DENSITY AND HEALTH: AN OVERVIEW OF PROCEEDINGS

Prepared by
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Facilitator

Exploring Urban Density: maximising the health benefit and minimising the harm: Forum/Workshop held in Sydney, Monday 29 October 2012

Introduction

This is an overview of proceedings of the workshop on density and health held in Sydney. See **Attachment 1** for workshop flyer. Proceedings commenced with a welcome and brief comments from the sponsoring organisations: Julie Anne Mitchell (Director Cardiovascular Health, NSW Heart Foundation), Peter McCue (Manager, Premier's Council for Active Living) and Associate Professor Susan Thompson (Director, Healthy Built Environments Program, UNSW).

The facilitator introduced himself and mapped the crowd: sponsoring bodies, Local Government (and Regional Organisations of Councils), Local Health Districts, other State agencies, the education sector, consultants and non-government organisations. In another way, health professionals, town (and other) planners, urban designers, architects and landscape architects. A full list of the 70 people in attendance is provided at **Attachment 2** to this overview.

The objectives of the Forum/Workshop were to:

(i) introduce the findings of the Density and Health Evidence Review to practitioners from a cross section of health and built environment disciplines.
(ii) promote informed, cross-disciplinary discussion and debate about health impacts of density in NSW, with a focus on the increase in urban density.
(iii) review and inform the draft recommendations arising from the evidence review, by the integration of NSW practitioner feedback on the:
    - appropriateness and effectiveness of the draft recommendations.
    - inclusion of other recommendations for consideration.
    - opportunities/ enablers/ barriers to implementation of the draft recommendations in NSW.

This was reflected in the pre-set Program for the day, a copy of which is provided at **Attachment 3**.

The facilitator noted that it was an interesting time in NSW with the Planning Act Review (Green Paper to White Paper) and the release of a number of major transport and infrastructure plans. One emphasis in the Green Paper is on 'evidence based' planning. In this regard the Evidence Review on Density and Health is well timed.

The Keynote Address

The facilitator formally commenced the day by introducing Professor Billie Giles-Corti (Director of Melbourne University's School of Population Health, McCaughey VicHealth Centre for Community Well-being), the principal author of the Health and Density Report. A brief biography is provided at **Attachment 4**.

Professor Giles-Corti provided a comprehensive overview of the full Report and its recommendations. A copy of her PowerPoint presentation is provided at **Attachment 5**.

The presentation was followed by a number of questions (Q) and answers (A) and comments (C) from the audience:

Q: How far should developments be set back from the road to mitigate air pollution issues?

A: The standard is around 200 – 300 metres – this is the distance necessary from heavy traffic roads to be protective of negative health impacts. There is also a need to consider how

buildings can be designed to minimise exposure to pollution (e.g. internal courtyards, balconies not overlooking the road etc.).

Q: Regarding larger units for larger families: while such apartments are intended for larger families, there is a real concern that they would become rental properties and no longer necessarily be available for the groups who need them. There is a need for more opportunities for families to become owner-occupiers, through affordable/social housing schemes.

A: This issue requires a policy solution – for example, similar to the 'location efficient mortgages' (a Smart Growth initiative) offered to residents of some cities in the US. A location efficient mortgage increases the purchasing power of people who choose to live in locations where they will not have to rely on an automobile to get around, by factoring in future savings on transportation costs.

C: It is important that building heights remain at the human scale (around 4 – 6 stories). Spanish anecdote – if a child cannot have their mother throw down a forgotten lunch from the window and not squash the sandwiches then the building is too high!! Many of the recommendations need to be solved strategically, not on a site by site basis (e.g. transport systems). Electricity, waste services etc.: the difficulties associated with the delivery and management of such elements increase significantly as densities rise.

Q: Quantifying the relationship between health and the built environment: How much can the built environment contribute to good health, in a proportional sense (i.e. compared to good diet etc.)?

A: It is currently too early to quantify this relationship – the evidence is still being developed. A supportive environment provides the opportunities for people to change/improve behaviour, but this cannot yet be quantified.

The Expert Panel

The panellists, representing the NSW Department of Planning and Infrastructure (NSW DP&I), the architecture, urban design and landscape architecture professions and a professional mediator, were introduced together by the facilitator. Brief biographies are provided at **Attachment 4**.

Peter Hamilton (Director of Development and Demographic Analysis, NSW DP&I) presented a State/ metropolitan perspective, with key statistics, State Government actions and reference to the Health and Density Report's recommendations. The statistics indicate that Sydney is a distinctive Australian city (say, versus Melbourne):

- Already 40% of Sydney's dwelling stock is multi-unit dwellings
- Majority of new housing built in Sydney has been multi-unit dwellings for a long period – it reached 50% in 1995 and hasn't been below that since; currently 80% with an average of 75% over the last 5 years. Higher density forms are the major part of the housing market.
- For greenfields development, 8-10 dwellings per hectare was the norm in the late 1980s/early 1990s. A target of increasing that to 15 per hectare (neighbourhood dwelling density basis) was adopted for greenfields in 1992 (to be achieved with a variety of dwelling types, not just smaller detached house lots).
- Anticipating 1.4 million additional people over the next 20 years, requiring over 500,000 more dwellings. If 65% of those are multi-unit dwellings, that means around 350,000 more will be built.

With that amount of development likely, the recommendations in the Health and Density Report are important proposals for consideration. The planning context for Sydney from the NSW State perspective includes the following.

