

Growth, Sustainability
and Vulnerability
of Urban Australia



STATE OF AUSTRALIAN CITIES

national conference
adelaide
28 - 30 november

07



Pocket Program

www.unisa.edu/soac2007



State of Australian Cities National Conference 2007

28 - 30 November 2007 ■ Adelaide, Australia

BOOK OF ABSTRACTS

Typeset by:

Causal Productions Pty Ltd
www.causalproductions.com
info@causalproductions.com

TABLE OF CONTENTS

General Information.....	(v)
Invited Keynote Papers	1
S1 – City Economy – GIS and Spatial Economic Modeling	2
S2 – City Governance	2
S3 – City Infrastructure	4
S4 – City Structures.....	4
S5 – Environmental City.....	4
S6 – Social City.....	5
S7 – Urban Labour Markets Analysis	5
S8 – City Governance	6
S9 – City Infrastructure	7
S10 – City Structures	7
S11 – Environmental City	8
S12 – Social City	9
S13 – City Economy – General Economic Analysis Papers.....	10
S14 – City Governance	11
S15 – City Infrastructure.....	12
S16 – City Structures.....	12
S17 – Environmental City.....	14
S18 – Social City.....	14
S19 – City Economy – Employment.....	15
S20 – City Governance	15
S21 – City Infrastructure.....	16
S22 – City Structures.....	17
S23 – Environmental City.....	17
S24 – Social City.....	18
S25 – City Economy – General Economic Analysis.....	18
S26 – City Governance	19
S27 – Environmental City I.....	20
S28 – Environmental City II.....	20
S29 – Social City I.....	21
S30 – Social City II.....	22
S31 – City Economy – Well-Being, Population and Housing	23
S32 – City Governance	23
S33 – City Infrastructure.....	24
S34 – Environmental City I.....	24
S35 – Environmental City II	25
S36 – Social City.....	25

GENERAL INFORMATION

Registration Desk Opening Times

Wednesday 28 November 8.00am – 5.00pm

Thursday 29 November 8.00 am – 5.00 pm

Friday 30 November 8.00 am – 3.00 pm

Notes to Presenters

Presentations are strictly 20 minutes plus 8 minutes for Q&A and 2 minutes changeover. Refer to the pocket program for session times and locations.

Presenters are requested to report to the registration desk in Brookman Hall. You will be directed to the speaker preparation area where your presentation will be downloaded. Please meet with your session chairperson in the session room 10-15 minutes prior to the commencement of the session.

If you are using PowerPoint, laptops will be provided by the organisers in each session room. THERE WILL BE NO PROVISION FOR PRESENTERS TO CONNECT THEIR OWN LAPTOP FOR PRESENTATIONS. This will ensure the optimum presentation environment.

The speaker preparation room will be open 7.30am to 5.30pm Wednesday – Thursday and 7.30am to 1.30pm Friday 30 November. Please take the opportunity if you are registering early to download your presentation well in advance of your session to avoid delays.

Lunch and Refreshments

Morning and afternoon teas and lunch will be served in Brookman Hall.

Special Dietary Requirements

If you have advised the organisers of a special dietary requirement, this information has been forwarded to the catering staff, but it is your responsibility to identify yourself to catering staff.

Dress Standard

Smart casual dress is suggested for conference sessions and social functions.

Mobile Phones

Participants are asked to ensure that all mobile phones are switched off during Conference sessions.

Smoking

The Conference has designated this to be a non-smoking environment for all sessions and social functions.

Eating Out?

The East End Precinct [5 minute walk] – a few suggestions...

Amalfi* (*Italian*) 29 Frome St ph 8223 1948

The Botanic Café* (*Italian*) 4 East Tce ph 8232 0626

Eros Ouzeri* (*Greek*) 275 Rundle St ph 8223 4022

Taj Tandoor (*Indian*) 253 Rundle St ph 8359 2066

Universal Wine Bar* (*Modern Australian*) 285 Rundle St ph 8232 5000

Exeter Hotel, 246 Rundle St ph 8223 2623

Gouger Street Restaurants [15 minute walk] – a few suggestions...

Stanley's Fish Café* (<i>Seafood</i>) 76 Gouger St	ph 8410 0909
Gauchos* (<i>Argentinean</i>) 91 Gouger St	ph 8231 2299
Lime and Lemon (<i>Thai</i>) 89 Gouger St	ph 8231 8876
Le Zinc (<i>Mediterranean</i>) 41 Gouger St	ph 8212 2345
Star of Siam* (<i>Thai</i>) 67 Gouger St	ph 8231 3527

The West End Precinct [15 minute walk] – a few suggestions...

Rigoni's* (<i>Italian</i>) 27 Leigh St	ph 8231 5160
Cos Restaurant* (<i>Modern Australian</i>) 18 Leigh St	ph 8231 7611
The Corner Bistrot* (<i>French</i>) 7 Leigh St	ph 8212 9444
Parlamento* (<i>Italian</i>) 140 North Tce	ph 8231 3987
Regattas Bistro*, Adelaide Convention Centre North Tce	ph 8210 6785
The Balcony* (<i>Stonegrill Dining</i>) Strathmore 129 North Tce	ph 8238 2900
World's End Hotel* (<i>Casual dining</i>) 208 Hindley St	ph 8231 9137
Holiday Inn* (<i>Mediterranean</i>) 65 Hindley St	ph 8231 5552

* Disability-friendly places

Banks

Commonwealth Bank: 100 King William Street
Bank SA: 97 King William Street
ANZ: King William Street
National Bank: 22 – 28 King William Street
Westpac: 2 – 8 King William Street

Post Office

GPO 141 King William Street

Pharmacy

Rundle Mall
Corner of Pirie and King William Street.

Public Transport

Adelaide Metro Infoline
Bus, Train & Tram Timetables
Corner King William and Currie Streets
Tel: 8210 1000

Taxis

Adelaide Independent Taxi 13 22 11
Suburban Taxi 13 10 08
Yellow Cabs 13 22 27

Medical and Emergency Services

For emergencies requiring ambulance, fire or police attendance, dial 000. This applies in every State of Australia. Medical services are not provided free to visitors.

For incidents requiring police attendance call 13 14 44

Invited Keynote Papers

Venue Basil Hetzel Lecture Theatre, refer below for times

The Endangered State of Australian Cities

Brendan Gleeson; Griffith University, Australia

K-1 11:00 – 11:45 Wednesday 28 November 2007

Climate change and energy insecurity are real and present threats to the sustainability and security of Australia. The cities and the systems that support them are the principal sources of the threats we face but also where the solutions can and must be found. In urban debates, the suburbs have been wrongly accused of creating the crisis. The suburbs will be a first line of defence against the threats and need to be treated fairly in the actions that will address warming and energy insecurity. The suburbs can be vastly more sustainable than they are. A great suburban renovation must guide the transition to sustainability and security.

Building the Capacity to Govern the Australian Metropolis: Challenges and Opportunities

Pauline McGuirk; University of Newcastle, Australia

K-2 11:45 – 12:30 Wednesday 28 November 2007

This paper traces key policy challenges facing Australia's metropolitan cities as a result of multiscaled shifts in their governance contexts. These shifts, related both to the neoliberal erosion of a national commitment to universal social provision and the adoption of a 'competitive city' governance paradigm at the urban scale, have produced a set of governance challenges, particularly concerning urban social inclusion and cohesion. Moreover, a range of institutional obstacles continues to hinder the generation of urban governance capacity to address these challenges. The paper works through the nature of these obstacles and takes a pragmatic approach to identifying opportunities to mobilise and reenergise the capacity to govern in Australia's big cities. In particular it points to the need for a national urban governance agenda, the need to move beyond the limits of the 'competitive city' governance paradigm to mobilise the resilient capacities of state intervention, and the need to harness private resources and capacities more effectively to public policy rather than market-driven aspirations.

Still Settling Cities: Sustainability, Governance and Change

Steve Dovers; Australian National University, Australia

K-3 08:30 – 09:15 Thursday 29 November 2007

The traditional story of the "settlement" of Australia is wrong on three counts — it is exclusively European, almost completely non-urban, and it is over. But we celebrate settlement and "settlers", on some counts rightly enough, and hold the story dear to collective identity. This paper adds to the white, rural, past story of settlement the notion of *Still Settling Cities*, connecting past and present, city and bush, white and Indigenous. Does that work? Can we equate subdivisions with free selection, farm dams and backyard spas, agricultural shows and lifestyle Expos? Whatever your preference for myths — Steele Rudd or Kath and Kim — we are still settling suburbia as an extension of millennia of human modification of and compromise with the Australian environment. If we are still settling, then things should be expected to be unsettled.

What would it take to focus on and celebrate the current and ongoing settlement of our cities, as opposed to whitewashed celebrations of trial-and-error, poorly-informed, sometimes intolerant but nonetheless often stirring and admirable hardy, individualistic bush myths of settlement? If we redesigned that story of settlement in keeping with modern ideas of sustainable development, we would be pre-cautious but prepared to act and learn, energetically seek the best knowledge before we made policy and technological commitments, closely regard equity issues, take an integrated systems view of human settlements, seek to understand the complex implications of singular goals and policy instruments, and construct deliberative consensus over human development goals. But we don't really behave like that at all. On empirical evidence — poorly planned suburbs, inadequate infrastructure, transport confusion, time-bomb master planned estates, youth alienation by

conscious design, etc — the settlement of Australian cities seems *ad hoc*.

Enter climate change, where humans may have to survive a future climatic environment outside the remarkably stable and comfortable envelope in which we evolved biologically, socially and economically. Read that again: it is a serious proposition. At a moderate level of prediction, climate variability that already challenges us — heat waves, floods, bushfires, droughts, cyclones, storms, etc — will lift in frequency and intensity. If managing cities is hard now, it will be far harder in future, as climate change combines with other drivers such as energy futures and demographic and trade shifts to complicate the task.

By and large, we do not comprehend or manage cities in a manner that suggests we appreciate them as complex, path-dependent and crucially important domains of human activity, and of interaction with the non-human world. If we did, it would manifest in long term planning, powerful and genuine whole-of-government and cross-sectoral policy approaches, and a strategic, intense search for good information to support policy interventions.

Two take home messages. (1) Rejuvenate strategic planning, anchored on established principles of sustainable development, and bound by statute to be implemented. (2) Construct an integrated and comprehensive national urban R&D program to provide the missing knowledge base for policy debate and formulation. Or risk the long-run sustainability of that small fraction of Australia where the people and the economy lives.

Seeing Cities and Their Planning with Diversity in Mind

Ruth Fincher; University of Melbourne, Australia

K-4 09:15 – 10:00 Thursday 29 November 2007

Drawing on a new book *Planning and Diversity in the City: Redistribution, Recognition and Encounter* which I have written with Kurt Iveson, this talk proposes that a just diversity for cities can be conceptualised and then planned for with reference to three social logics or norms: redistribution, recognition and encounter. Examples of planning and urban policy strategies which encapsulate each of these social logics are presented, and suggestions of tensions that characterise attempts to implement them or use them for guidance are noted.

In this talk I comment on some new ways of thinking about social planning strategies, that have emerged (in their current form) in theory, and in planning and the practice of urban policy, in the last decade. Finding these developments is possible if one looks at cities and at their planning with the frame of diversity in mind. My comments come largely from the book that Kurt Iveson and I have just completed, entitled *Planning and Diversity in the City: Redistribution, Recognition and Encounter*, which will be published by Palgrave Macmillan in London and which is a critical urban geographers' contribution to discussions about the social side of urban planning. The thinking also builds on a paper I gave the last time Steve Hamnett organised a big national conference for urbanists in Adelaide (see Fincher 2003)! You will see that I take a broad rather than 'black letter' definition of urban planning, understanding it as those policy actions associated with forming and amending urban built environments and people's access to facilities within these environments, and seeing it as a practice in cities led by the state.

Diversity of course is a broad term. Loretta Lees has reminded us that 'the diversity of different "diversities" is often under-theorised' (2003a, p. 613). To make some headway with theorising diversity for planning, Kurt and I have identified the three social logics of redistribution, recognition and encounter as our theoretical starting points for designing and evaluating social planning interventions in cities. In addition, proceeding by articulating normative social logics focuses on the importance of norms for planning (after all, a normative activity) as well as attention being paid to the details of implementation processes which has been a strong recent focus of the planning theory literature: in this we support the point recently made by Michael Dear (2000, p. 135) in his commentary on US planning history, that it is timely to restore what he calls the reform tradition to planning and its practice.

In the three sections of my talk I will do the following. First, I will

make the claim of the book that redistribution, recognition and encounter are suitable norms or social logics for planning that has an eye to diversity, though we know that in any context these aims may be entwined. Second, I will provide some small examples of ways of working with these ideas, in recent planning contexts, that I find compelling. And third I will note some tensions that are juggled in current planning practice based on these theoretical aims, that are evident in the examples I supply.

S1 – City Economy – GIS and Spatial Economic Modeling

Venue Napier 208, 13:30 – 15:00, Wednesday 28 November 2007

This session comprises papers contributed through the ARC Research Network in Spatially Integrated Social Science (ARCRNISIS)

■ Approaches to Model Future Patterns of Economic Activity and Location of Jobs in a Metropolitan Region: Application to the Brisbane-South East Queensland Region

Robert Stimson, Jonathan Corcoran, John Mangan, Jackie Robinson, Terry Li, Alistair Robson; *University of Queensland, Australia*

S1-1

As part of the development of a large scale urban model (LSUM) to simulate likely future patterns of urban growth and development in the Brisbane-South East Queensland region (SEQ), a series of models have been used to predict patterns of structural economic change and the location of jobs in industry sectors across the SEQ region over the period 2001 to 2026. That involves the use of shift-share analysis, predictive regional and sub-regional input-output modeling, and a spatially weighted regression model approach to spatially simulate the location of jobs in industry sectors across local areas (SLAs) within the SEQ region, which is the fastest growing large scale metropolitan region in Australia.

This paper outlines the development and application of those predictive modelling methodologies and their incorporation into a GIS-enabled simulation model with real time visualization.

■ Analysing Directionality in Human Geography Using GIS and Circular Statistics — A Case Study Using Journey to Work Data for South East Queensland Australia

Jonathan Corcoran, Robert Stimson; *University of Queensland, Australia*

S1-2

Circular statistics have been described as a “*curious byway of statistics ... somewhere between the analysis of linear and the analysis of spherical data*” (Fisher 1993, p.1). Early roots of the discipline date back to the mid-eighteenth century (Bernoulli, 1734) where circular measures were used to show that the orbital planes of the planets in the solar system could not be aligned by chance (see Mardia, 1972) and Florence Nightingale (Nightingale, 1858) who developed the rose diagram to illustrate the efficacy of improved sanitation in hospitals during the Crimean War.

Since these early beginnings, circular statistics have developed as a set of techniques that largely remains the domain of non-human related research having been applied in a number of disciplines including the physical, ecological and biological sciences, where it has been used to analyse the aspect of glaciers (Evans, 2006), wind and wave directions (Bowers et al., 2000), the distribution of plants species (see for example, Aradóttir et al., 1997), the movements of animals (see for example, Christman and Lewis, 2000) and exploration of neurone patterns (Drew and Doucet, 1991). In addition, the previous applications of circular statistics have not established formal linkages (such as a dedicated suite of circular analysis tools) between GIS and circular data analysis is yet to be fully explored for either visual data exploration or analysis.

The importance of circular statistics in analytical human geography in the investigation of spatial behavioural phenomena is two-fold,

first as a technique to analyse *direction* (e.g. a direction of travel), and second to investigate human activity in a *time* context (e.g. an hour of the day). In both cases circular statistics have a potentially important role to play in uncovering the nature of the impacts of direction and time in the analysis of human spatial behaviours. Here, we define directionality to refer to as either a point on a compass (e.g. a direction of travel) or some measure of time (e.g. an hour of day).

This paper uses a disaggregate database describing Journey To Work (JTW) across South East Queensland, Australia. The data takes the form of a matrix comprising one column and one row, specifically a destination code and an origin code and the total number of people travelling between each origin and destination. This is further categorised by gender, mode of travel and industry sector. Several circular measures are applied to this data to explore directionality within a GIS environment to ask questions such as:

- *What is the mean direction of commuter travel and how does this mean direction vary from one region to the next?*
- *Does the mean direction of commuter travel of any one travel zone differ significantly by gender and mode of travel?*

The paper concludes that the use of circular statistics integrated within a GIS environment advance our current tool set in analytical human geography and regional science and has the potential to revolutionise the way spatial flows and interaction data may be analysed and represented that will enable new insights in the interpretation of important human spatial behaviours such as migration flows travel patterns within cities, and household activity patterns in time and space.

S2 – City Governance

Venue Napier G03, 13:30 – 15:00, Wednesday 28 November 2007

A Plenitude, Plethora or Plague of Plans: State Strategic Plans, Metropolitan Strategies and Infrastructure Plans?

Raymond Bunker; *University of New South Wales, Australia*

S2-1

In the last five years, planning strategies have been released for the five mainland capital cities in Australia. This paper examines them in conjunction with state strategic plans and infrastructure strategies in South Australia and New South Wales, with which they are linked in current states. These two states have probably the most complete and current suite of all three documents, although other states such as Queensland have recent proposals of this kind, sometimes closely linked. The question arises as to how appropriate each of these plans is in its own right, how effectively it supports or reflects the others, and how robust it may be in dealing with uncertainty and the transition towards sustainability. The paper examines the characteristics of each of these plans the ways they are linked, and how they affect each other. The paper concludes that each of these three plans is useful in charting a direction for change. But each is subject to changes of government, in community attitudes and environmental circumstances. Moderate modifications to them and their relationships might improve the longevity and effectiveness of such instruments.

Taming an Urban Frontier? Urban Expansion & Metropolitan Spatial Plans in Perth 1970–2005

Toby Adams; *University of Melbourne, Australia*

S2-2

This research paper is concerned with the process of urban expansion as experienced in Perth, Western Australia between 1970 and 2005. Through an examination of urban and urban deferred rezonings to the Metropolitan Region Scheme, the focus is upon the effectiveness of two metropolitan spatial plans in *shaping* new urban development on the fringe of the metropolis. Drawing from growth coalitions and institutionalist theory in the construction of a theoretical backcloth for the investigation, the paper reports preliminary results which indicate that the spatial plans have been relatively impotent in determining the location and timing of urban

expansion patterns — both at a metropolitan and sectoral scale. Urban development ‘breakout’ appears to have occurred consistently through the study period — pointing to actors or forces outside of the formal planning system being more influential than the spatial plans in determining outer area development outcomes.

The Use of Density in Australian Planning

Jago Dodson, Brendan Gleeson; Griffith University, Australia

S2–3

The concept of urban density is basic to Western urban planning. Most urban jurisdictions regulate in some way the density of population, dwellings or land-use activities within urban space. Yet the influence of density on urban functioning is also one of the most contested dimensions of contemporary urban planning. Davison (2006) has demonstrated that there has been a bifurcation in Australian conceptions of urban sustainability between those who believe that sustainability will only be achieved through the application of a high density regime to remake existing suburbs and those for whom a revitalisation of the existing urban realm offers the most secure path to sustainable urbanisation. These debates largely fix on the presumed impacts of density on social and environmental conditions. They do not, however, tend to acknowledge the social influences that condition the debate about density. These include the different values, political outlooks and priorities that participants bring to the discussion of density. The social play of debate around density is underlined by a historical record that reveals the tendency of policy consensus to shift between strongly contradictory polarities. For instance, in the wake of Victorian slum reform high density was seen as inimical to health and morals. In some contemporary policy contexts, the consensus has shifted to assert that the low density suburban form is dangerous to health and to social integrity. As one contemporary US text asserts, *Sprawl Kills* (Hirschhorn 2005).

