University, RMIT University, and Swinburne University. VEIL is managed by the research group of the same name in the Faculty of Architecture, Planning and Landscape at the University of Melbourne.

Acknowledgements:

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RMIT Sustainability: Three-Team and Human Powered Vehicles, Industrial Design

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Nextgen: Affordable Housing, Architecture and Industrial Design

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ABOVE LEFT: These commercial buildings and overhead pass hide the entrance to the railway station, creating a clash between those waiting for buses, those using the area as a public space and commuters passing through. Redevelopment of this area holds great promise to promote public transport by creating a well-designed transit interchange that creates connections across the railway and Pascoe Vale Road. *Photo: Maggie Bufe.*
ABOVE RIGHT: The site of the former Broadmeadows Primary School is adjacent to Meadowlink and a part of an existing residential community. Rather than developing the site in isolation how could the site be part of, and inspire a broader and connected vision? Could this be a site for an Eco-acupuncture proposal? Photo: Maggie Bufe.