The State Government's policy, for several decades, has been a compact, multi-centred city, with jobs in Centres. Density and height have been key issues, with a mix including redevelopment areas such as Rhodes, Green Square and Ultimo Pyrmont, through to 20-30 storeys in the CBD. Of approvals for multi-unit dwellings in the first quarter of this year, 69% were for projects of 4 storeys and above.

Proximity to centres is also a key issue. In support of active living, one of the 2010 Metro Strategy's objectives is for 80% of all new housing to be built within the walking catchment of centres. Centres have a wide range of sizes and those catchments vary from 2kms for Major Centres to 150-200 metres for neighbourhood centres. The outcome to be achieved through local planning has strengthened and made more specific over recent years. In 1995, Councils were required to prepare Residential Development Strategies, identifying how they intend to take their share of the

housing load. In 2006/7, housing targets have been set at the sub-regional level, with delivery through Councils' zoning provisions.

Encouraging higher levels of housing construction is a major objective of the new State Government, with this sector a key to the aim to rebuild the State and make NSW 'number one'.

A range of documents has been produced by the State Government as guidance for medium density housing:

- SEPP 65: setting principles; requiring architect designs and scrutiny
- Design Guidelines
- BASIX: sustainability measures
- Guidelines on designing housing on bus/rail corridors.

In addition, DP&I supports PCAL and promotes its guidelines.

Peter stressed the significance of land economics, which must be a consideration in policy formulation and local planning. Development will not occur if it is not economically feasible e.g. land values around railway stations make it difficult for lower rise forms to be viable. The challenge is to get people to use the resources to raise awareness and improve quality, and to promote cooperation between the development industry, Councils and the State Government.

Philip Thalis outlined his experience with apartment buildings, having designed 60 and assessed 400-500 (as a Design Review Panel member).

In relation to current policy guidance, he spoke in support of SEPP 65 (and the Design Guidelines), suggesting that it should be strengthened and not wound back (as part of the planning reforms). 'Buildings last for 100 years and quality matters'. Abstract 'compliance tables should play a secondary role' to actual design quality issues. The sustainable qualities of the built environment should be at the centre of planning reform, rather than just simplistically framed development interests.

Philip strongly supported the Health and Density Report's recommendations 2 and 3 (building/ balcony location away from heavy traffic). He cited Parramatta Road and the Pacific Highway as inappropriate places to have high density development. Higher densities should be in the best places to live: those with high amenity such as locations around parks and overlooking waterfronts; on short, quieter streets; strategically placed in areas of high environmental amenity with climatic advantages; locations

such as along the corridor on either side of Anzac Parade south of Kingsford (allied to a public transport infrastructure project, or the northern beaches; rather than Liverpool or Blacktown). He compared our current situation, with our renewed emphasis on health, to nineteenth century movements – 'to heal the sick city'.

The work of the Heart Foundation (et. al.) and others such as the Grattan Institute should be supported – we should promote Sydney as the most progressive city.

Philip was critical of planning in practice in NSW for not addressing and prioritising the public domain ('the physical embodiment of democracy') - virtually absent from the EP&A Act. He also spoke in favour of recommendations 12, 14 and 15 (location criteria, more robust open space for higher densities and use of schools/ streets). We should be 'trumpeting the value of good streets' which represent 20-40% of urban land area (compared to 3-5% for parks); they are just as important and should be enriched and used. Bureaucratic/ professional silos (e.g. traffic engineers) should be broken down.

In conclusion, Philip felt that the Health and Density Report was 'fantastic' and should be presented in a more comprehensive form, 'rephrasing the conversation in a more positive way' and addressing:

- City form
- Public domain
- Social issues
- Design
- Governance
- Research.

We should challenge 20th Century models, such as 'Garden City', as debased into car-based sprawl of the land-hungry, dispersed, low-density city.

Speaking last week, the Deputy Mayor of Paris emphasised 'intensity, rather than density' – more life, equity, opportunities and diversity.

Associate Professor Linda Corkery also welcomed the Health and Density Report and expressed a particular interest in recommendations 12-14 (locational criteria; increased open space for higher densities). She would compliment the Report's 5 Ds with '3 Ss':

- Standards
- Scale
- Strategic context.

Not all open space is 'green'. In future planning, there should be a wide spectrum of open space available: in terms of scale and purpose; a range from big to small and including innovations such as green roofs. 'Spectrum' may be a better term than 'hierarchy' to capture the range of options.

How much open space? Standards are problematic. In practice, provision has varied considerably from the traditional formula of 2.83 hectares per 1000 people – from a Sydney median of 1.6 to 6.32 for some outer council areas (dominated by sports grounds). Similarly, standards such as a neighbourhood park every 500 metres are too generic. What is needed is qualitative assessment, based on demographics and consideration of matters such as 'daily public open space', including 'living streets' etc. There should be a balanced distribution of spending allocated across the spectrum. For example, at Rhodes Peninsular, we should think of the open space distribution as extending 'from the front door to the foreshore'. In other words, consideration of open space should address user-groups needs (not always including sports fields) and be robust, allowing for a range of uses (including short stays) and even 'digitally enabled'.

Speaking of the outer suburbs, the Western Sydney Parklands is waiting for the density to arrive; dependent on State resources over the next three decades.

We also need to define 'high quality' beyond cost and including notions such as resilience, robustness and heavy use capability.

In relation to strategic content, the Health and Density Report should:

- be recast to include higher-level principles
- include reference to landscape architects, given their role in advising on, designing and delivering high quality open space
- include updates on some research (e.g. Becker's 1976 New York research) and generate research relevant for Australian cities that reflect our unique context and demographics
- emphasise the role of qualitative methods in research to capture the experiences of people in their daily activities
- include case studies to provide an in-depth understanding of what works well and where improvements can be made.