This is to assert that the questioning and discussion of density must be socially informed, not simply scientifically or technically framed. We argue that this insight, which is something of a social scientific ‘truism’ for any technical policy debate, is yet to be applied to the issue of density. We suspect that Abram’s (2005) observation that technical debates are often ‘politics by other means’ is applicable to the technical contestation of urban density.

The current Australian policy consensus tends to favour densification as a means to environmental and social improvement, although deep scholarly and political criticisms of this view abound. The contemporary array of metropolitan plans reflects the policy consensus around the ‘compact city’ ideal but also accommodates criticisms and practical difficulties associated with this object by allowing for a quantum of further low density expansion. The plans clearly view the manipulation of densities as a means by which particular social, economic and environmental outcomes may be achieved through planning. Yet there remains a significant degree of disjuncture in the density trajectories of many of the sub-regions of Australian cities and the density consensus contained in plans that seek to manage and corral them, often in ignorance of the complexity of the social processes through which these urban spaces are constituted (Forster 2006).

Planners’ contemporary uses of density concepts in part reflect contemporary urban concerns. In periods when a quite different array of urban concerns confronted urban planners a set of quite different qualitative characteristics were ascribed to different urban densities. This initial observation that the planning meanings ascribed to density as a spatial concept vary over time suggests that there is an important, perhaps even primary, sociological dimension to the concept of density. This assessment in turn implies that urban density can be perceived not only from a physical or technical perspective, but also from a critical sociological perspective. Surprisingly there has been little recent scholarship that has considered density as a sociological concept. By comparison the planning literature is replete with technical and empirical perspectives that attribute various social, economic and environmental effects to particular densities of urban form, many of which have been prominent in urban social science.

This short, exploratory paper reviews the concept of urban density

from a historical and sociological perspective to identify how this idea has been deployed in Western urban planning thought and practice and the social conditions in which particular perceptions of density emerged and what their social and policy effects were. We hope that this research will strengthen planning debate in Australia and elsewhere, in part by questioning whether density is as much an artefact as a determinant of other urban social processes such as struggles over the form and structure of cities.

We hope that by providing a critical, socially informed perspective on urban density that we begin to signpost a path out of the currently intractable division in Australian planning debates between those who consider an increase in urban densities to be essential to the achievement of urban sustainability and those for whom densification marks a departure from this ideal. As Davison has warned, planning risks becoming ‘stuck in a cul-de-sac’ if it is unable to reconcile or reformulate the struggle over density and move towards a more constructive and broadened form of engagement with urban challenges. However, we do not seek to resolve this intellectual and policy conundrum by arguing in favour of a particular density regime. Rather we wish to demonstrate three things:

1. the social and historical conditioning of debate about density, in combination with equivocal scientific evidence about the influence of density on human environments, renders deeply problematical any deterministic approach to urban form;
2. in view of the above, that the influence of density cannot be measured or forecast in a manner isolated from context: density is one dimension of a complex ensemble of conditions and activities that shape particular urban contexts in unique ways;
3. that the emphasis dedicated to urban density in Australian planning schemes both historically and in the present, neglects or underestimates the environmental and social significance of other urban conditions and activities and thus risks diverting conceptual and practical energies away from potentially more fruitful avenues for the achievement of sustainability.

In this regard we echo Davison’s (2006) plea for a shift from unproductive struggles over the technical underpinnings of sustainability and towards a greater emphasis on the ‘values’, aspirations underpinning planning. This means paying more attention to the social and political objectives of urban policy and the way that social and political aspirations are implicated in scientific discourse. To the extent that this paper advocates a particular direction for Australian urban planning it is toward a more critical and probably reduced emphasis on density as a dimension by which the purpose of urban plans is promulgated and their success measured.

To better understand how the present struggle over urban form is shaped and constituted by particular and complex urban social and economic conditions we deliberately seek a historical perspective on the fascination with density that has characterised urban planning. By providing and historical perspective on density per se, we hope that the use of density as a planning object can be revealed so that we can appreciate changes in this use and thus comprehend how the manipulation of densities is articulated within broader urban socio-spatial complexes. This historical perspective allows us to both trace the persistence of density as a planning object while also showing the differences in the ends to which density is put. We encapsulate these differences in the notion of a ‘density regime’ which describes the prevailing planning conception of appropriate densities and their effects. The paper divides the history of density in Australian planning into two broad phases and uses the transition between these phases to identify opportunities to reconfigure present planning by reconceptualising the role of density in urban spatial processes.

S3 - City Infrastructure

Venue Napier 210, 13:30 - 15:00, Wednesday 28 November 2007

■ Leisure on the Fringe

Bernadette Pinnell; University of New South Wales, Australia

S3-1

In 2006 the NSW Government announced plans outlining the future of land releases in the North West and South West Growth Centres of Sydney. The Growth Centres under the management of the Growth Centres Commission (GCC) is projected to provide a total of 180,000 homes over the next 30 years. As a result, Western Sydney's population is projected to grow by an approximately 450,000-500,000 people. The land designated to accommodate this growth has its own microclimate, has conservation areas of high ecological value, cultural landscapes which provide visual separation between urban areas, heritage properties and riparian corridors. These natural constraints combined with pressures on developers to achieve dwelling yield (12 dwellings/hectare) and employment yield (20 jobs/hectare) mean that allocating land for leisure and recreation purposes is seen as a luxury. Yet for residents open space, sport and recreation facilities underpin their quality of life and are core elements of liveability.

This paper highlights the need for vertical and horizontal governance and coordination between state and local government bodies, across the whole Growth Centre to transcend local government boundaries and politics. There is a need to plan strategically for open space and recreation and not rely on incremental planning on a release area basis which has been the norm for most of Western Sydney.

In Search of the Elusive Triple Bottom Line: Turbulent Infrastructure Policy at the Sydney Water Board

Glen Searle; University of Technology Sydney, Australia

S3-2

Potential conflicts between economic, social and environmental sustainability can cause turbulence in policy-making within infrastructure authorities as they seek to simultaneously accommodate the three sustainability dimensions. The paper explores this issue through an analysis of recent infrastructure policy in the Sydney water board. After 1988, neo-liberal policies were used to address water pollution problems caused by modernist 'hydraulic paradigm' infrastructure provision. These involved a special remediation levy, higher developer and user charges, and private sector funding of infrastructure, as well as urban consolidation, to simultaneously address economic and environmental sustainability. But the failure to solve water pollution problems, plus national competition policy, led to increased state control over the triple bottom line via corporatisation and accountability to separate pricing, public health and environmental agencies. A public health crisis arising from the failure of a private sector filtration plant resulted in the establishment of a new catchment authority and increased powers for state ministerial and health department intervention. Construction of a new dam was avoided by tapping into a river catchment outside the Sydney region, but with environmental river flow costs. Then a drought-induced water supply crisis caused the government to propose, abandon, and re-propose a desalination plant that would meet its business goal of reliable water supply at purported lower cost and perceived health safety than recycling, but with potentially greater environmental costs than recycling alternatives. Overall, the state's needs to reduce expenditure and meet health standards have generally prevailed over environmental goals, but this has become increasingly contested, with correspondingly increased turbulence in policy outcomes.

S4 - City Structures

Venue Napier 209, 13:30 - 15:00, Wednesday 28 November 2007

Understanding the Australian Airport Metropolis

Nicholas Stevens¹, Douglas Baker¹, Robert Freestone²; ¹Queensland University of Technology, Australia; ²University of New South Wales, Australia

S4-1

In Australia, the role, scale and meaning of major urban airports have changed over the past decade as a result of corporate and economic transformations. Modern airports are very different from traditional airports as they emerge as important sub-regional activity centres. As a result of these changes, airport impacts now pose considerable challenges for both airport operation and the surrounding urban and regional environment. The current issues surrounding airport development and expansion need to be defined by an understanding of the complex roles and spatial interactions now associated with airports. The airport can no longer be managed in isolation from the metropolis that it serves. However, a conceptual framework for understanding regional conflicts and opportunities is yet to be developed. This paper identifies and documents a range of issues and impacts to assist in understanding the changing role of airports in Australia. These various dimensions are conceptualised as interfaces. Interface areas include land use, infrastructure, economics, and governance. The paper provides a conceptual framework for understanding the interfaces that typify major airports, allowing for comparative analyses across a range of airport contexts and to inform policy prescriptions.

■ Hotels as Civic Landmarks, Hotels as Assets: The Case of Sydney's Hilton

Kim McNamara, Donald McNeill; University of Western Sydney, Australia

S4-2

In this paper, we suggest that hotels play a very important part in the urban economies of central business districts. To illustrate this, we explore the biography of the Sydney Hilton, opened in 1974 and recently totally refurbished and re-opened. We argue that hotels can be understood as civic landmarks, where localized business elites and the local state coalesce to ensure their successful construction, where commercial activity is understood within an ideology of civic pride. Within this context, however, the design and appearance of hotels is driven by both their use value and exchange value. We trace a biography of the Sydney Hilton through three phases of its operation, considering its place within the backdrop of the reconstitution of Sydney's CBD, and the broader urban economy. We conclude that the refurbishment of the Hilton can thus only be understood by considering wider issues of corporate brand, asset ownership and the requirements of the local state.

S5 - Environmental City

Venue Napier 102, 13:30 - 15:00, Wednesday 28 November 2007

Energy Demands of Urban Living: What Role for Planning?

Rowan Gray, Brendan Gleeson; Griffith University, Australia

S5-1

This paper discusses the role for urban planning in managing the energy demands of living in Australian cities. Current Australian metropolitan plans all contain sustainability ambitions. Tracking progress and developing strategies to move towards these ambitions requires empirical understanding of urban resource demands. This paper focuses specifically on the energy demands of households, and whether they are affected by urban consolidation. Existing empirical evidence about the influence of urban consolidation on household energy demand is reviewed. The review shows that evidence is incomplete and inconsistent. Improved

understanding is needed. However, it is possible to conclude that dispersed, incremental urban consolidation is unlikely to reduce household energy demand. To achieve its sustainability goals, planning must be well informed, actively encourage the development of residential areas that are conducive to energy-efficient lifestyles, and look beyond physical influences on energy demand for policy solutions.

Framing Climate: Implications for Local Government Policy Response Capacity

Donovan Burton, Dianne Dredge; Griffith University, Australia

S5-2

The rapid uptake of political and community acceptance of climate change in Australia is placing significant pressures for local governments to examine their vulnerabilities to climate change as well as their need to undertake an expedited review of potential mitigation and adaptation strategies. However there is a dichotomy between the actual need for a local level strategy and the capability of Australian local governments to do so. This paper explores the challenges surrounding climate change policy and suggests the adaptation and mitigation frames limit the scope of the policy debate and inhibit the development of local government climate change strategies. It explores the costs and opportunities that climate change brings to local governments and draws on the South East Queensland experience to examine the available policy instruments. This paper fosters and strengthens the policy debate about local government's role and responsibilities in dealing with climate change. It also highlights the potential risks and vulnerabilities of local governments, both at the corporate and community level, under a range of changing climate scenarios.

S6 – Social City

Venue Napier G04, 13:30 – 15:00, Wednesday 28 November 2007

Exploring a Methodology for Tracing Spatial, Social and Textual Networks Through Neighbourhoods

Sue Nichols¹, Helen Nixon¹, Sophia Rainbird¹, Jennifer Rowsell²; ¹University of South Australia, Australia; ²Rutgers University, USA

S6-1

This study, currently in progress, is concerned with the circulation of knowledge, practice and objects related to parenting through three contrasting neighbourhoods. This project is motivated by a desire to better understand how parents in different circumstances access, share and produce knowledge about children's learning and development. We are considering the impact of affordances provided by the spatial and social environment including information points (on- and off-line), displays and meeting places as well as patterns of usage. Here we describe our methodology which incorporates travelling in and through neighbourhoods, visual documentation, mapping, artefact collection, observation, excursions into cyberspace, interviews, collaborative analysis and various methods of representing networks. We discuss the influence of ecological approaches, network theory and geosemiotics on our approach and offer emerging insights from the first year of the project.

The Role of Community Gardens in Sustaining Healthy Communities

Susan Thompson, Linda Corkery, Bruce Judd; University of New South Wales, Australia

S6-2

Community workers, public health officials and urban planners are increasingly concerned about declining levels of physical and psychological health of city dwellers. The reasons behind this alarming trend are complex. Much of the blame is being levelled at factors such as car dependency, long commuter distances, polluted and unsafe environments — all of which make it difficult to undertake the physical exercise needed to combat many serious diseases. Poor nutrition — particularly over consumption of high

density foods — is another significant factor in the equation, especially in disadvantaged communities where fresh produce is often hard to find and expensive. Built environment and health professionals are gradually realising that they need to work together to better understand these issues if workable solutions are to be found. This is the background for our paper which discusses the role of community gardens in building healthy and sustainable communities. Focussing on a large high-rise public housing estate in Sydney's inner west, the community garden scheme studied was part of an urban renewal program designed to ameliorate ongoing social problems on the estate. Our research found that this project resulted in a broad range of positive physical and psychological well-being outcomes for the public housing tenants. These included providing opportunities for individuals to relax, undertake physical activity, socialise and mix with neighbours, sharing across culturally different backgrounds and religions. The gardens also afforded opportunities to learn about horticulture and sustainable environmental practices, such as composting and recycling, as well as being an important source of low-cost fresh produce for a healthy diet. This research confirms that community gardens can play a significant role in enhancing the physical, emotional and spiritual well-being necessary to build healthy and socially sustainable communities. The importance of community gardens to Australian city dwellers is likely to grow as the trend for consolidated and densely populated urban areas increases.

S7 – Urban Labour Markets Analysis

Venue Napier 208, 15:30 – 17:30, Wednesday 28 November 2007

This session comprises papers contributed through the ARC Research Network in Spatially Integrated Social Science (ARCRNSISS)

■ Advancing Spatial Research by Reconstructing Australia's Economic Geography

William Mitchell, Martin Watts; University of Newcastle, Australia

S7-1

This paper will report on the developmental stages involved in the creation of a new socio-economic geography for Australia such that the chosen spatial aggregation of data is based on an analysis of economic behaviour. Self-contained economic regions (which we term Commuting Areas - CAs) will be defined according to commuting behaviour. We hypothesise that the development of a geographical classification based on underlying economic behaviour will provide new insights into critical issues of regional performance, including unemployment differentials, the impact of industry, infrastructure and changes in local public expenditure on local labour markets, and the level of interaction between neighbouring regions, when compared to the Australian Standard Geographic Classification (ASGC) which provides the administrative geographical demarcations used by the ABS to collect and disseminate their data. We will thus test whether the development of these non-arbitrary geographies provides significantly different answers to some key social science research questions.

The paper will present the economically-meaningful spatial demarcations and assemble corresponding datasets using 2001 and 2006 ABS Census data. It will also focus on occupational-specific demarcations to highlight the different opportunities available to high-skill and low-skill workers.

■ People, Space and Place: A Multidimensional Analysis of Metropolitan Labour Markets

Scott Baum¹, Anthea Bill², William Mitchell²; ¹Griffith University, Australia; ²University of Newcastle, Australia

S7-2

It is becoming increasingly apparent that in order to understand a range of socio-economic outcomes research needs to be focused on a multi-scalar level that accounts for both individual's characteristics and behaviours together with their locality and activity within space and place. Within labour market analysis there is a need to situate empirical analysis within a conceptual framework that consider both the assets of individuals within

the labour force together with the social and local labour market context they find themselves in. Using a broad notion of employability, this paper develops an analysis of employment outcomes in Australia's metropolitan labour markets. Specifically it uses a combination of individual survey data and aggregate labour market data to consider the associations between the multi-level factors. It finds that while individual characteristics are important in understanding likely employment outcomes in metropolitan areas, it is equally the case that broader social contexts and local labour market contexts also play a role. The paper reaches the conclusion that while contemporary labour market policy tends to focus on individual characteristics there is a need to widen out the policy understanding of labour market outcomes so that other broader contexts including the impact of space and place are also seen as being influential.

The Occupational Dimensions of Local Labour Markets in Australian Cities

Anthea Bill, William Mitchell, Martin Watts; University of Newcastle, Australia

S7-3

It has been argued that declining housing affordability in Australia's major cities has led to the exclusion of some low and moderate income residents from high employment, inner-city regions. If there is an increasing spatial mismatch between housing and employment, moderately paid workers, essential to the efficient functioning of the urban economy, may face problems in accessing and retaining employment. However to date there has been a lack of empirical analysis of the overlap between spatial dimensions of housing and employment (and the commuting such divisions necessitate) broken down by occupation.

Using the 2001 Census Journey to Work data, broken down by occupation, we employ a range of analytic techniques to examine local labour markets in Sydney, Melbourne and Brisbane. Firstly we develop formal commuting areas which represent local labour markets. Secondly, we examine self-average commutes and self-containment ratios for occupational groups across the metropolitan local labour markets. Secondly, linear programming techniques are employed to examine the nature of commuting, given the complex locational decisions made by residents. Results reveal some variation in commuting patterns across occupations with little variation in commutes but higher self-containment ratios at the SLA level for some low-skilled occupations. However longer commutes are found amongst low-skill occupations after controlling for the 'excess' or volitional nature of commuting, and suggests the distribution of jobs given the distribution of residents is more unequal for low-skill occupations. High skill-occupations tend to display higher rates of excess commuting reflecting that factors other than job-proximity may be influencing their locational decisions.

Regional Industrial Cluster Development and the Role of Knowledge Transfers Among Skilled Workers

John Spoehr¹, Lou Wilson²; ¹University of Adelaide, Australia; ²University of South Australia, Australia

S7-4

Our paper reviews social network theories that suggest the development of regional industrial clusters is aided by localised transfers of knowledge between skilled workers. The success of regional industrial clusters is held to be the outcome of high value knowledge transfers facilitated by relationships of trust and reciprocity among skilled workers with localised personal connections derived from living in spatially distinct communities. Such perspectives rest on assumptions that trust and reciprocity is derived from spatial proximity, embeddedness and loyalty to firm. Our paper questions these assumptions in relation to the rise of new communication technologies, globalised information flows and changing patterns of labour mobility, which might dilute the unique capacity of localised personal connections to facilitate the transfer of knowledge. We unpack the implications of these processes for the development of regional industrial clusters, discuss alternative approaches to understanding knowledge transfers and suggest areas for further research.

S8 – City Governance

Venue Napier G03, 15:30 – 17:30, Wednesday 28 November 2007

Master Planned Communities and Governance

Bhishna Bajracharya, Paul Donehue, Douglas Baker; Queensland University of Technology, Australia

S8-1

In the last three decades, a number of master planned communities (MPCs) have been developed in South East Queensland (SEQ) as part of the response to the housing demands of rapid population growth. Developers, state government, local councils and communities play key roles in the production and management of infrastructure and community services in these Master-planned communities. Alongside rising community expectations regarding quality of services, there is an increasing trend for developers to be involved in either the direct provision of infrastructure, or its funding, with local councils and the state government playing a facilitating role in provision of services alongside their more traditional role of direct provision. It is imperative to understand the governance structures as well as governance challenges of master planned communities at different stages of development.

The objectives of this paper are to review governance frameworks and challenges for master planned communities at three critical stages of development: the *visioning and planning stage*, the *implementation stage*, and the *completion stage*. The paper has identified three distinct governance structures of master planned communities — *single developer model*, *principal developer model* and *government led model*. Three case studies from South East Queensland, each being representative of a particular governance structure, are used to evaluate each of the three stages of development with respect to the challenges involved in the provision of infrastructure and services. The paper provides a framework for analysing the relationship between governance structures and the development of master planned communities, focusing on the relationships that exist between institutional stakeholders, and on the potential impacts of the transfer of infrastructure and service provision from private management to community and local control.

Governing the Compact City: The Governance of Strata Title Developments in Sydney

Bill Randolph, Hazel Easthope; University of New South Wales, Australia

S8-2

This paper addresses the governance of Strata Title developments, in the context of current metropolitan planning strategies based on increased higher density urban consolidation in Australia. Utilising theories of governance, it argues that the current focus on higher density development is vulnerable to challenges relating to regulation, representation and termination in strata developments. The governance of strata schemes is found to take the form of 'nodal' governance based on market principles, where stakeholders within a Strata Title scheme do not have equal rights to participate, and the market within which the governance structure operates is not free, but is regulated by a legislative structure that has inevitably lagged behind developments driven by the market. Principal among these is the increase in the size and complexity of strata schemes, which has put pressure on legislative arrangements originally designed for small developments with relatively few stakeholders. It is likely that these problems will escalate as an increasing proportion of the population move into strata schemes, particularly as the supply of skilled strata professionals may not be able to keep pace with demand.

'Public' Assets and the Master Planned Estate

Robin Goodman, Kathy Douglas; RMIT University, Australia

S8-3

Traditionally in Australia, developers have been responsible for providing either serviced residential lots, or house and land packages. Increasingly however developers are now offering housing estates that cater to those interested in particular lifestyle options.

Aimed predominately at the second or third home buyer with greater disposable income, a new style of master planned estate which includes additions such as recreational and community facilities or environmental features, promoted to appeal to particular market segments. However with these additional features come new ownership arrangements which may mean compulsory membership to bodies corporate responsible for ongoing maintenance. Of concern in relation to this new approach to residential development is the shift of responsibility for some community assets from public to private hands.

This paper explores the implications of this shift through investigation into some recent master planned estates in Victoria. We highlight prominent examples where assets of state or national significance are being transferred to body corporate ownership, and discuss the changing role of local government in relation to these developments. We examine some of the conflicts arising from the role of the body corporate in one particular Melbourne estate and consider issues relating to information available to potential buyers. We consider recent legislation to deal with bodies corporate which are attempts to provide a clearer framework for dispute resolution in such cases. Finally we conclude that greater caution should be exercised by those in a position to approve these arrangements as the array of potential pitfalls and conflicts is considerable.

■ The Governmentality of Master Planning: Creating Community in a New Estate

Lynda Cheshire, Ted Rosenblatt, Geoffrey Lawrence; University of Queensland, Australia

S8-4

Master planned communities (MPCs) differ from conventional residential developments in a number of respects, most notably in the range of additional infrastructural and social services that are provided by the property developer, as well as the extended period of time over which the developer remains involved in the development and functioning of the estate. To a large extent, this continued involvement arises from the developer's need to maintain control over the quality of its product so that the estate continues to attract prospective purchasers in subsequent stages of the development process. Paradoxically, however, this high degree of intervention renders problematic the developer's eventual withdrawal from the estate once all construction is completed. Drawing on research conducted in a south-east Queensland estate, this paper reveals how the developer attempts to resolve this paradox by formulating new governmentalities of rule in MPCs that seek to govern *through* community. While community has long been a component of the marketing of MPCs, it is shown in this paper how community also constitutes a technology of governing in two key ways: first by fostering a sense of communal pride in the estate so residents feel a moral obligation towards others to maintain its aesthetic appeal; and second, by seeking to implant the community with a capacity to govern itself, thereby ensuring the developer's standards are maintained, and the impact of its eventual withdrawal is reduced.

S9 – City Infrastructure

Venue Napier 210, 15:30 – 17:30, Wednesday 28 November 2007

Building 'Community' for Different Stages of Life: Physical and Social Infrastructure in Master Planned Communities

Philippa Williams; University of South Australia, Australia

S9-1

Australia's labour market and its cities are changing, along with the nature of housing and community configurations. Major new master planned housing developments are being undertaken to meet demand as cities struggle to cope with increasing populations. Such urban developments are influencing workforce, household and community relations, which in turn drive health and well-being outcomes, and affect social capital and labour market participation. The Work, Home and Community Study aims to explore

these outcomes through analysis of qualitative and quantitative data gathered in ten communities across four Australian states. This paper reports findings from the first phase of qualitative data collection. Fourteen focus groups were conducted with men and women who live and/or work at newly developed Master Planned Communities in South Australia and Victoria. Findings indicate that familiarity, availability, and the enabling of social bridges contribute to the development of community and social capital in these MPCs. For individuals at different stages of life these factors were facilitated or inhibited by specific physical and social infrastructures in the MPC and the workplace. At a time when concerns are being raised about the ability of people to combine work, home and community these findings shed some light on the physical and social infrastructures that can enable or constrain the building of healthy communities.

Mobility Profiles for Local Areas: Developing an Interactive Decision-Making Tool for Urban Design, Transport and Accessibility Improvements in Melbourne's Activity Centres

Jan Scheurer¹, David Mayes²; ¹RMIT University, Australia; ²Australian Institute of Urban Studies, Australia

S9-2

The Melbourne 2030 metropolitan strategy nominates the shift of car trips to public transport, walking and cycling, and the consolidation and densification of activity centres as key policy goals (DOI, 2002). This integration of urban design, land development and transport planning reverberates at the local government level, where many councils have struggled to reconcile the competing interests of development pressures, public space quality and the inherent contradictions of state government transport policies that still fail to convey clear priorities in favour of sustainable transport modes.

The Transport, Accessibility and Mobility Indicators (TAMI) pilot project has been developed in close collaboration with seven local councils, using selected activity centres on their territories as case studies. Reviewing and building on national and international best practice at measuring sustainability performance in the field of transport, accessibility and mobility, the project delivers tools to help decision-makers at the local level to better understand the transport and urban design strengths and shortfalls of their activity centres, and to use this data as input for strategic planning tasks along the Melbourne 2030 principles.

This paper introduces the suite of local area indicators compiled during the TAMI pilot project in 2006–07 and reflect on the opportunities and barriers encountered in their application to the local planning process.

S10 – City Structures

Venue Napier 209, 15:30 – 17:30, Wednesday 28 November 2007

The Evolution of Suburban Design in Metropolitan Adelaide

Alan Hutchings, Christine Garnaut; University of South Australia, Australia

S10-1

As much as anything, urban development over the last century has been about suburbia. The design of housing estates and the centres that serve them have continually exercised the minds of planners, of developers and of the local, state and federal authorities charged with strategic planning, infrastructure investment and development control.

This paper considers suburban development in Adelaide as it has evolved since the introduction of comprehensive town planning around the time of World War 1. In particular it traces key design themes that have informed the shape of subdivisions and housing estates. These themes include neighbourhood units, centres for community and commercial activities, the layout of streets, allotments and open spaces and the melding of these features with the landscape. They are summarised by reference to the

seminal Colonel Light Gardens suburb of the 1920s, the Living Areas concepts in the 1962 *Report on the Metropolitan Area of Adelaide*, the projects of the South Australian Housing Trust over the decades, the proposed city of Monarto in the 1970s, the master planned private estates of the 1980s and 1990s at West Lakes, Golden Grove and Seaford, and recent projects such as Mawson Lakes.

■ Making Periurban Farmers on the Fringe Matter

Frances Parker; University of Western Sydney, Australia

S10-2

Land use on the periphery of urban centres is of critical importance in the sustainability of healthy cities, food security, and natural resource management. Despite increasing recognition of the importance of local food production, transport costs, climate change, and the availability of water, the future of periurban rural lands and agriculture is often contentious, and if considered at all in planning, it is a 'remnant' issue after the overwhelming political imperative of urbanization.

Periurban agriculture also provides significant employment and adjacent urban areas provides the labour required for intensive horticulture but which is often lacking in rural areas. Periurban agriculture is, however, generally conducted by people with little political power. The Sydney basin contains the largest number of horticulturalists of any region in Australia, with farmers from diverse cultural and linguistic backgrounds (CLDB) producing 90% of Sydney's perishable vegetables. However, 40% of the current market gardens, including the most important area in Australia for Asian vegetable production, are in areas designated for urbanization.

This paper discusses strategies to "make periurban farmers matter", including: policy initiatives, such as the cross-sectoral *Premier's Task Force into Market Gardening by People of Non English Speaking Background*, and the *Education and Training Plan*; the use of deliberative planning, used in complex and messy political contexts to engage government, non government and community organizations; extensive media coverage; and farmers markets. The paper concludes that it is essential to recognize the "public good" of open space and agriculture in the urban and periurban contexts.

Onward, Outward, Upward? A Review of Contemporary Australian Metropolitan Growth Policies

Stephen Hamnett, Jon Kellett; University of South Australia, Australia

S10-3

All five of Australia's largest metropolitan areas are actively considering the best policy framework to deal with anticipated growth. For SE Queensland and Perth the pressures are immediate and powerful as burgeoning economies and significant inward migration put a premium on developable land. The pressures in Melbourne, Sydney and Adelaide are less intense but remain an issue in the longer term. Cities which have opted for Urban Growth Boundaries are faced with a significant decision as to the elasticity of those boundaries and the relationship between urban consolidation and expansion. This paper makes a comparative review of current growth strategies for the major Australian metropolitan areas (Melbourne, Sydney, Perth, Adelaide and SE Queensland) and specifically seeks to address two fundamental questions:

- What is the chosen strategy to accommodate growth — urban consolidation, extensions to existing urban growth boundaries, the expansion of townships beyond the existing urban boundary, the designation of land for new settlements?
- What are the proposed arrangements for implementing and assessing proposals for development in new growth areas, including the roles and responsibilities of state and local governments, the establishment of growth area authorities, commissions or assessment panels?

What About Australia's Small Cities: Do They Have Their Own Planning and Development Agenda?

Trevor Budge, Andrew Butt; La Trobe University, Australia

S10-4

Australia's urban hierarchy of large metropolitan areas and a second level of centres with over 200,000 people create one of the world's most urbanized countries. Australia's urban planning agenda has understandably focussed on the major urban areas. Third level cities, those with a regional service centre function and a population of around 80 – 130,000 each, now have a total population of nearly a million Australians and represent a significant element of Australia's urban scene. Yet at the national level at least, little attention has been given to these places as part of Australia's urban hierarchy. In their recent edited publication *Small Cities: Urban Experience Beyond the Metropolis* (2006) Bell and Jayne ask, is the planning and development agenda of third level cities merely a scaled down version of that applicable to metropolitan areas or can they 'find a meaningful and valuable use of ... their localness, their smallness ... [given that they are] caught between bulking up and staying small?' This paper examines Australia's third level cities, their role in an urban hierarchy and what their urban planning agenda is in a global world and national scene where size appears to matter.

S11 – Environmental City

Venue Napier 102, 15:30 – 17:30, Wednesday 28 November 2007

Change in Peri-Urban Australia: Implications for Land Use Policies

Michael Buxton¹, Darryl Low Choy²; ¹RMIT University, Australia; ²Griffith University, Australia

S11-1

Peri-urban areas have commonly been defined in relation to a nearby metropolitan area on their inner boundary, a rural area on their outer boundary, or as the land in between. Peri-urban areas usually are not homogenous but are dynamic areas and the focus of significant non-metropolitan growth, both in Australia and internationally. A functional analysis requires an examination of the reciprocal relations of interacting systems as well as the characteristics, extent and impacts of cities and rural areas on peri-urban areas. Typologies of peri-urban development must address this heterogeneity. An examination of two Australian peri-urban case study areas applies an enhanced typology and reveals a disorderly pattern of existing subdivision with little discernible pattern and reflecting historical subdivision approvals. The development of these fragmented lots is leading to clusters of dwellings on small lots and individual houses not related to farming practice across many parts of peri-urban landscapes. Governance and institutional arrangements are equally fragmented with little evidence of long term sectoral strategic planning or cross-sectoral policy and management. This lack of integrated planning threatens the future of Australian peri-urban areas at a time when their values are becoming increasingly important for Australian cities and regional areas.

■ The Provision of Open Space for Urban Residents: Theory of the Relationship Between Community Environmental Values and Performance Based Planning Processes

Paul Brookfield; Griffith University, Australia

S11-2

In recent decades the convergence of values-sensitivity and public participation in planning processes within an environmentally attentive era has evolved to spawn a distinctive union: A community — environment — values tripartite. The meaning of this tri-part is regularly contested during the process of urbanisation; particularly when the provision of open space is contemplated.

At the same time, planning theorists have advanced the potential for performance based planning and adaptive management pro-

cesses to accommodate complex and largely unpredictable social and environmental systems.

The purpose of this paper is to develop theoretical aspects of a doctoral research question, 'How can community environmental values be incorporated into a performance based planning approach to guide the provision of open space for urban residents?' Frameworks for understanding the meanings of concepts of 'community environmental values' and 'performance based planning' processes are constructed. The relationship between these concepts is explained.

Integrating Population, Land-Use, Transport, Water and Energy-Use Models to Improve the Sustainability of Urban Systems

Peter Rickwood, Damien Giurco, Garry Glazebrook, Alex Kazaglis, Leena Thomas, Michelle Zeibots, Spike Boydell, Stuart White, Graziella Caprarelli, Janet McDougal; University of Technology Sydney, Australia

S11-3

This paper describes the thinking used to develop an integrated urban systems model of transport and domestic dwelling energy-use in association with domestic water-use. The model aims to identify common consumption trends — synergies and tensions — to improve the efficacy of urban development policies that target sustainability issues in these infrastructure sectors. Examining the limitations of four other models used to understand similar problems, highlights the potential benefits of such a model. Using Sydney as a case study, the paper provides examples of preliminary results.

Connecting the Planning System with Natural Resource Management Around Adelaide: Promoting Sustainable Development in an Australian City-Region

Raymond Bunker¹, Peter Houston², Alan Hutchings³; ¹University of New South Wales, Australia; ²PIRSA, Australia; ³University of South Australia, Australia

S11-4

The recent promotion of integrated natural resource management around Australia poses questions about how such regimes will interact with established statutory and strategic planning systems. Peri-urban regions surrounding Australian cities — which are increasingly attracting the attention of governments as critical locations for a range of sustainability and developmental themes — are where this evolving interaction offers some clear benefits but faces its greatest challenges. In South Australia there is an unambiguous expectation enshrined in legislation that natural resource management and planning systems will be aligned in policy terms and effectively linked on the ground.

Using examples from the peri-urban region around Adelaide, where a number of traditional planning themes coincide with emerging natural resource management concerns, this paper poses some questions about the fundamental nature and limits of this relationship: then presents an outline of how such an interaction might work. Drawing on the strengths of each sector — the planning system's policy-making and decision-making processes and natural resource management's capacity for environmental monitoring and working with concepts like thresholds — a scheme for integrated planning and natural resource management in peri-urban regions is conceptualised and outlined.

S12 – Social City

Venue Napier G04, 15:30 – 17:30, Wednesday 28 November 2007

■ The “Future” of the Past and the Present of City of Sydney — On Studying the Conservation of the Rocks Historic Area

Angela Hongxia Cai; Griffith University, Australia

S12-1

Questioning the conservation of the City of Sydney's past is the focus of the paper, with reference to the protection of The Rocks historic area. With its interpretation and protection of elements relating to individual collective pasts and the identity of the city, conservation of its urban heritage has been playing a significant part in the development of Sydney over the past more than three decades. As a most historic city in Australia, it seems to have successfully established its image both as a city of great vitality and of sustainability which celebrates its old and new. The two are well blended that it can be said Sydney has grown far better out of the conditions of Lewis Mumford's "Babel in Europe". And this seems to be demonstrated in The Rocks in particular, with the area's unique location and iconic historic status. Yet by studying the history of The Rocks conservation movement and the current practices, the paper explores the contradictions between the past and present and in the conservation itself ever since the area has been protected.

No Longer an Hour Too Far Away: Reflections on the Impacts of the ‘Sea-Change’ Phenomenon on a Coastal City

Daniela Stehlik; Curtin University of Technology, Australia

S12-2

After a decade of rapid change, the sea change phenomenon is now well established on the eastern Australian coast where its impacts have been an ongoing focus for all tiers of government. However, in January 2006, a report to the National Sea Change Taskforce called for 'more detailed research within specific communities' in recognition of the diverse and contextual 'place based' nature of the phenomenon.

In Western Australia, while the wave of change has yet to be fully experienced, there are signs that the lessons learned in the eastern seaboard have yet to be absorbed by governments and policy makers.

This paper reflects on impacts to date, and future signposts focussing on the City of Albany — an important regional centre some 4.5 hours south of Perth — that is currently experiencing the phenomenon and its impacts. Albany once considered itself 'an hour too far away' — to be affected. In fact the rapid growth and infrastructure and development demands are placing not only the fragile environment under stress, but putting the very notion of 'Albany' and whose community it is, under question.

This paper highlights some of the intensely localised impacts and their relationship to a sense of place and sense of belonging. The research project is part of a larger 5 year international study — *Sustaining Gondwana* — currently being undertaken within Curtin University.

■ The Death and Life of the Great Australian Suburb

Louise Johnson; Deakin University, Australia

S12-3

Inspired by the approach to understanding, critiquing and rebuilding both planning and the urban environment that Jane Jacobs did so well in her *Death and Life of Great American Cities*, this paper begins with the personal experience of living in one suburban neighborhood in Melbourne, Victoria. Particular elements which make this both a positive and negative experience are then connected to the geographical, planning and urban studies literature to offer a broader context in which better suburbs can be planned, developed and activated.

The paper will be in five sections:

1. Suburban life worlds
2. Life of the great Australian suburb (affordable, open, community, diversity)
3. Death of the great Australian suburb (environment, "sprawl", polarization, services, citizenship)
4. Planning agendas (densification, activity centres, sustainability, master Planning)
5. Death or life of suburban futures

Discourses of Community in Urban Waterfront Regeneration: The Case Study of the Port Adelaide Waterfront Redevelopment

Susan Oakley; University of Adelaide, Australia

S12-4

Increasingly property led urban waterfront regeneration projects offer highly choreographed and packaged lifestyles that construct new forms of community under the guise of social sustainability. While the term 'community' is subject to multiple meanings waterfront redevelopments arguably market a concept of community expressed through the physical layout and landscaping of the waterfront site, the diversity of design and density of residential complexes and the way public space is supplemented with service and consumption activities. While the real estate market indicates a desire for diverse forms of cosmopolitan living it may not necessarily extend to a diversity of social classes. Through a discursive analysis of interview and document material, this paper explores the extent to which 'community' is both imagined and re-imagined as an outcome of these distinct new urban forms. This is considered using the Port Adelaide waterfront as a case study.

S13 – City Economy – General Economic Analysis Papers

Venue Napier 208, 10:30 – 12:30, Thursday 29 November 2007

This session comprises papers contributed through the ARC Research Network in Spatially Integrated Social Science (ARCRNSSS)

■ Impact Assessments of Retail Development Proposals: A Black Box of Numbers or Useful Planning Tools

Robert G.V. Baker; University of New England, Australia

S13-1

The use and misuse of economic impact assessments of proposed retail developments is a major concern for planning authorities endeavouring to maintain the viability and vitality of town centres. The results of economic modelling and projections of household expenditure, future demand and the supply of floorspace produces a set of numbers which are often devoid of spatial context. This paper argues that economic impact has to be set into the economic geography of the town or suburb. The location of the development relative to the town's main street and the current parking provision is a fundamental consideration. There is a distance decay mechanism for shoppers walking from where they park their cars and a behavioural maximum of 200 metres beyond which passing trade should be rapidly discounted. Further, if the economic numbers show an undersupply of floorspace, then this should be matched by observed low retail vacancy rates in present prime retail locations. If not, then the underlying assumptions need to be carefully scrutinised. This paper argues that there needs to be a spatial sequential test giving priority to the integration of the proposal with main streets over edge-of-town developments. It is further argued that long-term retail strategic planning needs to allocate quantum of floorspace that maintain the viability of current retail locations within the constraint of population change.