Dr. David Rollinson outlined his role as mediator (and planner), especially in relation to people living and working in residential and mixed use strata schemes who find themselves in dispute, with a range of tolerances and (occasionally) prejudices.

Many apartment dwellers believed they have a right to 'my use of my space how and when I like', at least for 'just living a normal life'. For instance, for a range of activities that should be OK after, say, a day at work e.g. playing music, watching television, and having a pet . Such activities can be 'stress relievers in what is my home'. Disputes arise when such activities impact on the amenity of their neighbours e.g. when the music is loud, when the wooden floor is not acoustically treated, showering after midnight, or when the dog barks all day. In addition, disputes can arise over common property (related to the collective use of the entire building and its surrounds): foyers, stairs, lifts, garbage storage, garden areas, car parks. This is a particular problem in mixed use developments (e.g. residential and shops in the one building).

David spoke in support of the following recommendations from the Health and Density Report:

- No. 4 (selective interaction). BCA compliant buildings can still be noisy.
- Nos. 8 and 9 (governance and management).

There should be a reasonable expectation of the 'lived reality' for future occupiers by policy makers and architects, who should focus on the detail from the start, anticipating and rectifying problems (such as those outlined above). After all, once the design professionals leave, these 'consumers' are left to work it out.

In conclusion, he noted the parallel work by Hazel Easthope (City Futures Research Centre, UNSW) on 'Governing the Compact City' (http://www.be.unsw.edu.au/high-density-living/publications) and also the current review of strata legislation and management (on the NSW Fair Trading website www.fairtrading.nsw.gov.au 'Have your say' section).

Following the panel there was a question (Q) and answer (A) session, with comments (C) from the audience as well:

Q: How do we deal with future, unknown residents (and change over time, such as kids growing up)?

A: Spaces need to be more 'universal', less specialist/ single use and robust to deal with change/ responding to trends, e.g. Rhodes Peninsular.

A: A mix of dwelling sizes also caters for residents moving through the life cycle.

A: The 'architectural brief' is problematic. Agree, apply the universals and allow buildings and spaces to adapt over time.

Q: Car-occupying streets makes them a contested space. What can we do?

A: One expects increases in density to mean increases in traffic. There are ways to reduce reliance on cars ('the elephant in the city'): car share, car spaces as an optional purchase. Existing car parking codes are a problem, despite moves in inner Sydney to reduce requirements, (e.g. close to public transport). Support from the DP&I.

Q: It is worrying that Infrastructure NSW (INSW), the State Infrastructure Strategy (SIS) and the Long-term Transport Master Plan (LTMP) are so car centric in their projects/ proposed spending.

A: The SIS is a recommendation of the Board (INSW) and it is being reviewed. The LTMP is in the 'melting pot'. Please note the objectives of the State Plan 2021, and also that the SIS proposes billions of dollars for the North West and South West rail links.

Professor Giles-Corti briefly outlined the Western Australian approach: e.g. neighbourhood guidelines, density on the fringe and 'Main Street' (at the shops); employment is promoted close to homes. The economics of retrofitting in existing suburbs is a barrier.

C: Actions such as these by INSW are bound-up with politics (and not purely 'technical'). Evidence is countered by pressure from private sector (funding) for roads.

C: Cost of open space provision (and determinations at the State level) is seen as a barrier. We should be convincing the bean counters of the economic positives of open space provision (e.g. proximity and property values).

Professor Giles-Corti flagged research on this (i.e. dollars saved on health versus the cost of not doing things) and also suggested that concentrating on the form and quality of open space and more efficient use would help the equation, e.g.

Mental health as dependent on quality not size. Perhaps a scoring system could be introduced.

C: Alternate models for funding and investing in cities should be investigated, e.g. betterment tax.

C: In relation to child safety in buildings, there is a Working Party (Children's Hospital Westmead) and also work by Kathy Cherry at the UNSW Law School. Netting on balconies is 'disastrous'. This issue may be an overreaction. Surely, the building code should address this.

The Workshop Session: Small group work

The participants formed into six pre-set groups and discussed the Report's recommendations grouped under three 'themes', reflecting the structure of the Report, (i.e. two groups per theme):

- building siting and design
- socio-economic, social interaction and governance
- locational and neighbourhood issues.

Each group had a nominated Table Facilitator who led group participants through the relevant list of recommendations and the three questions posed:

Q1: Will the recommendations listed for your theme work in practice (from your experience)? What are the barriers to their implementation?

Q2: How can these recommendations be improved/ strengthened and barriers overcome?

Q3: Do these recommendations cover all of the main issues (for your theme)?

A copy of the Workshop Themes and Instruction Sheets is provided at **Attachment 6**.

The Workshop Session: Report back

The full group reconvened and the nominated spokespersons/ scribes summarised their responses to the questions. These summaries are provided below.

a) Building design and siting

The main **barriers** to the recommendations on building design and siting were identified as:

- Affordable may mean sacrificing some amenities; excessive building standards could raise costs; standards could be flexible, to suit circumstances.
- High volume of traffic on highly accessible streets.
- Economics; cost for developers in relation to social interaction.
- Individual paranoia about interaction/ safety.
- 'Overcooling' of apartments.