■ Infrastructure Financing and Operation in the Contemporary Urban Economy

Phillip O'Neill; University of Western Sydney, Australia

S13-2

The paper presents an analysis of the impacts on large cities of

approaches to infrastructure financing, delivery, management and control. The analysis is based on a case study of Sydney and the 'Macquarie Bank model' with attention drawn to sources of finance, relationships with governments, the nature of economic value added (EVA) involved and of corporate strategy. The paper draws on extensive interviews with key informants from the infrastructure sector and from detailed analysis of the financial statements of Australia's two largest infrastructure financiers. It shows how infrastructure and new modes of infrastructure financing provide a unique mediation between the fiscal conservatism of Australian governments and public sector agencies, the over-filled daily lives of the residents of large cities, and the ever-growing pool of Australian superannuation savings. Implications for the nature and direction of urban economy are drawn, particularly on the emergence of the 'tolling' of daily life in large cities as a recession-proof circuit of capital.

■ The Question of Housing Affordability

Tony Sorensen; University of New England, Australia

S13-3

During the last 12 months, housing affordability, as measured by various indices, has declined in Australia's capital cities. Yet house prices have not declined in sympathy and, indeed, a mild up-turn in real house prices appears under way as of mid 2007. At an aggregate level, then, consumer behaviour confounds affordability analysis.

It is therefore timely to consider in depth the notions of affordability and unaffordability and how they relate to different segments of the housing market. This complex task involves many inter-connected and changing variables, including:

- household income structures;
- family status;
- demographic composition;
- net (im)migration flows and their geographical distribution;
- fiscal settings (e.g. personal tax rates, level of the GST, property taxes);
- subsidies to housing goods (and also superannuation);
- cost of capital;
- attractiveness of alternative domestic investment opportunities;
- attitudes to saving and investment;
- allocation of household budgets (and price movements for 'other' goods);
- income split between business and households;
- international capital flows;
- state of the economy and consumer sentiment;
- inter-generational funds transfer (including inheritance);
- market expectations regarding the quantity and quality of housing goods;
- lifestyle preferences;
- infrastructure supply and pricing;
- land subdivision strategies (both developer and regulator);
- developer strategies (both land supply and types of dwelling constructed); and
- economies of scale and scope in construction.

The paper models conceptually the interactions between these variables. It is important, too, that the issue of housing costs relative to income cover both home ownership and renting. In economic theory, at least, households should be indifferent between these alternatives.

Consequently, there may be housing affordability difficulties for some households in some segments of the housing market. However, the scale of the problem appears limited and masked or distorted by simplistic indicators or their misinterpretation.

■ Predicting the Effects of Policy Changes and Deriving Socio-Economic Estimates in Urban Environments: NATSEM's Spatial Microsimulation Model

Robert Tanton, Ann Harding; University of Canberra, Australia

S13-4

For the past five years NATSEM has been developing spatial microsimulation models, along with a small area household database suitable for quantifying such characteristics as poverty, housing affordability and income inequality at the small area level (the Statistical Local Area). In addition, this database has been linked to NATSEM's existing STINMOD model, which means that it can be used to predict the effects of income tax cuts or social security changes at a small area level. It is also being used to examine the spatial impacts of population ageing in 2020 and the implications for needs-based planning of government and other services.

This modelling allows comparisons between and within urban areas, and between urban and rural areas. This paper will further explore how this method could be used to further investigate poverty, housing affordability and income inequality for different urban areas; and also how the model can be used to predict the effect in the urban environment of policy changes like income tax cuts or social security changes.

S14 – City Governance

Venue Napier G03, 10:30 – 12:30, Thursday 29 November 2007

Darwin as 'Creative Tropical City': Just How Transferable is Creative City Thinking?

Susan Luckman¹, Chris Gibson², Tess Lea³, Chris Brennan-Horley²; ¹University of South Australia, Australia; ²University of Wollongong, Australia; ³Charles Darwin University, Australia

S14-1

This paper contributes to recent debates about how urban policy discourses travel, whether they are transferable and what is lost in their translation. It draws on recent ARC-Linkage funded research on Darwin, a tropical-savannah location which the local government wants to promote as a 'creative city'. We contextualise our discussion in academic literatures on the creative city, and then discuss the geographical, demographic and cultural characteristics that make Darwin a challenging and distinct context for translation of global theories of creative city rejuvenation. As well as argue a case for more nuanced locationally-specific analysis of the capacity of places to embrace travelling policy discourses, we suggest ways in which creative city research can be refreshed, including through intersection with literatures on (post)colonial urban politics, and through consideration of policy initiatives other than those targeted at 'creative industries' *per se*. We also emphasise that tropical cities in remote locations provide particular challenges to accepted wisdom about creativity-led urban planning.

Rethinking Regional Innovation Systems

James Juniper; University of Newcastle, Australia

S14-2

The objective of this paper is to review influential theories of regulation and corporate governance with a view to arriving at a rigorous inter-disciplinary framework for the analysis of centrally coordinated regional innovation and regional development policy. In particular, it will combine Lazonic and O'Sullivan's Conditions of the Innovative Enterprise framework with a 'Spatial Keynesian' Analysis, to highlight the often-overlooked linkage between (spatially articulated) macroeconomic policies of full employment, infrastructure development and training and regional innovation policy. It will then examine opportunities for empirical analysis that are afforded by this integrative approach.

Educational Markets as Urban Development Generators: Intersections of Governance, International Students and Local Communities in Adelaide, South Australia

Matthew Rofe¹, Clement Macintyre²; ¹University of South Australia, Australia; ²University of Adelaide, Australia

S14-3

Australian universities have long recognised the importance of international education markets. In the face of reduced Commonwealth funding, international students have been perceived as one means to generate much needed capital. However, international students must be seen as more than 'cash cows'. International students assist in the creation of transnational partnerships tying Australian universities with international institutions. Recently, an awareness of the benefits derived from international student markets has entered the policy considerations and planning agendas of local government bodies. Increasingly, local government perceive international students equally as international linkage facilitators and local development generators. In recognition of this trend, Adelaide City Council has identified students as a key strategic resource in the revitalisation of the inner city area. The aggressive pursuit of international students through local government policy has been employed to stimulate significant economic investment in the city, particularly through the building of large-scale student residential complexes. Such policies are initiating significant changes within the physical form and social character of the City. We refer to such policy directions as educational entrepreneurialism. The changes initiated by educational entrepreneurialism have been met by the local community in vastly different ways. This paper investigates educational entrepreneurialism and reports on competing community perspectives derived from large-scale questionnaire sampling of 31% of households within the City of Adelaide. The significance of this paper rests not only in critically examining local community perceptions of and responses to educational entrepreneurialism policies, but equally in theorising more socially equitable and sustainable strategic planning pathways.

Collaboration Matters — Cooperation for TOD in City Regions

Annette Kroen; RMIT University, Australia

S14-4

This paper deals with governance models for transit-oriented development (TOD). TOD is a concept of mixed-used, medium to higher density development around public transport that is gaining importance in Australia. In the last few years it has been discussed in all large Australian cities and the first examples have been built.

To understand how metropolitan governance can help implement TOD, two overseas city regions will be examined and then will be compared to what is happening in Melbourne. In Bonn (Germany) there is an informal regional cooperation involving collaboration, among other things, on TOD. In Denver (USA) the citizens voted for an extension to the light rail network over a 12 year time frame. A regional planning organization is involved in TOD, and furthermore NGOs and other organisations are important players. In Melbourne the Transit Cities program aims to promote TOD and involves both state and local governments.

The paper draws on interviews conducted in 2006 and 2007 and compares the three cities against a background of recent literature on metropolitan governance and TOD. It will critically assess the structures and highlight how Australian cities could learn from the experiences.

S15 – City Infrastructure

Venue Napier 210, 10:30 - 12:30, Thursday 29 November 2007

Clothing the Emperor?: Transport Modelling and Decision-Making in Australian Cities

Rick Evans, Matthew Burke, Jago Dodson; Griffith University, Australia

S15-1

In no field of planning is there more reliance on technical-rational decision-making processes than transportation planning. In Australian cities transport planners still heavily rely upon complex, quantitative transport models, especially the four-step model (FSM) and its variants, used at the regional, metropolitan and corridor levels of analysis. While it is beyond the scope of this paper to provide a detailed critique of each stage of the FSM, there are numerous problems with its use that need to be addressed. This paper examines the empirical shortfalls of the technical-rational process, highlighting the reliance on a select few experts, limited public participation in modelling processes, and decision-makers who have little understanding of the methodological limitations inherent in transport modelling advice. Model deficiencies do not allow for, and may actually impede consideration of many of the most important emerging issues within cities, including road pricing, climate change and oil vulnerability, as well as long-held concerns such as land use changes, induced travel, the environment and sustainability. This paper identifies numerous inter-related concerns about the broader policy and political dimensions of technical-rational decision-making in the transport sector, and recognises the main tools used in technical assessments.

The Changing Port-City Interface: Moving Towards Sustainability?

Phil McManus; University of Sydney, Australia

S15-2

In December 2006 local residents celebrated the withdrawal of a planning application for a cement terminal at White Bay, Sydney. While this action highlights the value of political organising in a marginal seat in the lead-up to a state election, it also raises important planning issues about the redevelopment of old waterfront sites, or what Hoyle (1988) identified as part of the port-city interface. What happens to cityports when many uses move to new seaport facilities, and there is increased competition for urban amenity and spatial control of both water and land at the former cityport site? As Gilliland (2004, 453) noted, "... one effect of incessant technological innovation is to periodically destroy past investments and radically transform the urban landscape". Transformation is, however, increasingly contested. Importantly, as seen at White Bay, it is contested through the notion of place, not simply seeing the port as a conduit in space. Given this contestation, what constitutes good urban planning at the port-city interface? In this paper, it is argued that the recognition of changing urban contexts, awareness of environmental issues, fair processes and a comprehensive redevelopment plan are essential to garner community support and to avoid piecemeal redevelopment.

An Effective Tool for Advanced Traveller's Information Systems Development

Kun Zhang¹, Jeremy Woolley², Branko Stazic¹;

¹University of South Australia, Australia; ²University of Adelaide, Australia

S15-3

This paper presents a tool for advanced traveller's information systems (ATIS) development and testing. The ATIS provide travellers with real time traffic information to help them make informed route choices in minimizing their travel costs. The ATIS also provide traffic managers with a powerful means to implement transport policy and to handle incidents through influencing travellers' dynamic route choice. We have developed a portable program to implement a variable message sign (VMS) based route guidance system in a simulated urban city environment. Expected travel delay is the primary information distributed by the VMS. Individual drivers' inherent characteristics (i.e. awareness and

aggression), their minimum acceptable travel delay and perceived travel cost determine their dynamic route choice. The Adelaide CBD microscopic traffic model is used to test this program. The preliminary results demonstrate the capability of the program in mimicking traveller's dynamic response to VMS (and traffic information in general), which makes it an ideal tool for ATIS strategy development. This program also improves the accuracy of microscopic traffic simulation of incidents and their impact on urban traffic networks.

■ Driving Alone — Sydney's Cross City Tunnel

Peter Phibbs; University of Western Sydney, Australia

S15-4

The cross city tunnel in Sydney has been a fairly spectacular failure as a Public Private Partnership — the operating company has gone into receivership less than 2 years after the tunnel opening in August 2005. The tunnel, built at a cost of about \$800 million failed to attract the traffic required to meet interest payments. Even when use of the tunnel was free, the traffic did not approach the forecast traffic levels of 90,000 vehicles per day.

The paper argues that the project was always a marginal one — the volume of traffic that needs to move east-west across the city is relatively small. This fundamental problem was exacerbated by the high cost of the toll (\$3.56), the lack of traffic growth in the east of Sydney and the negative reaction of consumers against what they saw as Government attempts to force them to use the tunnel.

Whilst a major difference of this project compared to earlier PPPs is that the private partners bore most of the risk, the actions of the Government in breaking the terms of the original contract will expose them to higher risks and financing costs in the future. The issue for the private infrastructure sector is that the public views the project as a dismal failure and hence their appetite for future PPPs may be diminished.

S16 – City Structures

Venue Napier 209, 10:30 - 12:30, Thursday 29 November 2007

Ageing and Its Implications for Housing and Urban Development: South Australia

Alpana Sivam, Sadasivam Karuppattan; University of South Australia, Australia

S16-1

Declining fertility, increasing life expectancy and the effect of the 'baby boomer' generation moving into older age groups has contributed to an increase in the proportion of the population aged 65 years and over. This trend will continue over years, to such an extent, that the proportion of the population aged 65 years and over will grow, from the current 13% to 25% by 2051. Demographic changes and urban policies/governance issues are major concerns in cities, and it is expected to have a significant impact on cities in the future. The changing age profile, along with lifestyle and work pattern changes, will effect the future housing arrangements and urban development.

The aim of this paper is to examine the consequences of ageing on urban development and housing in South Australia. The research found that current and future housing requirements of older South Australians, varies within and between some groups/cohorts and this differentiation was clearly related to where people live, their age, socio-economic status and the assets they hold. 'Ageing in situ' or 'ageing in place', is seen as a more preferred option by the aged people. There is a strong need to offer more support for ageing in place and options for appropriate and affordable accommodation in suitable locations with a right house design.

Dragging Our Heels?: Progress Towards Subregional Housing Market Strategies and Assessment

Simon Pinnegar; University of New South Wales, Australia

S16-2

International housing policy has become increasingly responsive to, shaped by, and structured to work *within* the dynamics of the

housing market, whether in terms of determining responses to supply/demand imbalances or providing solutions to imperfections that the market itself creates. Reflecting a recognition of 'market as problem; market as solution', there has been a parallel increase in policy and research interest in the UK and US leading to the development of frameworks which facilitate a better understanding of housing market dynamics, both in terms of drivers and impacts (Bramley et al, 2004; Katz, 2006). Despite a strong reliance on the market to deliver housing and renewal outcomes, Australia has been somewhat sluggish in getting metropolitan planners, LGAs and stakeholders working collaboratively to better understand housing markets and their policy implications. Sydney's *City of Cities* (Department of Planning, 2005) identifies the role of a subregional approach in translating subregional 'targets', based on capacity rather than market dynamics, into numbers to guide housing market assessment at LGA level. However, given the dominance of housing supply-side rather than demand-led approaches, this paper raises the question whether Sydney — and indeed other Australian cities which have benefited recently from the development of Metropolitan strategies — will struggle to translate those plans into practice, certainly in terms of broader social equity and housing affordability concerns.

Community Mix, Affordable Housing and Metropolitan Planning Strategy in Melbourne

Gavin Wood¹, Mike Berry¹, Elizabeth Taylor¹,
Christian Nygaard²; ¹RMIT University, Australia;
²University of Reading, UK

S16-3

Income segregation across Melbourne's residential communities is widening, and at a pace faster than in some other Australian cities such as Adelaide. Back in 1996 Australian Taxation Office data show that average taxable income in Melbourne's 10 postcodes with the highest taxable incomes was 2.1 times that in the 10 postcodes with the lowest taxable incomes. By 2003 this multiple had widened to 2.7, but in Adelaide it remained unchanged at 1.8 over the same time period (Nygaard, Wood and Stoakes, 2006). The widening gap between Melbourne's rich and poor communities raises fears about concentrations of poverty and social exclusion, particularly if the geography of these communities is such that they and their residents are increasingly isolated from urban services and employment centres.

Social exclusion in our metropolitan areas and the government responses to it are commonly thought to be the proper domain of social and economic policy. The role of urban planning is typically neglected, yet it helps shape the economic opportunities available to communities in its attempts to influence the geographical location of urban services, infrastructure and jobs. The location of these dimensions of the urban environment plays a pivotal role in determining a community's access to public transport, employment, and services and hence the wellbeing of its residents.

Melbourne 2030 is a strategic plan for the metropolitan area that has as its overarching aim the creation of a more compact city contained by a growth boundary. Urban services and transport infrastructure are to be concentrated within Principal Activity Centres spread throughout the metropolitan area (there are 25 in total); each centre is expected to support a mix of land uses and densities of development. Since Principal Activity Centres will become increasingly important there is recognition in state government circles of the importance of affordable housing that offers all Melbournians, including lower income households, ready access to these activity centres. In his introduction to the Government's plan for an integrated Victorian housing strategy, the then Premier of Victoria Steve Bracks stated:

"It is our intention to ensure the housing market responds to the needs of all households and that more affordable housing is provided closer to services and jobs in and around activity centres and elsewhere in Victoria" (Department of Human Services, September, 2006, p1).

This is a vision of integrated communities and it recognises the importance of affordable housing to such a vision, a policy goal that governments are aspiring to achieve. But the Victorian state government has few housing policy instruments to achieve this goal,

beyond a hope that relaxation of zoning controls to permit higher density housing will allow the market to deliver more affordable housing opportunities in the vicinity of Principal Activity Centres. If the market is unable to deliver, public housing is unlikely to offer a solution given its peripheral role and the reluctance of the federal government to fund expansion of social housing programmes.

There are, then, fears that community mix may suffer as house prices and rents are bid up in the vicinity of Principal Activity Centres, and lower income households are displaced from these metropolitan centres of employment and urban services. *But are these fears justified by the changing geography of house prices in the metropolitan region?* This is the key research question that we address in this paper. In the next section, we outline key changes in urban structure in Australia, focusing on the emerging spatial inequalities in income and land values. In the following two sections we further set the scene by, first, briefly outlining land use planning and the major strategic planning intervention in Victoria as set out in *Melbourne 2030*, and then offering detailed empirical evidence on changing community mix as reflected in measures of income segregation in Melbourne. The substance of the paper follows in section 5 where we analyse the changing geography of Melbourne's affordable housing, with special reference to its location relative to *Melbourne 2030* Principal Activity Centres. This section briefly outlines our method and then presents findings. A final section offers some concluding comments on fostering and encouraging affordable housing.

Our principal conclusion is that *Melbourne 2030* must confront a dilemma/conundrum; a more compact city seems necessary if we are to ensure a more environmentally sustainable urban settlement pattern. However, a likely outcome is loss of community mix as lower income households are displaced from the centres where urban development is concentrated. If this segregation is happening, as the evidence suggests, should we care? Does the Victorian practice of placing reliance on the market to deliver affordable housing, and focus interventions on promoting a more compact pattern of urban settlement work?

■ Mobility and Multiple Residential Dynamics in Contemporary City Regions

Fiona McKenzie¹, John Martin², Chris Paris³, Jeremy Reynolds¹; ¹VIC Department of Planning and Community Development, Australia; ²La Trobe University, Australia; ³University of Ulster, UK

S16-4

This paper will explore the impacts of multiple home ownership and use of multiple residences on cities and regions in affluent societies. Trends of increasing affluence and mobility expose the shortcomings of conventional planning methods based on measures such as 'usual' residence. The paper considers ideas about 'sea change' and 'tree change', which figure prominently in the Australian media, and the impacts of multiple dwelling ownership, mobility and migration between metropolitan and non-metropolitan areas. Affluent incomers have both positive and negative impacts on many coastal and country areas. These processes are of interest to a range of policy makers as well as many citizens active in local community organizations. Comparative evidence will be introduced from Ireland and Victoria and related to an international literature on mobility, lifestyles, life courses, absentee home owners, household consumption, investment strategies, and public policy debates. The authors have conducted research separately on aspects of the ownership of second homes ('holiday homes') in Australia and Ireland and are currently undertaking further work on changing patterns of mobility, the impact of these changes on communities and public policy issues especially strategic land-use planning and intergovernmental fiscal relations.

S17 – Environmental City

Venue Napier 102, 10:30 - 12:30, Thursday 29 November 2007

An SVG Simulation Tool for Stormwater Harvesting Systems in the City of Salisbury

Paraskevi Thomas, Phil Howlett, Julia Piantadosi, John Boland; University of South Australia, Australia

S17-1

A Scalable Vector Graphics (SVG) simulation tool has been developed for the optimal management and risk assessment of urban stormwater harvesting systems. The aim is to create a tool to model the Helps Road Drain in the City of Salisbury, South Australia. The system consists of a stormwater supply channel with an urban catchment and a series of 5 inline storage facilities, each serving to capture and hold stormwater for harvesting and aquifer recharge and also as a temporary water storage for flood mitigation. The purpose of the simulation tool is to analyse the operations of urban stormwater harvesting systems and to study the movement of water through a series of connected dams in conjunction with an aquifer storage and recovery (ASR) system. The simulation tool will provide water managers with an easy-to-use computer-based management package. The system will generate simulated rainfall scenarios and associated simulated runoff to enable a realistic assessment of system capacity and performance and will allow managers to visualise limiting factors and assist in understanding the interdependence of different system components. The simulation tool has the ability to investigate the effectiveness of various water management policies by evaluating the Conditional Value-at-Risk (CVaR) for failure of the stormwater supply system. The tool provides visual outputs of simulated situations and information about simulated statistics and observed distributions of the movement of water.

Recycling Water for Australia's Future — The Case of Two Victorian Cities

Anna Hurlmann; University of Melbourne, Australia

S17-2

Historically, a secure water supply has been critical to a city's survival. In Australia this reality has been heightened as the water storages of many of the country's major urban centres drop to critically low levels leading to a water crisis. The use of recycled water has been proposed as one solution to this crisis. The experience of many recycled water projects around the world has demonstrated that community acceptance is critical to their success, especially projects which propose close personal use of recycled water, such as drinking or showering. This paper reports findings of a research project investigating public perceptions of recycled water at two commercial case study sites in Victoria: the Council House 2 Building of Melbourne City Council in Melbourne; and the Bendigo Bank Head Office in Bendigo. Both buildings will incorporate the use of recycled water for non-potable (non-drinking) uses such as toilet flushing and garden irrigation. An on-line survey was undertaken at each location prior to the use of recycled water commencing. The paper compares attitudes of respondents in the two locations, including: the perceived need to use recycled water; trust in the water authority; fairness in recycled water system implementation; perceived quality of the recycled water; satisfaction with the recycled water system; and information provision. Results indicate that there were significant differences in attitudes between locations. Results indicate the importance for governments and the water authority to gain and maintain trust of communities in order to ensure recycled water use acceptance.

Supplementing City Water Supplies: The Social Potential of Alternative Water Sources

June Marks; Flinders University, Australia

S17-3

The need to conserve and reuse natural resources is a key factor in making our cities more ecologically sustainable. Urban water supply is one of the most pressing concerns which will require more than conservation or demand management if future water security is to be realised. Therefore, this paper aims to clarify several

key aspects of public acceptance of alternative water sources that are currently under consideration in different parts of Australia. Firstly, the acceptability of different scenarios are reported for recycling water from effluent, stormwater, greywater, as well as the capture of rainwater and desalination of seawater. These data for each of seven Australian capital cities that have experienced water restrictions during the prolonged drought are drawn from the first national survey ($n=2504$) on this topic. Secondly, levels of confidence in using recycled water are explored, derived from three case studies of 'third pipe' (or dual reticulation) systems in the Rouse Hill area and Newington in Sydney and Mawson Lakes in Adelaide. Thirdly, the paper summarises national survey respondents' reasons for hesitation or concern. Finally, the extent to which the general population were previously aware of the practice of recycling water is reported for each city. While the response to drinking water sourced from effluent or stormwater mirrors the outcome of the Toowoomba proposal, there is little evidence here that public perceptions justify hesitation in factoring in other alternatives.

Water Restrictions as Way of Moderating Demand

Bill Randolph¹, Patrick Troy²; ¹University of New South Wales, Australia; ²Australian National University, Australia

S17-4

Restrictions on the use of water supplied by water corporations are frequently introduced in Australian cities whenever the demand for water exceeds the experienced or anticipated supply. This paper examines evidence from a stratified random survey of 2179 households in Sydney in a period when restrictions on domestic water use outside the home had just been imposed. The paper explores attitudes and responses to the imposition of water restrictions on external water uses in different kinds of dwellings in different parts of Sydney. The survey focused on reported water consumption behaviour and was enriched by information obtained from a series of follow-up focus groups. The research revealed a range of responses which, in part, reflected differences in dwelling attributes and capacities of water consumers to respond to water restrictions, which in turn is reflected in differences in attitudes towards water conservation.

S18 – Social City

Venue Napier G04, 10:30 - 12:30, Thursday 29 November 2007

A Holistic Approach to Studying Segregation in Australian Cities

Kevin M. Dunn, Therese E. Kenna, Ian H. Burnley; University of New South Wales, Australia

S18-1

In this paper we are specifically concerned with research approaches to the growing societal divisions that have captured the attention of many urban scholars and policy makers. In this paper we argue that research on segregation has had an over-reliance on statistical measures of outcomes, which limits our understanding of segregation processes and impacts. A mixed method, multi-staged approach to research on residential segregation generates a more holistic picture of the processes and impacts of social segregation. We showcase a staged analysis of data from Sydney, Australia, using Vietnamese-Australians. The use of both statistical measures and field based insights enriches the understanding of segregation, and allows a more rounded basis for discussing policy responses and remedies.

Macquarie Links Estate: A Gated Residential Suburb in Sydney

Therese E. Kenna; University of New South Wales, Australia

S18-2

The emergence of gated residential spaces in Australian cities has begun to attract the attention of researchers, policy makers, governments and planners. In this paper I present findings from research within a gated residential estate in south-western Sydney

(Macquarie Links Estate). The research is based on data from surveys and interviews with residents within the estate during 2007. In this paper, I am primarily concerned with two broad areas – the desire and need for security, and the formation of community and the mechanism of community title. I will conclude with comments on the exclusive segregatory nature of gated residential developments with reference to some dangers and encouraging signs.

Redressing Neighbourhood Disadvantage: Towards a Sustainable Partnership Model Driven by Local Government

Jason Prior; University of Technology Sydney, Australia

S18-3

The concentration of disadvantage in specific neighbourhoods is a widespread characteristic of many Australian cities. To redress these concentrations of disadvantage a board range of policies and programs have been designed and implemented. It has become apparent that more integrative forms of governance involving all levels of government, the private sector and community are required to address localized disadvantage which support a bottom up approach rather than the traditional top down approach. Within the Australian context, in particular the NSW context, local governments have been identified amongst the most effective drivers for these integrative governance approaches. In driving these initiatives local governments are faced with the task of balancing their traditional role of local government with the provision of a framework for more integrative forms of governance. Utilizing a case study of the Penrith Neighbourhood Renewal Program, this paper explores the recent attempts by Penrith City Council to develop a framework to redress neighbourhood disadvantage, firstly by developing an integrative governance framework for the program and secondly by transforming the Council's operational structure.

The Consequences of the Creative Class: The Pursuit of Creativity Strategies in Australia's Cities

Rowland Atkinson¹, Hazel Easthope²; ¹University of Tasmania, Australia; ²University of New South Wales, Australia

S18-4

The concept of 'creative cities' is gaining increased prominence amongst urban planners and policymakers concerned with the linkages between economic development and the 'soft' attributes of cities. While definitions of what exactly constitutes 'creative industries' and who the members of a 'creative class' actually are continue to be contested, many key urban policy actors are focused on engendering changes in their cities that set them apart as 'creative'. While stressing the need for a tolerant urban milieu, these strategies have also been associated in the literature with a series of detrimental outcomes, including the gentrification of lower-cost neighbourhoods, zero-tolerance policing and the broader displacement of progressive and welfarist orientations in local politics and programmes. We provide an overview of recent attempts to implement creative cities ideas in five Australian cities (Adelaide, Brisbane, Hobart, Melbourne and Sydney) where eighty-two in-depth qualitative interviews were carried out involving a hundred city government, business and community stakeholders. The paper frames the potential benefits and pitfalls of incorporating creative cities ideas into urban governance structures and their reception by community and NGO groups, both in terms of the incorporation of these ideas into policy and practice, and in terms of their unintended social impacts.

S19 – City Economy – Employment

Venue Napier 208, 13:30 – 15:00, Thursday 29 November 2007

Jobs in the Suburbs: Employment in Melbourne

Alan Davies; Pollard Davies Pty Ltd, Australia

S19-1

This paper investigates changes in the location of urban employment, focussing on suburban dispersal and the emergence of

suburban employment concentrations. The core idea is that transformations in the way different industries utilise agglomeration economies is a key factor driving the emergence of a new urban spatial structure. The paper reports preliminary results for Melbourne indicating that the extent of employment dispersal differs significantly by industry sector. Moreover, suburban employment concentrations in Melbourne appear increasingly to be developing distinct and possibly complementary economic roles.

Industrial Clusters, Local Labour Markets and Innovation: A Case Study of an 'Unglamorous' Industry

Anthony Kent; RMIT University, Australia

S19-2

This paper is concerned with a common question for economic geographers – why do similar industries cluster together? Since the 1970s, this enquiry gained impetus as a result of 'declining regions' and the contrasting success of a handful of 'glamour' regions. A common characteristic of these 'new economic spaces' was intense interaction between local firms and institutions, with a strong element of 'untraded interdependency', particularly in the form of knowledge exchange and innovation. In the cut-throat world of the global economy, it was argued that these characteristics would lead to competitive advantage. I examine the key propositions of this approach in an Australian context and argue they are unconvincing. I then turn to an alternative approach and suggest that in an age of 'ubiquities', only labour remains embedded locally. Is labour then, the bedrock of industrial clusters? I develop this idea by revisiting regulation theory – and a case study of an 'unglamorous' but resilient manufacturing sector in Melbourne's north.

Critical Events and Labour Mobility: Long-Term Outcomes of the Ansett Collapse

Sally Weller; Victoria University, Australia

S19-3

Labour mobility is often prompted by critical events, such as corporate failure, that prompt workers to seek new jobs. This paper draws on data from a five-year follow-up of the destinations of Ansett Airlines employees to explore the factors contributing to geographical, sectoral and occupational mobility.

S20 – City Governance

Venue Napier G03, 13:30 – 15:00, Thursday 29 November 2007

Electoral Barometers: The Geography of Minor Parties in Australian Cities, 1997–2006

Stephen Smith; UNSW@ADFA, Australia

S20-1

Most electoral studies research on Australian cities has focused on the characteristics of voters in a city. This research focus has been preferred to examining the geography of a political party's electoral performance across a particular urban electoral landscape. Yet, urban electorates are often crucial to the electoral prospects of political parties at state or federal elections. This paper will examine the geography of the electoral performances and presence of four minor parties (Australian Democrats, Family First, Greens and One Nation) at state and federal elections held between 1997 and 2006, utilising the cities of Adelaide and Sydney as case studies. Examinations of election results point towards distinct geographies of minor party electoral performances. These geographical differences are highlighted through variations in voting patterns for the various political parties in a given urban electoral setting. Variations in electoral performances also point towards differences in voter attitudes, such as the prioritising of economic and quality-of-life issues in determining their political allegiances. Changes in the geographies of minor party electoral performances may be used to indicate how these parties could be barometers of broader electoral trends.

Multiple Dialogues and Conflicting Agendas on Governing the City: Western Australia's 'Dialogue with the City'

Diane Hopkins; Curtin University of Technology, Australia

S20-2

Governments are seeking to involve the broader community in their decision-making processes in response to changes in the relationships between citizens and the state. This is particularly relevant to public policy issues concerning the built environment of cities. Deliberative democracy has emerged in both practice (Parkinson 2004, Weeks 2000) and theory (Bohman 1998; Bohman & Rehg 1997, Cooke 2000, Dryzek 2000) as a philosophical approach for involving citizens in these types of government decision-making. This has been documented in the planning literature as a normative shift towards participatory planning, as seen in communicative planning theory. While advocates of participatory government decision-making (Healey 1996, 1997; Forester 1999) insist that it can increase citizen influence on policy, some scholars (Cooke 2000; Gaus 1997; Young 1996, 2000, 2001) argue that processes employing this philosophy are either naïve or obfuscatory. Furthermore, several scholars (Held 1987; Young 2001) argue that participatory processes can actually reduce citizen power in decision-making.

This paper argues that participatory processes are viewed in multiple ways through multiple dialogues or discourses. It draws on the author's research of a participatory planning process, the Western Australian Government's 'Dialogue with the City'. 'Dialogue' was initiated in 2003 by the Western Australian Planning and Infrastructure Minister to formulate a long-term plan for metropolitan Perth. It was designed as an exercise in deliberative democracy that sought to involve the broader community in determining the future shape of the city. This paper highlights the conflicting perspectives participants had on the Government's motivation for initiating 'Dialogue' and discusses the implications of these agendas for the role of planners in participatory decision-making.

Urban Networks, Learning and Innovation

Bruce Wilson¹, Anne Badenhorst¹, David Charles², Chris Duke¹; ¹RMIT University, Australia; ²University of Newcastle Upon Tyne, UK

S20-3

For more than a decade, the OECD has encouraged research and debate on the concept of learning regions, and its relevance to policy interventions intended to promote economic and social development. CRITICAL (City-Regions as Intelligent Territories: Inclusion, Competitiveness and Learning), a European-funded project, has contributed to research on this and related ideas, focusing on five 'city-regions'. The CRITICAL research team involved researchers from universities in each of Tampere, Finland; Dublin in Ireland; Dortmund in Germany; Newcastle-on-Tyne in England; and additionally, from Melbourne, Australia.

The project examined the kinds of learning that occur in different types of networks, and their implications for innovation. In the European cities, case studies were conducted on eight networks in various sectors (such as small-medium enterprises, cultural development, training for socially excluded groups, community, sustainability), while four case studies were conducted in Melbourne. The case studies encompassed a mix of informal and formal networks, and explored both systematic learning initiatives and serendipitous activities (see Charles and Duke 2006 for more on the project).

In the analysis of the case studies, a number of key themes emerged, including the direct implications of learning in networks for economic development, for enhancing cosmopolitan identity, for encouraging sustainability, for enhancing social cohesion, and for governance. The last of these emerged as a key issue in the analysis of the Melbourne cities, where the formal responsibilities and boundaries associated with state and local government (and federal policy, in some cases) were inappropriate for addressing key urban issues, and development coherent policy and program interventions.

S21 - City Infrastructure

Venue Napier 210, 13:30 - 15:00, Thursday 29 November 2007

Active Transport in Brisbane: How Much is Happening and What are Its Characteristics?

Matthew Burke, A.L. Brown; Griffith University, Australia

S21-1

Active transport is a term describing travel between destinations by walking, cycling and other non-motorised modes. Being 'active' this component of household travel is of interest to both the transport and health fields. Whilst we now know much about the value of active transport for physical activity there is less information available on the extent or characteristics of this travel within Australian cities. This paper reports on the South East Queensland Travel Survey 2003/04 dataset covering the weekday travel of 10,931 persons in Brisbane, Australia. The dataset was manipulated to identify all active transport travel by traveller type and travel purpose. Walking for transport is found to comprise the majority of all non-motorised travel found in the dataset. Single-mode walking trips made to and from destinations such as shops and primary schools are less important than the walking involved in multi-modal public transport trips to workplaces, shops, universities and secondary schools. The trip distances walked to destinations, whether as part of public transport trips or not, are generally much greater than established 'rules of thumb' used by planners. These active transport trips provide significant health benefits to those undertaking them. The paper demonstrates that household travel survey data can provide quantitative information on the extensivity and characteristics of active transport in urban areas, with the potential to examine and compare active transport across cities.

Evaluating Urban Transport and Land Use Policies Through the Use of an Accessibility Modelling Framework

Frank Primerano¹, Michael A.P. Taylor²; ¹SA DTEI, Australia; ²University of South Australia, Australia

S21-2

This paper discusses a framework used to develop measures of accessibility that take into consideration the travel behaviour of individuals in addition to other factors that are sensitive to transport and urban planning policies. The accessibility framework determines the benefit or need for an individual or group of people to travel to an activity. The framework revolves around a hierarchy of decisions individuals make when deciding to participate in an activity. The behavioural models within the accessibility framework are built from travel information collected through travel diaries that indicate the travel patterns of individuals within households. The framework is activity-based rather than trip-based. The capabilities of the accessibility framework to evaluate transport and land use policies are demonstrated to evaluate the impacts of (1) a major road project and (2) a land use policy (aimed at increasing regional employment opportunities) in metropolitan Adelaide. The results from the accessibility framework show how the impacts of the initiatives are distributed across the metropolitan area.

The Water Services Conundrum

Patrick Troy¹, Bill Randolph²; ¹Australian National University, Australia; ²University of New South Wales, Australia

S21-3

The current crisis in provision of urban water supplies has its origin in the technological choices made in the nineteenth century when Australian cities developed their water services systems. This paper builds on recent research into domestic water consumption in Sydney to argue that the issue is not one of shortage of water, as it is popularly presented, but is more related to the choices made in that city about the way sanitary services are provided and the ways in which socio-cultural values and behaviour have led to increases in consumption. The paper asserts that the current approach

to urban water services cannot be sustained without increased stresses in the eco-systems from which water is abstracted to supply Sydney, in the eco-systems into which waster flows are currently discharged and on the eco-system on which the city is built. It offers a schematic solution to provide water services in a way which is sustainable and capable of bring progressively introduced.

S22 – City Structures

Venue Napier 209, 13:30 – 15:00, Thursday 29 November 2007

Delivering Sustainable Renewal in Australia's Middle and Outer Suburbs: Council Reflections

Kristian J. Ruming, Bill Randolph, Simon Pinnegar, Bruce Judd; University of New South Wales, Australia

S22-1

Recent metropolitan strategies for Australia's cities promote a vision for the renewal of the 'middle' suburbs, where urban-design led regeneration will not only lead to vibrant, sustainable communities, but also contribute to meeting housing supply targets. At an abstract level, the arguments appear logical. However in the absence of detailed policy, effective governance structures and public funding, it can be anticipated that urban renewal will take place in an ad hoc way with little regard to neither housing affordability impacts nor the broader social, economic and environmental outcomes which may be delivered. A fragmented response is compounded by the fact that the actors involved are typically small-scale and local: to date, this is not the territory of the likes of Meriton or Lend Lease. This paper draws on interviews with local council staff and outlines a series of issues they consider important in shaping renewal in their middle-ring suburbs.