A range of **solutions** was noted:

- Double glazing for lower levels (worst affected by traffic noise), with ventilation addressed otherwise; aesthetic impacts?
- For selective interaction mixed generational/ multi-age common spaces (as a safety factor).
- Serious 'place making' action would set key site circumstance, and 'rules within which developers can operate: rather than DA x DA, with 'blanket' rules. 'Needs a broader context to come first'.
- Need to look beyond individual buildings, addressing long term precinct plans.
- Address traffic issues by serious local area structure planning/ place making (rather than building by building); removing through traffic; electric cars, tunnels.
- Addressing traffic would allow for changing perception and use of streets (e.g. street closure, traffic calming).
- Education to change public perception of apartment living e.g. 'buyers' guides'. A role for real estate agents.
- Support for use of nearby school for recreational use - 'sense of public ownership', 'ours'.
- Helpful for practitioners to have the Heart Foundation recommending such actions.

In relation to **the Report**, the following suggestions were made:

- That the sources consulted in the research may have limited the scope of the recommendations (i.e. a lack of research means some issues are not addressed). A review of existing codes could identify gaps.
- Needs a communication strategy for spreading the Report and its recommendations e.g. targeting the DP&I and LGAs.

- Need to translate the recommendations into practice, with some statutory weight.
- Test the recommendations against the Building Code of Australia - could be imposed nationally in one go. Also, other States codes, etc.
- Consider a 'green star' type tool to score buildings for health.
- Test the recommendations about the NSW BASIX (Building Sustainability Index); amendments to BASIX certification.
- Recommendations could be more 'strategic' and less specific, e.g. leafy suburbs.
- Reorganise the bibliography under thematic sub-headings.

b) Socio-economic, social interaction and governance

The following **barriers** to implementation of the listed recommendations were identified:

- Assumptions about who will occupy larger units/ ground floor locations.
- Concern at discrimination for lower socio-economic groups.
- Misinformation (or no information) on impact of density.
- Costs for developers.
- Not all people want to socialise.
- A role in governance for renters; consideration of those not keen on maintenance/ management (maybe their motive for apartment living).
- Safety off-site, in the neighbourhood.
- Maintenance costs for facilities (and therefore strata fees).
- Health and social factors are not integral matters in the current planning system.
- Zoning as a barrier to variety, mix of housing and land-use.

In relation to a 3/4 storey limit for low socio-economic groups, it is hard to know/ enforce who will live there. Maybe the recommendation could be rephrased as 'low income areas'. In any case, it depends on zoning (or 'down zoning', which will also be a barrier). Some felt that the recommendation was discriminatory, signalling enclaves of low income residents. What of social mix?

While a mix of unit sizes is supported, we also can't assume that larger units will be occupied by families. Alternatively, there may be a growing demand over time for more large units (not just on lower floors) if the trend for multigenerational households continues. Location on lower floors may also suit the elderly and/ or disabled. The relevant recommendations may be better framed as 'planning

for families and singles', with social mix as an objective: diversity and choice.

Various ways of achieving density exist. A key principle should be human scale, regardless of higher or lower socio-economic status. As a result, maximum numbers of units in a building should be a consideration: maximum manageable numbers of persons to engage with. This also assists with governance.

In relation to space for interaction, Crime Prevention through Environmental Design (CPTED) and children's space, the following suggestions were made:

- CPTED should extend beyond buildings to neighbourhoods/ precincts and must not threaten privacy (see below).
- Spaces should be flexible, multi-purpose and adaptable and include consideration of foyers, bin areas, laundries, etc., and indoor - outdoor connections.
- Care with interaction space as some may feel uncomfortable.
- Care with costs of maintenance (and strata fees).
- Incorporate social media technology for residents to cooperate.

Governance is very important and should include tenant's rights and education on 'a new civil neighbourliness' (reflective of society as a whole). Suggestions were:

- The rules/ protocols to be adopted to cope with density.
- A 'welcome program' for new residents.
- Tips on living with density.
- Stage of life and expectations.
- Some choose apartments because 'they don't want to manage/ maintain property'.
- Renters: how to deal with biased 'owners'?
- Renters involved in non-financial decisions; also mechanisms for renters to make issues known to landlords.

In broad terms, the following suggestions were made:

- Get health and social factors to be integral to the NSW Planning and Design systems.
- Consider economic realities for developers.
- The discussion on housing has to be put in context of society as a whole, and density in context of other Government strategies. 'It's dangerous just to focus on density.'

- Regulation is also important as requiring good design and onsite governance: clear rules and regulations (with a role for real estate agents). Standards in local environmental plans.
- More consideration should be given to the 'place making' concept (e.g. the whole of precinct area), with a vision and action plan - 'buildings as pieces of a local jigsaw.' Furthermore, with such a vision Government could address poorly located sites (e.g. on heavy traffic roads) by land pooling and negotiation.

c) Location and neighbourhood issues

The following **barriers** to implementation of the listed recommendations were identified:

- Lack of diversity of employment opportunities across the city.
- Housing affordability.
- Lack of a visionary Metro Strategy (i.e. going beyond a 1960s rail system).
- The taxation system, favouring dwelling houses.
- Our failure to develop 'beautiful places'.
- Lack of a collaborative planning body in NSW: 'no joined-up planning system'; entrenched forces working counter to collaboration.

In relation to high quality open space provisions, some barriers noted were costs and resources, and the trend to privatise 'public' open space.

Other comments raised were:

- Problems with transport on Sydney's north shore (e.g. Warringah) have not deterred people seeking the locational/ lifestyle attributes.
- The importance of mixing density forms/ diversity of density in accordance with locational/ amenity analysis: a 'matrix of attractions'. In other words, not just meeting targets through high density around train stations.