Urban Consolidation and House Prices: A Case Study of Melbourne 1990–2004

Kevin O'Connor, Sun Sheng Han; University of Melbourne, Australia

S22-2

Urban consolidation is a major policy plank in the management of Australian metropolitan development. At its heart are a set of actions designed to reduce the land used by housing in the urban development process. These actions are focused on the development of the fringe as well as the re-development and use of land within the currently built fabric of inner and middle suburbs. On the fringe, implementation involves regulations on the size of lots, targets for housing density and since 2004 has included an urban growth boundary that constrains development within a specified area. In established areas implementation involves rights to build multiple dwellings on land previously occupied by a single house through to policy action that facilitates higher than previous density of housing in selected new projects.

Across that breadth of action a common thread is that urban consolidation is a lever that influences land and housing supply. At one level action like an urban growth boundary can be seen to be a limit on land supply as it prohibits the spread of the metropolitan area beyond a predetermined point. Superficially one might expect that in the vicinity of the urban growth boundary prices might raise more than expected as the supply restraint is felt, while in established areas the increase in supply could open up the market and lower prices. The impact of the supply constraint of urban consolidation policy has attracted considerable attention in the US (for example Pendall, R., Martin, J. and Fulton, W. 2002). Results of this analysis are mixed, with price gains recorded in some metropolitan areas, but not in others. It seems that the effect of supply restrictions are moderated by other circumstances that are in play in each local market. These circumstances influence housing prices at both macro and micro levels. At the macro level, changes in land supply works together with broad economic and demographic forces, such as international, national and local economic growth; income changes; fluctuations in the costs of labour, capital and construction materials; inter-state and international migration to determine the housing price. At the micro level, changes in land supply are location specific; these changes work

together with neighbourhood conditions (e.g., socioeconomic status of the residents) and structural characteristics of the property (e.g., type and age of houses) in shaping housing prices. In essence this project explores the effectiveness of a narrow and focussed land market intervention in the context of a complex set of other influences.

Changes in Urban Density: Its Implications on the Sustainable Development of Australian Cities

Brian H. Roberts; University of Canberra, Australia

S22-3

This exploratory paper seeks to develop a deeper understanding of the phenomenon of urban density and its effects on the sustainability of urban development, functionality and management of Australian cities. The paper explores different attributes of urban density and presents a conceptual framework to explore the relationship of these to sustainability criteria. The work presented in the paper is confined to an exploration of urban density demographic and urban residential development. Other dimensions of density will be explored in future research. The paper presents simple time series measurements of change in urban density for selected Australian cities drawing upon ABS and satellite imagery data. It shows since 1990 the urban areas of Australia's largest cities (Sydney) are growing at over 2.4% per annum, while the population growth rate is around 1.2%. The population densities of Australian cities have been falling at about 0.8% per annum. If these trends continue, the implications on the sustainability and development of Australian cities could be significant. The paper examines some environmental impacts of urban density on the sustainability of urban systems. It concludes with a brief discussion on the challenges to achieving sustainable urban development in Australian cities.

S23 – Environmental City

Venue Napier 102, 13:30 – 15:00, Thursday 29 November 2007

The Evaluation and Rating of Travel Energy Efficiency and Emissions of Offices for Development Assessment Purposes: Adelaide City Centre and Technology Park Compared

Andrew Allan; University of South Australia, Australia

S23-1

This paper discusses the value of a star based rating system for assessing the transport impact of urban development projects and how such a scheme could be introduced. A scheme of this nature would be based on empirically derived performance standards related to the energy efficiency and CO₂ emissions generated by travel activity for a particular development in particular type of location. A survey of two case studies within metropolitan Adelaide, the Adelaide City Centre and a suburban office park, Technology Park at Mawson Lakes was conducted in November 2006 to provide the necessary data base underpinning the derivation of the star ratings for three types of urban settings that are typical of Australian and western cities: (1) C.B.D. or major metropolitan regional locations; (2) suburban transit interchange nodes; and (3) suburban settings.

The use of a travel energy development rating tool for commercial office developments to postulate new development standards allows planners to theoretically justify planning decisions that reject developments with poor accessibility from an energy efficiency perspective whilst encouraging developments that have high accessibility to non-energy intensive travel modes such as walking and cycling.

Transport, Housing and Urban Form: The Life Cycle Transport and Housing Impact of City Centre Apartments Compared with Suburban Dwellings

Alan Perkins¹, Stephen Hamnett², Stephen Pullen², Rocco Zito², David Trebilcock¹; ¹SA DTEI, Australia; ²University of South Australia, Australia

S23-2

Transport and housing activities account for a significant proportion of a household's energy use and greenhouse gas emissions. In this study, life cycle analysis is used to calculate the total transport and housing energy and emissions from a sample of 41 households resident in seven apartment buildings in Adelaide City Centre.

The analysis includes delivered energy and greenhouse gas emissions generated by motorised travel and activities within the dwelling (heating, cooling, water heating, cooking, electrical appliances etc.); and the energy and emissions embodied in household motor vehicles and the apartment buildings.

The study builds on previous research which calculated the life cycle energy and emissions from a sample of 212 inner suburban and outer suburban households living in detached, semi-detached, unit and terraced dwellings (Perkins, 2002). In that analysis it was found that certain urban form variables were significant in explaining the variance in energy use and emissions between households.

The results for the expanded sample of households are compared with reference to key urban form factors (location, density, dwelling type), and to socio-demographic variables (income, family type, employment, age profile). Inferences are drawn concerning the impact of the urban form factors on the total transport and housing energy and emissions of the expanded sample, and the impact of urban form on the transport and housing specific activities.

Options for Reducing Transport Fuel Consumption and Greenhouse Emissions for Sydney

Garry Glazebrook, Peter Rickwood; University of Technology Sydney, Australia

S23-3

This paper examines the potential implications of peak oil and global warming for urban passenger transport in Sydney. After analysing patterns of transport fuel consumption and greenhouse emissions for Sydney, the paper examines potential mitigation strategies, including options for minimising travel demand, reducing oil and CO₂ intensiveness, and shifting travel to more sustainable modes. It then proposes some plausible future scenarios for oil supplies and climate change, and examines their implications for urban transport in Sydney. The paper concludes that policy options for addressing these scenarios exist but will need to be accelerated to avoid the risk of major disruptions to our lifestyles and economy.

S24 - Social City

Venue Napier G04, 13:30 - 15:00, Thursday 29 November 2007

Welfare Locks, Housing Stability and Tenant Exits from Public Housing

Gavin Wood¹, Rachel Ong², Alfred Michael Dockery², Stephen Whelan³; ¹RMIT University, Australia; ²Curtin University of Technology, Australia; ³University of Sydney, Australia

S24-1

This paper utilises the administrative records of a state housing authority to explore welfare locks, the work incentive effects of income related rents and welfare dependence in relation to public housing. We find that welfare locks while prospective tenants are on wait turn lists are large, and this is particularly evident among males where employment rates are impacted by as much as 12 percentage points. On the other hand, we cannot detect significant effects from income related rents on employment status. Finally, we find that spells in public housing are typically longer for priority cases and those receiving high levels of housing assistance, but shorter for employed tenants with relatively high earnings. Once a tenant has been resident for between 18 and 20 months, duration dependence sets in; this means that departure from public housing becomes progressively less likely and once residence reaches between 6 and 7 years, there is virtually no likelihood of departure.

Searching for the Socially Sustainable City: Achieved Through Inducing the Right Mixture?

Mark Davidson; University of Western Sydney, Australia

S24-2

Social sustainability has become an important concept for Australian urban policy makers and scholars. Broadly defined, this involves a concern that cities and urban communities are able to be reproduced over time without inflicting unjust consequences on future inhabitants. The use of 'sustainability' in urban policy represents a significant migration for a concept that was popularized in 1987 by the global environmental issue focused Brundtland Report. However, given the lengthy influence of ecological thought on urban studies the concept's recent adoption is perhaps not so surprising. Indeed, the concept certainly offers a valuable analytical perspective from which to examine and address a host of interconnected, contemporary urban policy issues. In this paper, the recent engagement by Australian urban scholars and policy-makers with social sustainability is placed within the international context of European and North American urban policy debate. The paper begins by considering the possibility of a common set of neoliberal urban issues, such as social inequality, spatial segregation, rising housing costs and social tension. All of these are seen as challenges to making cities liveable, productive and, indeed, sustainable places. The paper then focuses upon a policy response to these issues which is common to Australia, the United States and the United Kingdom: the use of tenure and planning legislation to generate new neighbourhood social mixes. Drawing upon research based in the UK which examined the roll-out of such an approach, the impacts and effectiveness of social mix legislation are evaluated in terms of social sustainability. In conclusion, the paper reflects upon unfulfilled policy objectives and some potential solutions and research directions.

S25 - City Economy - General Economic Analysis

Venue Napier 208, 15:30 - 17:30, Thursday 29 November 2007

Shrinking Cities in Australia

M. Cristina Martinez-Fernandez, Chung-Tong Wu; University of Western Sydney, Australia

S25-1

Shrinkage is not a topic of much discussion in most OECD countries where the planning paradigm of growth has dominated the scene for many years. However, the debate has recently intensified in Germany, specially regarding its Eastern cities, posing new questions about the efficiency and sustainability of planning for urban growth in an era of substantial socio-demographic and environmental changes worldwide. While analysis of shrinking cities intensifies in North America, Western and Central Europe and parts of Asia, it is not yet a prominent national issue in Australia despite the critical impact that cities with shrinkage patterns have in regional Australia and in the development of resource intensive industries such as mining. This paper discusses some of the elements that throw light on the phenomenon of urban shrinkage and outlines shrinkage in Australia. Specifically shrinking of mining cities is discussed.

Funding Urban Australia - The Role and Rate Revenue of Local Government in New South Wales

Vince Mangioni; University of Technology Sydney, Australia

S25-2

Local government in New South Wales is charged with the co-responsibility of maintaining core community services and infrastructure including, health, housing and roads among other assets. The services provided by local government are funded from a variety of financial and revenue sources of which the primary source is the rating of land.

This paper reviews the evolving role of local government and considers the present practice and framework for raising revenue

through the rating of land. Intergovernmental cost shifting has increased the financial burden on local government which has led to an unaccounted cost of present and future capital depreciation of local government infrastructure in NSW. A case study of local government revenue and expense has been used to quantify this unaccounted cost. A juxtaposition of pre and post 1993 methods prescribed under the Local Government Act is made to demonstrate the limitations of rate revenue which is impacted on by rate pegging imposed by State Government.

In conclusion, alternate revenue strategies including the rent of community land, a betterment tax and restructuring through amalgamation of local governments have been identified as ways in which local governments may obtain a return on their infrastructure and assets.

Thinking Strategically — Acting Creatively: Conceptualising Creativity in Adelaide

Jane Andrew, John Spoehr; University of Adelaide, Australia

S25-3

A considerable body of research seeks to map and measure the impact of the creative industries. This is constrained in cities like Adelaide by a narrow conceptualisation of creativity that fails to reveal how diffuse creativity is within the economy and society. A more holistic understanding of the relationship between creativity and the economy is required to inform policy development and intervention.

Making Space and Place for Knowledge Production: Knowledge Precinct Developments in Australia

Tan Yigitcanlar¹, M. Cristina Martinez-Fernandez²;

¹*Queensland University of Technology, Australia;*

²*University of Western Sydney, Australia*

S25-4

The economic and social importance of knowledge production is clear, and it is an emerging social phenomenon and research agenda in the urban planning discipline. The impact of what has been broadly labelled the knowledge economy has, however, been such that even in the absence of precise measurement it is the undoubted dynamo of today's global market and an essential part of any global city. Knowledge production, and where, how and by whom it is produced, is first of all an urban phenomenon poorly understood in an era of strong urbanisation. This paper focuses on urban knowledge precincts as the magnet infrastructure impacting knowledge production of cities. The paper discusses two important issues: knowledge based urban development within the paradigm of the knowledge economy; and knowledge precincts as an instrument to seed knowledge production in cities. The paper concludes with conditions for knowledge precincts as the incubators of knowledge production and innovation in Australia.

S26 – City Governance

Venue Napier G03, 15:30 – 17:30, Thursday 29 November 2007

Persistent States: The Planning and Development of Sydney's Fringe

Kristian J. Ruming¹, Nicole Cook²; ¹*University of New South Wales, Australia;* ²*Macquarie University, Australia*

S26-1

Over the past two decades there has been increasing concern over the rise of neoliberal governance. While some researchers are ultimately concerned with the prevalence or spread of neoliberalism; others are attendant to the uneven and multiple ways in which neoliberal projects are realised. Within this framework, the place of large-scale residential property development in Australia occupies an ambiguous place. Drawing on two cases of large-scale residential property development in NSW (Warnervale Town Centre and ADI-St Marys), this paper situates residential development in relation to planning trajectories in NSW and orients this form towards hybrid forms of neoliberalism. We argue that there has

been a recentring of the state in infrastructure and service provision in response to the spatial and temporal specificities in which residential development is enacted.

Urban Sustainability Transition — A 'Tipping Point' Approach

Greg Foliente¹, Allan Rodgers², Harry Blutstein³, Xiaoming Wang¹; ¹*CSIRO, Australia;* ²*University of Melbourne, Australia;* ³*Integrating Sustainability, Australia*

S26-2

The *Melbourne Principles for Sustainable Cities* — developed through the United Nations Environment Programme and adopted at the 2002 World Summit on Sustainable Development in Johannesburg — are presented as providing the holistic framework required for setting urban sustainability goals and attracting the participation and commitment of key stakeholders to achieve them. Because of the multitude of 'actors' and the inherent complexity in the structure, processes and interactions in a city, we can expect myriad pathways. Aiming for efficiency (i.e. shortest path and best use of limited time and resources) and effectiveness (i.e. sustained change over time), this paper proposes a 'tipping point' approach. Key conditions that lead to tipping point are discussed with examples from various fields and as related to urban sustainability transitions. Combining the concept of leverage points, soft system methodology and complex systems modelling, it will be possible to understand transformation drivers, investigate transition pathways and identify tipping point conditions for urban sustainability. Our cities are already in a state of overshoot; time is the ultimate non-renewable resource. A tipping point approach that has the capacity to facilitate rapid rates of transformation is required.

Innovations and Transformations in Urban Governance: An Analysis of Local Action Planning Initiatives Within Penrith City and the City of Sydney

Jason Prior; University of Technology Sydney, Australia

S26-3

We live in a time of considerable change which has placed new demands on local governments and raised a number of questions about the ability of these institutions along with other levels of government to address and resolve the problems that arise within contemporary communities. Traditional local governments are being questioned about the ability of their existing expert-driven and fragmented planning processes to resolve the problems that arise within contemporary communities. This has triggered the emergence of local government planning processes aimed at supporting more integrative and inclusive forms of planning that engage public, community and private sector players. This paper provides insight into these emerging planning processes through an investigation of the development of action planning processes within the City of Sydney and Penrith City which enable a broader range of players to participate in determining how objectives within the Council's strategic plans are realised 'on the ground'. Drawing on these case studies the paper provides insight into the problems and possibilities that local governments face in their attempts to support the development of more integrative and inclusive forms of planning within contemporary Australian cities.

Where is the Vision? Critically Exploring the Professional Role of the Australian Urban Planner Within a Governance Framework

Wendy Steele; Griffith University, Australia

S26-4

Recent debates within the planning literature have highlighted that the professional role of the Australian urban planner is suffering a crisis of identity and vision (Gleeson 2003, March & Low 2007, Moran 2006, Powell 2006). In the face of 21st century sustainability imperatives such as climate change, affordable housing and water management, Australian planners emerge not as professionals at the forefront of change, but as struggling to find relevance and direction within the complexity of the contemporary governance

framework. This situation has been exacerbated by institutional restructuring and reforms, diverse regulatory frameworks and increasing levels of bureaucratic minutiae (Hillier 2007). This paper critically reviews the literature related to the role of the Australian urban planner and in particular offers a socio-historical overview of five key shifts that have been identified within the Australian context. The paper concludes by highlighting four areas that warrant further investigation and scholarly attention: 1) the role of urban planners within the private sector; 2) the hybrid nature of urban planners within a governance framework; 3) re-valuing the professional role of the urban planner, particularly within the public sector; and 4) the implications of these shifts for urban planning education and practice.

S27 – Environmental City I

Venue Napier 102, 15:30 - 17:30, Thursday 29 November 2007

Planning for the Western Coast Power Dictates

Felicity Farrelly; University of Western Australia, Australia

S27-1

The extent to which coastal management policy promulgated by the Western Australian State Government has led to changes in coastal land use since formulation of the first coastal management guidelines in the 1970s is examined. Changes in coastal land use have been mapped from the annual metropolitan road directories from 1970 to 2006. The time series obtained has been interpreted in the context of declared changes in coastal policy initiatives by the State Government to establish the impact of policy on planning and management. The area under consideration is a 300 metre zone extending landwards from the shoreline identified on the State Coastal Planning maps.

The mapped changes in land use indicate that coastal policy has influenced coastal land use, although the implementation of land use change has within both the eighties and current years been driven more by powerful externalities than the immediate policy process.

Approaching Integrated Assessment of Climate Change Impacts on Urban Settlements

Geraldine Li; Australian National University, Australia

S27-2

The interrelationships and interdependencies between humans and their environment are inherently complex and dynamic. Urban settlements are of particular complexity and interest because of their concentrated geographies, form and structure, material flows and cultural and population dynamics. The risk of climate change impacts imposes another level of complexity on such human-environment systems and being able to better understand such complexity is becoming more urgent. This paper describes the methodological approach and conceptual framework developed for the Integrated Assessment of Climate Change Impacts on Urban Settlements (IACCIUS) project, which the author hopes will enable that better understanding. The methodology incorporates a number of approaches that lend themselves to the analysis of complex, dynamic, multi-scale, cross-sectoral, long-term real world problems posed by climate change. In particular, it describes how key aspects of dynamical systems thinking, urban studies; risk, vulnerability, adaptive capacity and uncertainty approaches; climate science; policy processes; demography and geography; stakeholder participation; and reflexive and iterative practice are incorporated into an IACCIUS conceptual framework. This paper concludes with a brief presentation of the evolving conceptual framework.

Understanding Water Consumption in Sydney

Bill Randolph¹, Patrick Troy²; ¹University of New South Wales, Australia; ²Australian National University, Australia

S27-3

This paper explores the extent to which attitudes to conservation and reduced water use in and around the home may affect the water

saving behaviour of households in different kinds of housing in Sydney in a period when restrictions and price rises have become the principle methods to reduce consumption in the city. The research uses a household survey and focus groups to identify the attitudes of consumers to water consumption. The former involved a telephone interview survey that generated information about the consumption behaviour of a sample of households across Sydney, their dwellings, their socio-economic profile, and the range of equipment and facilities they use. The latter involved conducting five focus groups drawn from the areas included in the survey and explored attitudes and behavioural aspects in more depth. The paper argues that water conservation policy needs to understand the complexity of water demand, stemming from the different socio-demographic profiles of households living in different housing forms (high and low rise). Dwelling form in turn structures a range of physical and institutional barriers to better water use, as well as conditioning the cultural, behavioural and attitudinal aspects of water consumption that affect and shape individual and community responses to public initiatives to reduce consumption or to provide alternative water supplies.

Environmental Infrastructure: Achieving Regional Liveability Outcomes Through a Broader Regional Planning Perspective

Darryl Low Choy; Griffith University, Australia

S27-4

Investments in the provision of physical and social infrastructure have traditionally been used by governments in developing regions in attempts to offset the impacts of development and to maintain the regional community's Quality of Life (QoL) expectations. This paper explores this approach in terms of a holistic response that can embrace all of the acknowledged components that constitute the community's QoL expectations in a growing region. It introduces the notion of environmental infrastructure and explores its role in sustaining the region's landscape, its natural resource systems as well as its open space framework, which can make a crucial contribution to the QoL experienced by a region's population.

However, the question arises as to how the necessary elements of environmental infrastructure can be identified and addressed through traditional forms of regional and infrastructure planning processes, especially those associated with growth management paradigm.

The paper explores the emergent landscape planning paradigm and contrasts it against more traditional forms of planning. It outlines the potential role of landscape planning in facilitating the identification of the required environmental infrastructure necessary to maintain the quality of a region's open space that contributes to its sustainability and liveability. The paper argues a case for a balanced and holistic approach to infrastructure planning that acknowledges the need for environmental infrastructure alongside the conventional forms of physical and social infrastructure.

S28 – Environmental City II

Venue Napier 209, 15:30 - 17:30, Thursday 29 November 2007

Ecological Footprint as an Assessment Tool for Urban Development

Joe Hurley, Ralph Horne, Tim Grant; RMIT University, Australia

S28-1

As our cities continue to grow, the majority of new dwellings are being built on greenfield sites at the urban fringe. If we are to meet the challenges of climate change, water scarcity and sustainable natural resource management, a significant change is required in the way our urban developments are planned, designed, constructed and inhabited. Achieving sustainable outcomes requires that assessment can be undertaken to assist decision-making and evaluate progress towards goals. The question arises as to how best to achieve these assessments. Various tools already exist, and interest in applying the Ecological Footprint methodology to urban developments has grown. This paper considers an Ecological Footprint analysis of Aurora, a new residential estate

in Melbourne's north. The estate is being developed by VicUrban, with the expressed aim of creating a new benchmark in sustainable urban development. The paper analyses the Aurora case study to explore the effectiveness of Ecological Footprint analysis in the context of urban development. It concludes that while limitations and challenges exist, Ecological Footprint has much to offer in the assessment of urban development projects, providing evaluation of the significance of achievements within the context of ecological limits.

From Ecological Footprint to Ecological-Fingerprint — The Efforts of Randwick City Council to Measure and Minimise the Ecological Impacts of Consumption and Over-Use of Natural Resources

Peter Maganov¹, Manfred Lenzen², Frank Ryan³;
¹Randwick City Council, Australia; ²University of Sydney, Australia; ³Vox Bandicoot, Australia

S28-2

Increasing attention has been given to the impacts of human settlements and human activity on the finite resources of our Planet. Ecological Footprint calculations have been applied internationally, nationally and sub-regionally as a comprehensive analytical methodology to provide a consistent measurement of resource consumption at the country, city, organisational or individual levels.

Ecological Footprint analysis is gaining in reputation and credibility in its capacity to usefully inform governments, organisations and communities on the excesses of our society's resource consumption and our population's increasing pressure on diminishing natural resources. Despite this progress in improving the methodology and deriving a calculation, there are few cases where organisations appear to have "operationalised" the ecological footprint calculation, that is, translated the results into measurable policy responses and actions clearly aimed at reducing the "footprint" of a given population.

Late in 2005, Randwick City Council, commissioned the first Ecological Footprint analysis of key local government areas (LGAs) in the Eastern Suburbs of Sydney. Early in 2007, Randwick Council was successful in a \$1.88 million funding application with two neighbouring Councils, Waverley and Woollahra, in a 3 year project aimed at reducing the Ecological Footprint of the Eastern Suburbs.

This paper will describe the approach underway, the progress to date, a number of related outcomes and challenges for the future.

■ Innovation, Agency, and Structure: Creating a Tool to Make the Australian Building Industry More Sustainable

Geoffrey Binder; RMIT University, Australia

S28-3

VicUrban, the Victorian state government urban land development agency, is showcasing its sustainability credentials in their new 8000 home Aurora Estate. Aurora will have environmental features which, amongst other initiatives, require the use of materials that are more environmentally sustainable. The EcoSelector was designed to guide the builders in their selection of materials. More or less points are allocated depending on the materials used for the floor structure, framing, wall cladding, roof cladding, fittings and finishes, and landscaping. The builders are required to meet a minimum overall score for a proposed house before it can be approved by VicUrban.

The relationship between VicUrban and the builders is critical for VicUrban to succeed in delivering environmental sustainable design (ESD). Cost pressures play a significant role and the people on the ground, often sub-contractors, have little incentive to do any research or development into issues like sustainability.

Against this background, the development of the EcoSelector can be seen as an innovation grappling with the market driven limitations of the industry whilst promoting ESD. VicUrban hopes to transform the building industry via demonstration.

This paper examines how the relationships between the participants affected the development of the EcoSelector and how this

has affected the building industry. As a part of work in progress, a new model is suggested for understanding the relationship between innovation, agency, and structure that ranges across 'silos', drawing on Vygotsky's (1978) developmental psychology, Wittgenstein's (1958) philosophical insights, Bourdieu's (1977) concept of habitus, and evolutionary theory.

■ Lochiel Park — A Nation Leading Green Village

John Blaess, Sandy Rix, Andrew Bishop, Phil Donaldson;
Land Management Corporation, Australia

S28-4

Lochiel Park is located, approximately 8 kilometres north east of the Adelaide CBD. The site comprises 15 hectares of land and is located adjacent to the picturesque River Torrens linear park. Owned by the government the site became surplus to requirements. In 2002 the Premier Mike Rann stated: "I want South Australia to become a world leader in a new green approach to the way we all live. The Lochiel Park Development will become the nation's model 'Green Village' incorporating Ecological Sustainable Development (ESD) technologies." The Land Management Corporation (LMC), was tasked with the responsibility of delivering the project. LMC has prepared a Master Plan and a Sustainability Framework report to guide the development of the site which sets various targets to be achieved across the areas of water, energy, waste, built form, transport and community.

Some of the initiatives being implemented to achieve these targets include a triple source of water for each dwelling (potable, recycle urban stormwater and rainwater tanks), a comprehensive Urban Design Guideline document requiring, amongst other things, a minimum 7.5 star design using AccuRate, photovoltaic panel generating 1Kw per 100m² of floor area and electricity demand limiting devices. Ongoing monitoring, demonstration and transferability are just three of the key outcomes of the project. The presentation will outline to delegates the features of the master plan and sustainability initiatives being adopted for the 109 dwellings to be created.

S29 – Social City I

Venue Napier G04, 15:30 – 17:30, Thursday 29 November 2007

A Place to Call My Own: Identifying Best Practice in Housing and Mental Health

Kathy Arthurson¹, Penny Worland², Helen Cameron²;
¹Swinburne University of Technology, Australia;
²University of South Australia, Australia

S29-1

Over the past few years, there has been a growing debate in Australian society about the way housing processes can contribute to social exclusion. Despite this debate some commentators argue that Australian housing policy lacks recognition that the issue of deinstitutionalisation is also a *rehousing process*, which has the potential for achieving social inclusion for people moving into the community. Although housing plays an integral role in deinstitutionalisation, its importance is often submerged and even lost in academic and policy debates about community care in Australia (Bostock and Gleeson (2004)). Yet *suitable housing* is a key aspect in the community sustainability of deinstitutionalised individuals with psychiatric disability, whereby they can, potentially, be provided with some choice and control over where and with whom they live. Indeed, gaining control over these aspects of life is considered a critical step towards achieving social inclusion. Our research project aims to identify the housing aspirations and preferences of people with psychiatric disability moving from institutional to community care. This paper reports on the first stage of the research, which synthesizes and identifies baseline evidence from the international literature about suitable models of housing and the housing preferences of people with psychiatric disability.

Integrated Violence Prevention, Planning, and Governance: International and Victorian Perspectives

Carolyn Whitzman; University of Melbourne, Australia

S29-2

This paper will present the findings from the first stage of an ARC Linkage Grant between the University of Melbourne and the Victorian Health Promotion Foundation (VicHealth) entitled "Gender, Local Governance, and Violence Prevention: making the links". The project works with four local government-community organization partnerships in Victoria: the inner suburb of Maribyrnong, the outer suburb-rural interface locality of Casey, the regional centre of Bendigo, and the rural shire of Loddon. In their first year of work, the municipalities and key health and women's agencies have strengthened partnerships on violence prevention, developed audits of current resources working to prevent violence in their localities, and have begun to work on both policy formation and the development of monitoring and evaluation systems. While work in planning around violence prevention has traditionally focused on Crime Prevention Through Environmental Design, these audits and evaluation plans suggest a broadened role for spatial planning, related to social service provision, evidence-based 'whole of government' coordinated action, and engendering changes in attitudes towards public and private space.

Planning for Affordable Housing in Australia's Metropolitan Regions

Nicole Gurrán, Vivienne Milligan; University of Sydney, Australia

S29-3

Housing affordability has emerged as a key issue in planning for Australia's cities and regions. Critics of the planning system argue that planning contributes to house price inflation by limiting the release of residential land and increasing the costs of housing production through excessive development controls and charges. Yet international research and practice suggests that the planning system can and should secure affordable housing in new development, or risk exacerbating existing problems of socio-spatial polarisation in urban growth. Drawing on AHURI research, this paper considers the potential transferability of established and new international models, focusing on the delivery of metropolitan planning commitments for affordable housing in Sydney, Melbourne, Brisbane, and Adelaide.

S30 - Social City II

Venue Napier 210, 15:30 - 17:30, Thursday 29 November 2007

"I Will Be Not a Nerd": Children's Development, the Built Environment and School Travel

Vivian M. Romero; University of New South Wales, Australia

S30-1

Children's development is influenced by the layout of the urban landscape. Yet current design patterns of poor street layouts, inaccessible facilities, and vehicular congestion depict an inhospitable landscape for children. How can Australian cities ensure that the built environment does not act as a deterrent for autonomous travel among children? Two schools situated in Western Sydney suburban tract developments and two schools located along grid street formations (inner West and inner city) were compared and contrasted for urban design mechanisms and incidences of walking patterns among school children. Structured around the understanding that children are affected by and can affect their local surroundings, this research used surveys, drawings, and focus group discussions to integrate children's perspectives into models of pedestrian behaviour. The results indicate that, to a child, the built environment along a school journey incorporates more than access and safety issues. Physical attributes which allow children to feel welcomed and engage their senses provide children with motivation to walk to and from school. By elucidating children's interpretation of their school journey, practitioners, academics, and others can work towards designing sensory environments that embed healthy developmental competencies among children.

Child-Friendly Cities: Critically Exploring the Evidence Base of a Resurgent Agenda

Geoffrey Woolcock, Brendan Gleeson; Griffith University, Australia

S30-2

Recent public debates about Australia's children and young people have increasingly acknowledged the direct impact of urban development on their health and well-being. This paper reviews a broad range of trans-disciplinary literature addressing child-friendliness in contemporary Australian cities, drawing particular attention to the fact that even some of the most recognised texts on children and young people in Australia make few references in their analysis to the issue of place and neighbourhood. More specifically, the paper points to two particular research challenges confronting the ongoing study of young people's well-being in urban areas, including a) the need for a more thorough analysis, both conceptual and applied, about how children and young people's well-being is affected by different urban forms and by the social and ecological variations that occur throughout cities; and b) the focus on younger children needs to be complemented by a focus on adolescents and young adults who in turn need to be actively involved in confronting these challenges.

Recognising Tertiary Students in Place-Making for Urban Spaces

Ruth Fincher, Kate Shaw; University of Melbourne, Australia

S30-3

The presence of students in large numbers in cities is 'planned' for to different degrees, from not at all in some contexts, to overly-determined 'student' places in others. There is general agreement that the lived experience of tertiary students, including their accommodation, social opportunities and experience of place beyond the campus boundaries, is part of their learning. Planning for good public space is as important as planning the location and form of students' private space, and the interface between the two is critical. This paper will review a range of approaches to place-making, identifying and discussing differences in housing provision and arrangement of public facilities and spaces for students in several overseas cities, including in Germany, Italy, Spain and California where practices vary substantially. Then we will propose ways that place-making strategies could be approached for the often temporary and sometimes transnational residents (tertiary students) of university precincts. The example for this proposal is north-central Melbourne. Melbourne receives about 25 percent of Australia's international students, and the City of Melbourne, which contains two of Victoria's largest universities, has a residential student population of 37 percent, increasing to 50 percent in some areas. This case study draws on the policy attention given by the Melbourne City Council and the Victorian State Government to the presence of students there. Using overseas material alongside the Melbourne evidence, the contribution of the paper will be to assess some of the key components of meaningful place-making strategies for the residents of university precincts.

Gated Communities: The Search for Security

Dana Quintal, Susan Thompson; University of New South Wales, Australia

S30-4

The response of many to a growing sense of anxiety and insecurity in today's society has been to retreat from the public realm to the private sphere of the home. For some this means living in gated communities, where the uncertainty of the outside world is perceived to be better controlled. Gated communities — residential developments characterised by physical security measures such as walls, controlled entry points, security guards and closed circuit television — are often criticised because of their potential to cause physical and social divisions in established communities. While confirming some of the long-held concerns expressed by urbanists about gated living, this paper also challenges aspects of these critiques. Our findings from site visits and interviews with a range of stakeholders in gated communities around Sydney reveal that gated communities can be a positive expression of the desire of

individuals to exert greater control over their living environments. They may also help to reduce uncertainty, provide personal protection, and shield family and home from unwanted intrusion. An understanding of the diverse experiences of residents and their motivations for moving to gated communities is essential for both housing providers and policy makers. This will facilitate the provision of alternative residential forms that can encompass these positive expressions, while ensuring better physical and social integration within existing communities.

S31 – City Economy – Well-Being, Population and Housing

Venue Napier 208, 09:00 – 10:30, Friday 30 November 2007

A Wish Called Squander: (In)Effective Speed and Effective Wellbeing in Australian Cities

Paul Tranter¹, Ian Ker²; ¹UNSW@ADFA, Australia; ²CATALYST, Australia

S31-1

Cities where people spend one working day a week to pay for an activity that may save only a few hours are inherently Pythonesque. The concept of effective speed allows policy-makers to appreciate the (in)effectiveness of transport options in terms of time savings, by examining the total time associated with transport, including time spent at work to pay for associated costs. Consequently, cars are not necessarily 'faster' than alternatives we instinctively think of as slower: public transport, cycling and even walking. Any rational person would agree we should minimise the resources devoted to the essentially unproductive intermediate activity of driving. But economic bean-counters regard this as contributing to our well-being, as it consumes resources, the primary criterion for inclusion in Gross Domestic Product. The paper examines effective speed in Australian cities and presents results from strategic analysis for Perth, Western Australia, highlighting the consequences of 'squandering' a large and increasing part of our individual and collective time and financial resources. Increasing oil prices may soon start to force changes in economic behaviour, including travel, that have potentially profound impacts on our real wellbeing and the form and functioning of our cities. The paper will describe these consequences and outline ways in which adverse impacts can be reduced.

Demographic Change and Population Ageing: Implications for Labour Supply and Economic Growth in a City State — South Australia

Xiujian Peng, John Spoehr; University of Adelaide, Australia

S31-2

South Australia is a city-State with the oldest demographic age structure of all the States and Territories in Australia. Its population is ageing at a faster rate than the nation as a whole. The older age structure and rapid ageing process implies a more substantial policy challenge for Adelaide and South Australia. The paper explores the effects of demographic change and population ageing on labour force participation rates and economic growth for South Australia and the nation as a whole. Through detailed examination of the evolution of the age structure, this paper aims to identify the nature and direction of the changes of labour supply that are likely to flow from population ageing. Secondly, the implications of demographic change and associated changes in labour supply for economic growth are also explored.

S32 – City Governance

Venue Napier G03, 09:00 – 10:30, Friday 30 November 2007

Negotiating Development: The Interaction of Formal and Informal Institutions in Development Approval in Wyong, New South Wales

Kristian J. Ruming; University of New South Wales, Australia

S32-1

This paper explores how formal and informal institutional arrangements are mobilised in unique ways to secure development approval at a greenfield release site on Sydney's fringe: Wyong Shire. The paper argues that the institutional configuration mobilised to secure development approval rest on the identity and history of the developer and their project managers and their relations with state and private development actors. This paper explores the differential enrolment of formal and informal institutions for development purposes within Wyong by those who principally operate within the area (local) and by those who have moved into the area from other regions (foreign). It becomes clear that local development actors are much more likely to mobilise informal institutional arrangements for the purposes of securing development approval, while foreign actors are more likely to use formal arrangements. However, this picture is complicated by the fact that some foreign actors actively pursue local consultants in an effort to utilise their existing development relations for their own purpose, while some local consultants actively avoid certain foreign developers for fear that their existing relations will be damaged.

The Hidden Wiring of Resilience in Australian Cities

John Handmer, Elsie Loh; RMIT University, Australia

S32-2

Resilience and vulnerability are highly contested concepts. In the context of cities they are often seen narrowly in terms of physical infrastructure, demographic data, tangible assets and documented economic flows. These are very important, but there may be more fundamental contributors to vulnerability in cities as large agglomerations of human diversity, wealth creation and almost infinite sources of potential crises. It has been well argued that a variety of networks underlie resilience, and that these are not always obvious. One area of less visible support that has received little attention in studies of vulnerability and resilience is the legal system. Legal systems attempt to regulate behaviour, allocate rights and responsibilities and hold governments accountable. It is acknowledged that legal practices reflect custom as well as political and economic realities, but we argue that they may have considerable impact on the vulnerability and resilience of Australian cities. They do this through laws concerning planning, livelihoods, commercial practice, safety, housing, and administrative review. The role of law in vulnerability is also examined by considering the vulnerability of those with different levels of legal status, such as illegal migrants. The paper sketches out the arguments with some illustrative examples and in doing so draws attention to an area rarely discussed in the context of resilience and cities.

The Contemporary Commons: Understanding Competing Property Rights

Spike Boydell, Glen Searle, Garrick Small; University of Technology Sydney, Australia

S32-3

The city comprises a milieu of competing and complementary property rights, ranging from the individual to the communal. Whilst property rights provide a coherent legal, economic and social framework for the relationship between people, place and property, they are often misunderstood and misinterpreted by the multiplicity of stakeholders sharing the space that is the contemporary metropolis. The competing demands and expectations on space, exacerbated by the needs of urban consolidation in the evolving Australian cityscape, add to the confusion.

The heterogeneous nature of the commons, both in composition

and extent in different urban contexts, is discussed as a central issue in competition for property rights. The paper explores frameworks for identifying appropriate divisions between individual property rights and those of communities and society in general. It also discusses the appropriateness of controls, markets, voluntary agreement and other mechanisms for allocating property rights in urban development contexts.

By combining planning, economics and property theory perspectives, this paper identifies research gaps relating to the contemporary commons, providing an agenda prioritising property rights for future research funding.

S33 – City Infrastructure

Venue Napier 210, 09:00 – 10:30, Friday 30 November 2007

Governance and Implementation Challenges for Transit Oriented Developments: Findings from a Comparison of South East Queensland and Perth Region

Shahed Khan¹, Bhisna Bajracharya²; ¹Curtin University of Technology, Australia; ²Queensland University of Technology, Australia

S33-1

Both South East Queensland and metropolitan Perth region have urban management strategies in place that promote transit oriented development (TOD). The key objective of this paper is to conduct an exploratory comparative assessment of TOD planning policies and implementation mechanisms in two metropolitan regions. The paper also examines the existing governance mechanisms for TOD development in two regions, using content analysis of key planning documents and conducting key informant interviews with selected planners and urban designers from two city regions.