In relation to community use of schools local community opposition (i.e. NIMBY) and opposition/ risk management from the educational establishment (e.g. fencing) could be barriers: 'what's in it for me?; concern about vandalism, child safety.

In terms of solutions/ overcoming the barriers:

- For use of schools, consider community programs in low socio-economic areas; examine risk management barriers and financial support for schools and engage local communities in negotiations.
- Improving community engagement to promote the themes of the Report - maximising the health benefit and minimising the harm of increased density.
- Quantifying diversity as a goal.
- A more collaborative planning system: intersectoral/ community collaboration. 'Community collaboration and engagement is critical'.
- Managing politics: State and local.
- Mix of uses to enable more local activity.
- Distribution of services should be considered on a neighbourhood level.
- Making positive proposals attractive economically to the development industry.
- Separation of transport systems (e.g. cycleways).
- 'Doing it well on the ground': good examples of differing densities.

Finally, in relation to the Report it was suggested that the format of the recommendations be redesigned for a professional audience - rather than the problem/ recommendations approach, to present it as recommendations plus reasons (i.e. quantifying evidence).

In addition, some notions should be quantified/ defined - e.g. density, low, medium and high.

The individual group presentations were followed by a **general discussion**. The points raised were as follows:

- The role of the housing market and standards: 'there is nothing strategic about the market's operations'; the need for Government to take the lead, especially in the current post-election climate in NSW.
- Need for more research on walking and mobility and also on cultural issues/social research underpinning our policy, i.e. 'how we relate to each other, cooperation and sharing, beyond the narcissism of our times'.
- Care with further 'codification' (as proposed in the Green Paper): so much more to achieve, beyond economics.
- The role of banks (and Super funds) in financing housing: barriers to investment, legalities (such as party walls).

- We should not forget that the property market is a key driver in our capitalist system; another fundamental cultural/ social issue.

In response to comments during report-back on whether recommendation 6 (limiting heights for lower socio-economic groups) was discriminatory, Professor Giles-Corti clarified matters. This recommendation was not meant to be discriminatory as implied by the question, but rather it was meant to favour lower socio-economic groups, in that low income households have fewer choices and thus, co-locating them in high rise housing may not optimise outcomes for them or their community

Where to from here?

Firstly, the facilitator reiterated the follow-up recommendations in the Health and Density Report:

- Consult and engage with practitioners for input on implementing recommendations.
- Hold design competitions.
- Conduct further research on the amount of open space for higher densities (through a multi-disciplinary working party).
- Provide professional development and curriculum opportunities in tertiary education; write articles in newsletters.
- Undertake multi-disciplinary research to further build the evidence base on the impacts of high density housing in Australia.

The facilitator advised that the next step was for him to produce an 'Overview of Proceedings' (in conjunction with Susan Thompson). The Overview would be available on the HBEP and Heart Foundation websites.

Peter McCue advised that promotion of the Report will be part of the regular meetings of key stakeholders as we move from the Green to White Paper in NSW. Also, at the International Physical Activity Conference to be held in Sydney in early November.

Michelle Daley stated that the Heart Foundation will synthesise each State's response to the Report and advised that the Density Evidence Review was available in both full and summary versions on the Heart Foundation website (www.heartfoundation.org.au/active-living/built-environment/Pages/Density-and-Health.aspx). She also thanked the organising Committee and staff.

The Forum/Workshop concluded at approximately 4.30pm.

Attachment 1. Forum Flyer

Forum and Workshop — Monday 29 October 2012, 9.30am – 4.15pm

Exploring urban density – maximising the health benefit and minimising the harm

Heart Foundation®

As the populations of our cities grow, the way land is used is becoming increasingly important. Developing healthy communities, well serviced by public transport, adequate green space, local shops and services depends on quality planning and urban design.

As organisations working to promote healthy urban planning, the Heart Foundation, the Healthy Built Environments Program (UNSW) and the NSW Premier's Council for Active Living are collaborating to host this forum and workshop. The forum will consider the impact of urban density on health, and what features are important when considering increased levels of density.

Keynote speaker

Prof. Billie Giles-Corti from the McCaughey Centre, Melbourne School of Population Health, The University of Melbourne will present on the findings of her investigation into density levels and their health implications.

A copy of the literature review can be downloaded from: www.heartfoundation.org.au/active-living/built-environment/Pages/Density-and-Health.aspx

Other speakers

A panel of other speakers from the built environment will provide a NSW perspective on the topic.

Facilitated workshop

A workshop session, facilitated by Dr Danny Wiggins, will follow the forum. Participants will have the opportunity to discuss key themes related to density and health and inform the recommendations arising from the review.

Who should attend?

Planners, architects, urban designers, strategic and statutory planners, health planners, transport planners, open space planners, social planners, health promotion professionals, leisure planners and recreation officers, developers, community planners, professionals working in service planning and anyone interested in urban design and planning for liveable neighbourhoods.

Heart Foundation · cityFUTURES · HBEP

When: Monday 29 October 2012, 9.30am-4.15pm
Where: The Mercure Sydney Hotel, 818-820 George St Sydney (near Central Station)
Cost: Free (limited places)
Bookings: Send completed registration form to Karina Dunne at karina.dunne@heartfoundation.org.au or Fax 9219 2424. Please RSVP by 13 October 2012. Enquiries can be directed to michelle.daley@heartfoundation.org.au, Tel: (02) 9219 2459.