There is much that can be learned from experiences of TOD initiatives in the two metropolitan regions. West Australian state government has taken a more proactive role in implementing TOD projects through LandCorp and area redevelopment authorities that facilitate public-private partnerships and land assembly. South East Queensland, on the other hand, has focussed more on the statutory policy instruments such as the Regional Plan and local growth management strategies, with a greater reliance on market forces for the realisation of TOD projects.

Can Australian Cities Learn From a ‘Great Planning Success’?

Paul Mees; University of Melbourne, Australia

S33-2

Since Ebenezer Howard published “Garden Cities of Tomorrow”, planners have promoted self-containment of travel, and mode shift to public transport. Unfortunately, most of these attempts have failed. The history of planning is littered with what Peter Hall has called “Great Planning Disasters.”

In recent years, Vancouver has attracted attention from a range of urban commentators: in 2005, The Economist christened it “the world’s most livable city”. But in July 2006, Statistics Canada released an assessment that should have attracted even more attention, particularly from planners. Over the period 1992 to 2005, Vancouver was the only Canadian city in which the time taken by the average resident to get to and from work declined. In other cities journey times increased markedly, even though none of them experienced such rapid population growth as Vancouver.

Significantly, this period corresponds to that covered by the Livable Region Strategic Plan, which was adopted in 1993 and promotes self-containment plus mode shift away from the automobile. Since Vancouver built no new major roads during this period, the improvements in trip times show that the plans succeeded: at last, a city has achieved the “holy grail” of planning!

This paper draws out the lessons for Australasian cities from the Vancouver success story, by examining the policies and actions taken in the areas of transport, urban consolidation and development regulation. On each of these issues, Vancouver’s approach

is crucially different from those of Australasian cities: our failure to make the “hard decisions” taken by Vancouver explains why we have not been able to replicate its success.

Ageing and Transport: Mobility Issues — A Case Study for Adelaide

Sekhar V.C. Somenahalli, Michael A.P. Taylor; University of South Australia, Australia

S33-3

Ageing of the population is one of the major structural changes facing Australia over the next two or three decades. New strategies for engaging with older people and providing better services are needed. Statistics across Australia highlight a steady increase in the percentage of population over retirement age. Despite the pace at which South Australia is ageing, there is still no overall plan for providing for transport needs of older people. The overall objective of the study was to conduct an audit of older people’s transport needs and requirements, taking account of future demographic changes. The study used data collected in the primary survey conducted during March 2007. The survey sought travel details from people aged 65 and above for a particular day (4am to 4 am next day). This survey has also sought the opinions of older people in Adelaide with regard to their mobility and especially public transport needs. This paper presents initial results from a survey travel patterns of the elderly in Adelaide metropolitan area. The present study has highlighted several factors dealing with public transport (especially buses) for the elderly. Among them, steep steps on the older buses, drivers not waiting for them to be seated before they drive off, poor frequency of buses during off peak hours and weekends, and not having designated and priority seating in the buses were ranked high in their list of suggestions.

S34 – Environmental City I

Venue Napier 102, 09:00 – 10:30, Friday 30 November 2007

Private Property Rights and the Public Interest in Land Use Conflicts: The Case of Sydney’s Lost Greenbelt

Helen Gilbert; University of Technology Sydney, Australia

S34-1

Conflicts between the rights of private landowners and wider public interests are of central concern in urban planning. Increasing rates of urbanisation mean cities continually intrude into fringe rural land fostering expectations of windfall gains by some landowners and threatening the agricultural livelihoods of others. While such land use change is not new, increasing sustainability imperatives require consideration of biodiversity conservation, green space, bushland and the retention of sustainable rural operations within and around cities. However, strategic planning is often constrained by the strengths of the market and landowners’ assumed rights and expectations.

This paper examines such conflicts through a review of the relationship between property rights and social responsibilities. The role of neoliberalism in strengthening property rights and fostering land development is also explored. The paper analyses the case study of the policy reversal of a greenbelt proposal under Sydney’s latest metropolitan strategy due to a landowner backlash in light of these considerations. The implications of the Sydney case are explored and a discussion of planning policy and process in an era of renewed focus on the market is presented. The need for a re-examination of property rights and responsibilities and strategic planning approaches becomes apparent if cities like Sydney are to move closer to a sustainable future.

The Nature Strip: An Environmental and Social Resource for Local Communities

Dharini Meenachi-Sunderam¹, Susan Thompson²; ¹Marrickville Council, Australia; ²University of New South Wales, Australia

S34-2

The humble nature strip is a characteristic of many, if not, most Australian streetscapes. Nature strips are owned by the local council and generally divide private land from the public vehicular carriageway. Varying in design and appearance, nature strips reflect the character of the local area and its residents, providing spaces for social interaction and gardens of ornamental and edible plants. Nature strips form an important part of residential streetscapes, yet there is limited understanding of their function, nor an appreciation of the important role that they can play in an aesthetic, environmental or social sense. This paper presents research on the role and potential of local nature strips. Focusing on the Sydney metropolitan region, we start by examining the nature strip — its functionality, aesthetics and potential as a public environmental and community resource. Against this background, the varied quality and character of nature strips is investigated. Views of residents regarding the maintenance and management of nature strips are explored. Together with observational field surveys of different local streetscapes and local policy analysis, different options for the maintenance and management of nature strips are presented. The emphasis here is on how the potential of this undervalued and often overlooked public resource can be built upon, thereby enhancing contemporary Australian cities — their appearance, environmental sustainability and health of their communities.

■ Beyond Triple Bottom Line — Sustainable Cities RD&D at CSIRO

Greg Foliente, Allen Kearns, Shiroma Maheepala, Xuemei Bai, Guy Barnett; CSIRO, Australia

S34-3

This paper presents the goals, underlying principles and framework, and the research, development and demonstration/delivery (RD&D) activities of the Sustainable Cities research theme at CSIRO, emphasising its focus on inter-disciplinary and integrated approaches to address urban sustainability issues. Performance goal setting and assessment with a *n*-bottom line (*n*BL) framework and following the performance approach in the planning, design and management of urban developments are introduced. CSIRO's RD&D activities in Sustainable Cities are organised around three streams — (1) high performance built environments, (2) integrated urban design and development and (3) transitioning to sustainable and healthier cities. Selected projects are listed to demonstrate the scope and diversity of theme topics. Practical application of the *n*-bottom line (*n*BL) sustainability concept and the performance approach is demonstrated through an urban water project in New Zealand.

S35 – Environmental City II

Venue Napier 209, 09:00 – 10:30, Friday 30 November 2007

■ Networking for Sustainable Living: Evolving Partnerships to Achieve Change

K. Leever¹, M. Cristina Martinez-Fernandez¹, T. Potts²; ¹University of Western Sydney, Australia; ²Scottish Association for Marine Science, UK

S35-1

In the environmental city an increasing community awareness of climate change, water shortages and other environmental problems is driving responses at the local level. The notion of partnerships between different societal sectors is continually evolving. Partnerships within communities are not new, however collaborative arrangements between government, communities, businesses, and academia focused on environmental innovation are. One aspect of this drive for cooperation is the development of networks and new relationships between academia, government and community organisations. The partnership between the Mt Annan Royal Botanic Gardens and CERES Macarthur to form the Macarthur Centre for Sustainable Living (MCSL) is one such arrangement. The relationship between MCSL and the University of Western Sydney (UWS) to form the Regional Environmental Innovation Network (REIN) is another.

The UWS research project 'Innovation at the Edges', partnered

with local businesses in South West Sydney, led to the formation of REIN in late 2005. REIN generates dialogue on environmental innovation and sustainable living between UWS, MCSL, other academics, international experts, business and industry, students and community volunteers and contributes to the drive to achieve local sustainable initiatives. Throughout 2006 over 200 people have attended REIN meetings making it a significant regional knowledge intensive community activity.

This paper highlights, by exploring and analyzing these two intertwined partnerships from a practitioner's perspective, that new partnerships based upon trust, reciprocity and mutual benefit are being attempted, refined and developed to enable the institutional and societal changes required to respond to the challenges of sustainable living in an era of environmental uncertainty.

S36 – Social City

Venue Napier G04, 09:00 – 10:30, Friday 30 November 2007

Fat Cities and Food Deserts: Exploring a Socio-Spatial Continuum Lesson for Australian Cities from European Experience

Susan Parham; LSE, UK

S36-1

Just as in Australian cities, European urban areas are suffering an increasing spatial, social, economic and political divide between the food enabled and those whose health is suffering from poor food choices. But are these really choices that are freely made? The paper explores the structural issues — expressed through governance, urban design, social practices and economic arrangements — that are creating a continuum of spaces from gastronomic quarters for the few to good food deserts for the many. Using case study research conducted as part of my doctoral study at the LSE Cities Programme I suggest some lessons for Australian cities to combat the unsustainable structures and processes that are correlated with poor urban food outcomes. The work particularly focuses on both inner city and suburban areas being regenerated — with specific examples from Australia and Europe — but also provides as a contextual framework a review of food implications of the dominant trends in urban development. The paper asks how, through better design and governance, we can support the conditions for fat cities — rich in sustainable food possibilities — while avoiding the epidemic of obesity that spaces towards the food deserts end of the continuum paradoxically create?

Housing and Health: Examining the Impacts of Generational Housing Reform on Vulnerable Urban Households

Emma Baker; Flinders University, Australia

S36-2

Housing is the place we spend the majority of our lives and is well established as a key determinant of health, but the relationship between housing and health is complex and poorly understood. Regardless of the complexity of the relationship, it is clear that good housing and good health go together. This paper considers the health implications of the current process of generational reform to the way housing is provided to low income households in Australia and especially South Australia. In response to a gradual shift in Australian housing policy over recent years away from the public provision of housing, the South Australian Government recently announced a process of 'generational reform' to the public and low-income housing sector. Central to these reforms will be a loss of public housing, and an increased movement of low-income households into the private rental sector and low-income home ownership. Government policies aimed at housing necessarily affect the health of populations, and low-income households are especially vulnerable. This paper examines the relationship between housing and health and discusses implications of the current reform process in South Australia.

Urban Tool: The Role of Social Impact Assessment in Victorian Planning Decision Making

Rebecca Leshinsky; Victoria University, Australia

S36-3

This paper reflects my interest in how policy and law are used to develop models for more just and equitable city living. Making use of a law in action rather than a law in books approach, I draw on socio-legal scholarship and urban studies to consider knowledge formats for planning law decision makers (PLDM) in relation to social and cultural impacts for proposals for significant land use and development. I ask *how* PLDM 'know' about social and cultural impacts and what role their own social capital plays in regard to this knowledge. I also explore the role of 'social impact assessment' (SIA), as a legal actor and knowledge instrument in the decision making process. I draw on US socio-legal theory to suggest models for how 'social facts', which carry a troubled history in common law jurisdictions, could be presented as evidence by the planning expert witness in courts and tribunals. It is anticipated that this research can contribute to planning law decision makers possessing more informed knowledge capital with which to make decisions for 'good' city planning.

Author Index

- A**
- Adams, Toby S2-2 2
Allan, Andrew S23-1 17
Andrew, Jane S25-3 19
Arthurson, Kathy S29-1 21
Atkinson, Rowland S18-4 15
- B**
- Badenhorst, Anne S20-3 16
Bai, Xuemei S34-3 25
Bajracharya, Bhishna S8-1 6
..... S33-1 24
Baker, Douglas S4-1 4
..... S8-1 6
Baker, Emma S36-2 25
Baker, Robert G.V. S13-1 10
Barnett, Guy S34-3 25
Baum, Scott S7-2 5
Berry, Mike S16-3 13
Bill, Anthea S7-2 5
..... S7-3 6
Binder, Geoffrey S28-3 21
Bishop, Andrew S28-4 21
Blaess, John S28-4 21
Blutstein, Harry S26-2 19
Boland, John S17-1 14
Boydell, Spike S11-3 9
..... S32-3 23
Brennan-Horley, Chris S14-1 11
Brookfield, Paul S11-2 8
Brown, A.L. S21-1 16
Budge, Trevor S10-4 8
Bunker, Raymond S2-1 2
..... S11-4 9
Burke, Matthew S15-1 12
..... S21-1 16
Burnley, Ian H. S18-1 14
Burton, Donovan S5-2 5
Butt, Andrew S10-4 8
Buxton, Michael S11-1 8
- C**
- Cai, Angela Hongxia S12-1 9
Cameron, Helen S29-1 21
Caprarelli, Graziella S11-3 9
Charles, David S20-3 16
Cheshire, Lynda S8-4 7
Choy, Darryl Low S11-1 8
..... S27-4 20
Cook, Nicole S26-1 19
Corcoran, Jonathan S1-1 2
..... S1-2 2
Corkery, Linda S6-2 5
- D**
- Davidson, Mark S24-2 18
Davies, Alan S19-1 15
Dockery, Alfred Michael S24-1 18
Dodson, Jago S2-3 3
..... S15-1 12
Donaldson, Phil S28-4 21
Donehue, Paul S8-1 6
Douglas, Kathy S8-3 6
Dovers, Steve K-3 1
Dredge, Dianne S5-2 5
Duke, Chris S20-3 16
Dunn, Kevin M. S18-1 14
- E**
- Easthope, Hazel S8-2 6
..... S18-4 15
Evans, Rick S15-1 12
- F**
- Farrelly, Felicity S27-1 20
Fincher, Ruth K-4 1
..... S30-3 22
Foliente, Greg S26-2 19
..... S34-3 25
Freestone, Robert S4-1 4
- G**
- Garnaut, Christine S10-1 7
Gibson, Chris S14-1 11
Gilbert, Helen S34-1 24
Giurco, Damien S11-3 9
Glazebrook, Garry S11-3 9
..... S23-3 18
Gleeson, Brendan K-1 1
..... S2-3 3
..... S5-1 4
..... S30-2 22
..... S8-3 6
Goodman, Robin S28-1 20
Grant, Tim S5-1 4
Gray, Rowan S29-3 22
Gurrán, Nicole S29-3 22
- H**
- Hamnett, Stephen S10-3 8
..... S23-2 17
Han, Sun Sheng S22-2 17
Handmer, John S32-2 23
Harding, Ann S13-4 11
Hopkins, Diane S20-2 16
Horne, Ralph S28-1 20
Houston, Peter S11-4 9
Howlett, Phil S17-1 14
Hurley, Joe S28-1 20
Hurlimann, Anna S17-2 14
Hutchings, Alan S10-1 7
..... S11-4 9
- J**
- Johnson, Louise S12-3 9
Judd, Bruce S6-2 5
..... S22-1 17
Juniper, James S14-2 11
- K**
- Karuppannan, Sadasivam S16-1 12
Kazaglis, Alex S11-3 9
Kearns, Allen S34-3 25
Kellett, Jon S10-3 8
Kenna, Therese E. S18-1 14
..... S18-2 14
..... S19-2 15
Kent, Anthony S31-1 23
Ker, Ian S33-1 24
Khan, Shahed S14-4 11
Kroen, Annette S14-4 11
- L**
- Lawrence, Geoffrey S8-4 7
Lea, Tess S14-1 11
Leevers, K. S35-1 25
Lenzen, Manfred S28-2 21
Leshinsky, Rebecca S36-3 26
Li, Geraldine S27-2 20
Li, Terry S1-1 2
Loh, Elsie S32-2 23
Luckman, Susan S14-1 11
- M**
- Macintyre, Clement S14-3 11
Maganov, Peter S28-2 21
Maheepala, Shiroma S34-3 25
Mangan, John S1-1 2
Mangioni, Vince S25-2 18
Marks, June S17-3 14
Martin, John S16-4 13
Martinez-Fernandez, M. Cristina S25-1 18
..... S25-4 19
..... S35-1 25
..... S9-2 7
Mayes, David S11-3 9
McDougal, Janet K-2 1
McGuirk, Pauline S16-4 13
McKenzie, Fiona S15-2 12
McManus, Phil S4-2 4
McNeill, Donald S4-2 4
Meenachi-Sunderam, Dharini S34-2 24
Mees, Paul S33-2 24
Milligan, Vivienne S29-3 22
- Mitchell, William S7-1 5
..... S7-2 5
..... S7-3 6
- N**
- Nichols, Sue S6-1 5
Nixon, Helen S6-1 5
Nygaard, Christian S16-3 13
- O**
- Oakley, Susan S12-4 10
O'Connor, Kevin S22-2 17
O'Neill, Phillip S13-2 10
Ong, Rachel S24-1 18
- P**
- Parham, Susan S36-1 25
Paris, Chris S16-4 13
Parker, Frances S10-2 8
Peng, Xiujian S31-2 23
Perkins, Alan S23-2 17
Phibbs, Peter S15-4 12
Piantadosi, Julia S17-1 14
Pinnegar, Simon S16-2 12
..... S22-1 17
Pinnell, Bernadette S3-1 4
Potts, T. S35-1 25
Primerano, Frank S21-2 16
Prior, Jason S18-3 15
..... S26-3 19
Pullen, Stephen S23-2 17
- Q**
- Quintal, Dana S30-4 22
- R**
- Rainbird, Sophia S6-1 5
Randolph, Bill S8-2 6
..... S17-4 14
..... S21-3 16
..... S22-1 17
..... S27-3 20
Reynolds, Jeremy S16-4 13
Rickwood, Peter S11-3 9
..... S23-3 18
Rix, Sandy S28-4 21
Roberts, Brian H. S22-3 17
Robinson, Jackie S1-1 2
Robson, Alistair S1-1 2
Rodgers, Allan S26-2 19
Rofe, Matthew S14-3 11
Romero, Vivian M. S30-1 22
Rosenblatt, Ted S8-4 7
Rowell, Jennifer S6-1 5
Ruming, Kristian J. S22-1 17
..... S26-1 19
..... S32-1 23
Ryan, Frank S28-2 21
- S**
- Scheurer, Jan S9-2 7
Searle, Glen S3-2 4
..... S32-3 23
Shaw, Kate S30-3 22
Sivam, Alpana S16-1 12
Small, Garrick S32-3 23
Smith, Stephen S20-1 15
Somenahalli, Sekhar V.C. S33-3 24
Sorensen, Tony S13-3 10
Spoehr, John S7-4 6
..... S25-3 19
..... S31-2 23
Stazic, Branko S15-3 12
Steele, Wendy S26-4 19
Stehlik, Daniela S12-2 9
Stevens, Nichola S4-1 4
Stimson, Robert S1-1 2
..... S1-2 2

T			W			Y		
Tanton, Robert	S13-4	11	Wang, Xiaoming	S26-2	19	Yigitcanlar, Tan	S25-4	19
Taylor, Elizabeth	S16-3	13	Watts, Martin	S7-1	5	Z		
Taylor, Michael A.P.	S21-2	16	Weller, Sally	S7-3	6	Zeibots, Michelle	S11-3	9
Thomas, Leena	S33-3	24	Whelan, Stephen	S19-3	15	Zhang, Kun	S15-3	12
Thomas, Paraskevi	S11-3	9	White, Stuart	S24-1	18	Zito, Rocco	S23-2	17
Thompson, Susan	S17-1	14	Whitzman, Carolyn	S11-3	9			
Tranter, Paul	S6-2	5	Williams, Philippa	S29-2	22			
Trebilcock, David	S30-4	22	Wilson, Bruce	S9-1	7			
Troy, Patrick	S34-2	24	Wilson, Lou	S20-3	16			
	S31-1	23	Wood, Gavin	S7-4	6			
	S23-2	17	Woolcock, Geoffrey	S16-3	13			
	S17-4	14	Woolley, Jeremy	S24-1	18			
	S21-3	16	Worland, Penny	S30-2	22			
	S27-3	20	Wu, Chung-Tong	S15-3	12			
				S29-1	21			
				S25-1	18			