Attachment 2. Forum Participants

Name	Company/organisation
Allison Heller	Urban Affect
Amy Hannigan	NSW Health
Andrew Wheeler	HBEP
Assoc Prof Stephen Corbett	WS & NBMLHD
Associate Professor Linda Corkery	Faculty of the Built Environment, UNSW
Associate Professor Susan Thompson	UNSW/HBEP
Barbara Eden	Heart Foundation
Britt Johnson (National)	Heart Foundation
Christine Pearce	NSLHD
Danny Wiggins	Event Facilitator
David Bennett	Shaping Suburbia
David Rollinson	Department of Fair Trading
Diana Griffiths	Arup
Emily Mitchell	HBEP
George Vlamis	Fairfield Council
Graham Matthews	Liverpool Council
Hazel Easthope	University of NSW
James Lette	GHD
Jan McCredie	Jan McCredie Urban Design
Janelle McNicholas	Heart Foundation
Jeeva Sajan	University of Western Sydney
Jennifer Kent	HBEP
Jo Wild	Australian Diabetes Council
Julie Anne Mitchell	Heart Foundation
Karen Tavener-Smith	Illawarra Shoalhaven LHD
Karin Bishop	WSROC
Kay Tennant	WS & NBMLHD
Kendall Banfield	Marrickville Council
Kester Ko	AECOM
Klaus Gebel	HBEP
Lara Goldstein	Pittwater Council
Lauren Puglisi	NSLHD
Louise Menday	Consultant Planner
Lyn Frankovich	Marrickville Council
Lynn Soriell	GHD

Name	Company/organisation
Maria Whipp	NSW Department of Planning and Infrastructure
Michelle Daley	Heart Foundation
Mike Dove	Wollongong City Council
Natasha Hayes	Heart Foundation
Nigel Tebb	NSLHD
Penelope Coombes	The People for Places and Spaces
Penny Finlay	Sydney LHD
Peter Failes	Marrickville Council
Peter Hamilton	Dept of Planning
Peter McCue	PCAL
Peter Sainsbury	SWS LHD
Philip Thalis	Architecture + Urban Projects Pty Ltd
Professor Billie Giles-Corti	The University of Melbourne
Rebekah Costelloe	PCAL
Rema Hayek	SWS & SLHD
Rhonda Matthews	NSW Ministry of Health
Roy Byun	SWLHD
Sarah Court	GTA Consultants
Sharon Peters	SWSLHD
Solange Frost	NCOSS
Stephen Moore	Roberts Day
Stephen Prince	Strategic Planning Services - City of Newcastle
Steve Rossiter	Elton Consulting
Tija Stagni	Pittwater Council
Tony McBurney	Integrated Design Group
Vanessa Phillips	Imagescape Design Studios
Warren Yates	Mosman Council

Attachment 3. Workshop Objectives and Program

Exploring Urban Density: maximising the health benefit and minimising the harm

Monday October 29 2012

Mercure Hotel, 818-820 George St Sydney

Objectives of the Forum and Workshop

1. Introduce the findings of the Density and Health evidence review to practitioners from a cross section of health and built environment disciplines.

2. Promote informed, cross disciplinary discussion and debate about health impacts of density in NSW, with a focus on the increase in urban density.

3. Review and inform the draft recommendations arising from the evidence review, by the integration of NSW practitioner feedback on the:
    - appropriateness and effectiveness of the draft recommendations.
    - inclusion of other recommendations for consideration.
    - opportunities/ enablers/ barriers to implementation of the draft recommendations in NSW

PROGRAM

9.00am	Arrival/ Registration	
9.30am	Welcome/ Scene setting	Heart Foundation/ HBEP/ PCAL.
	Objectives and Program	D. Wiggins
9.45am	Exploring Urban Density: maximising the health benefit and minimising the harm: overview of research report	B. Giles-Corti
10. 30am	Q & A Session	Audience
10.45am	Refreshment break	
11.15am	The NSW Context • General comments on NSW experience • Response to Report: feasibility and constraints	Panel
12.15	Q & A session	Panel/B. Giles-Corti D. Wiggins
12.45pm	Lunch break	
1.45pm	Workshop session • instructions • small group work • Report recommendations (afternoon tea available 2.30-3.00)	D. Wiggins
3.00pm	Report back & General discussion	Spokespersons D. Wiggins
4.00pm	Where to from here?	Heart Foundation/ HBEP/ PCAL.
4.15pm	Close	

Attachment 4. Speaker Biographies

Professor Billie Giles-Corti is Director of the Melbourne University School of Population Health, McCaughey VicHealth Centre for Community Wellbeing. For nearly two decades, she and a multi-disciplinary team of researchers and post-graduate research students have been studying the impact of the built environment on health, social and health behaviour outcomes including walking, cycling, public transport use, overweight and obesity, social capital and dog walking. A leading public health researcher in Australia and recognized internationally for her research on the health impacts of the built form, Professor Giles-Corti serves on numerous international, national and state committees and boards.

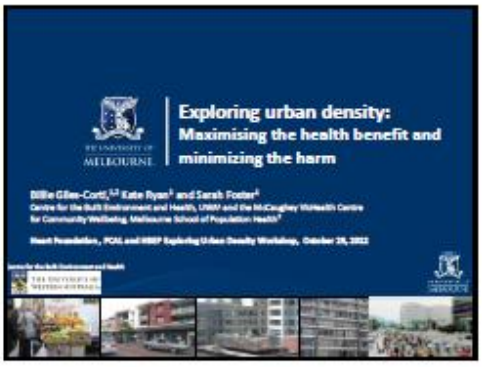
Peter Hamilton has been involved in metropolitan planning for Sydney with the NSW Department of Planning and Infrastructure for a number of decades. In that work he has been directly involved in the evolution and implementation of the strategies on the location, type and scale of housing. He is currently the Director of the Branch that analyses the current and likely patterns of housing across Sydney and prepares the projections of population growth and housing requirements that are used for strategic planning. From 2004 until its recent restructure he was the Department's representative on the Premier's Council for Active Living.

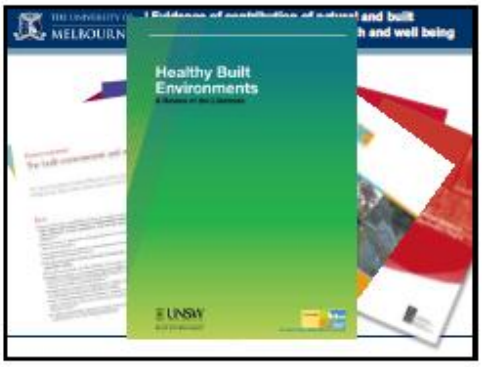
Philip Thalis is a registered Architect and founding principal of Hill Thalis Architecture + Urban Projects, established in 1992 and recognised for its independent stand point and design expertise across a range of project types and scales. Major competition winning projects include the Olympic Village – National Architecture Competition in 1992, and the East Darling Harbour International Competition in 2006. In 2009 Philip was awarded the AIA NSW Presidents Award for Outstanding Contribution to the Architectural Profession (jointly with Peter John Cantrill).

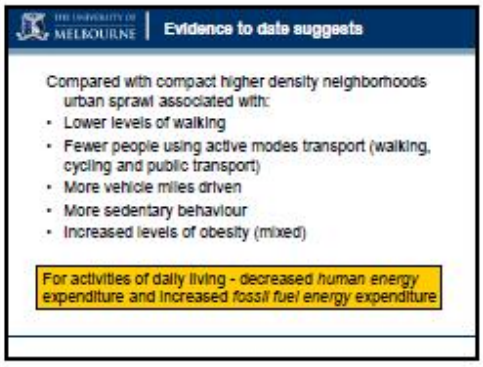
Associate Professor Linda Corkery is Program Director for Landscape Architecture, Faculty of Built Environment, University of New South Wales. Her teaching and research focuses on planning and design of urban parklands and open space through to detailed design of the public domain, particularly in areas of increasing urban density. Linda is a Fellow of the Australian Institute of Landscape Architects, a member of the American Society of Landscape Architects, and Director of Corkery Consulting P/L.

Dr David Rollinson is a town planner and mediator. He worked as a statutory planner in local government for over 15 years and was the 'mediating registrar' at the NSW Land and Environment Court. He currently mediates community, family and other disputes including those in strata accommodation.

Attachment 5. Key note presentation delivered by Professor Billie Giles-Corti







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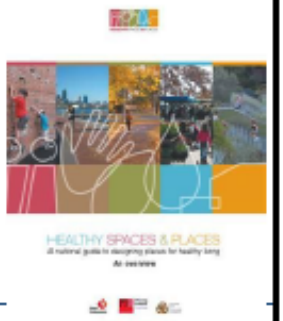
Background

- What's required?
  - Higher density mixed use development with connected street networks and access to public transport
- Health sector – including the Heart Foundation – now promoting the need for increased 'density'
- Question what does 'increased density' mean?
  - Under what circumstances could increased density cause harm?
  - Is it possible to avoid 'unintended consequences'?
  - How much density optimises the benefits (e.g., increased walking) but minimises any harm?



Heart Foundation commissioned UWA, CBEH:

To undertake a literature review to address the following:

1. The intended and unintended consequences of increased density
2. The meaning of 'good' density from a health perspective
3. The types of amenity associated with positive health outcomes in areas of high residential density

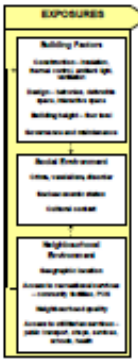
Brief: To provide **evidence-base guidance** to policy-makers and practitioners (urban planners, architects, and developers) about **how to increase density** in a way that will maximise health benefits and minimise any harm

Health and socioeconomic conditions considered

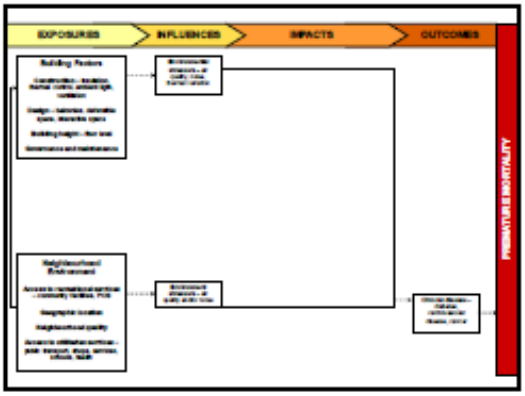
Health conditions
Mortality
Respiratory health
Chronic diseases
Cardiovascular health
Cancer
Injury
Mental health

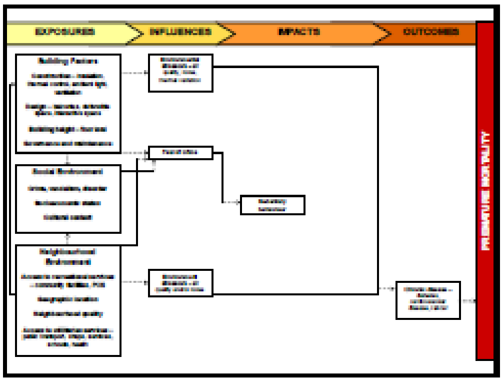
Social conditions
Crime
Vandalism
Socioeconomic status

What factors are important?



MORTALITY

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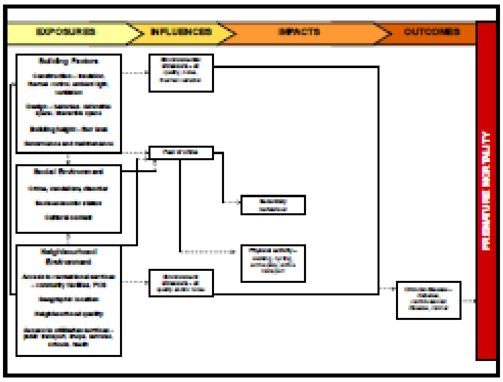
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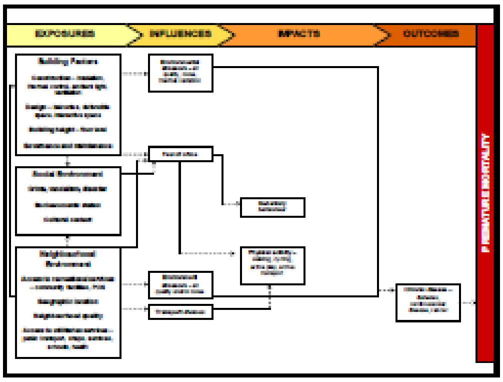
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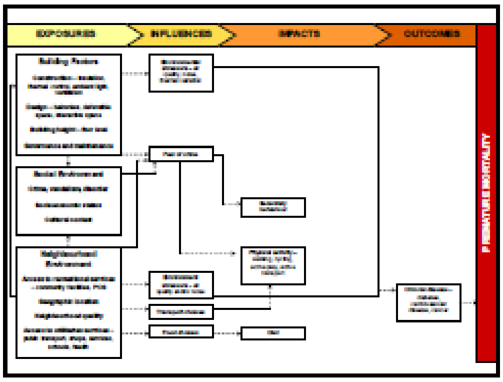
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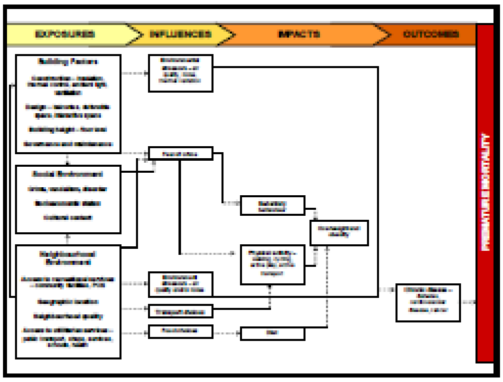
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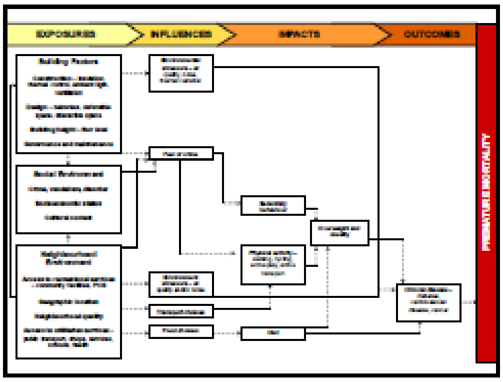
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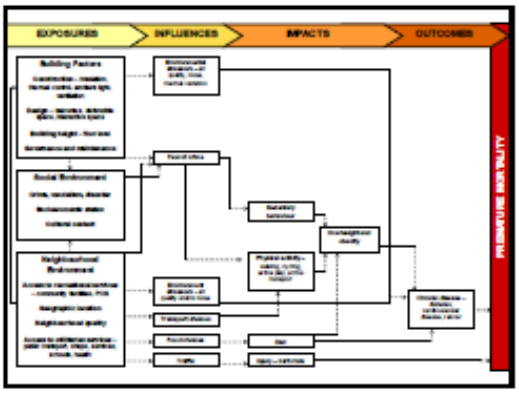


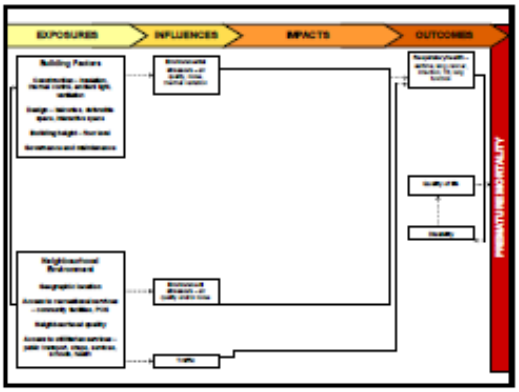
Conclusion

- There is little clear evidence that increasing population or dwelling density *per se* is directly associated with increased all-cause mortality, although some evidence in some sub-groups (e.g., older adults)
- The relationship between crowding and mortality is consistent
  - Crowding - regardless of whether measured by *persons per room* or the *number of housing units per structure* - positively associated with premature mortality

Conclusion (cont.)

- Increased population density often associated with increased cancer mortality, but **confounders uncontrolled.**
  - Nevertheless, potential to reduce cancer mortality in high density by designing cities which encourage more healthful behaviours – walking, vigorous activity and diet
- Increased density may protect against CVD by encouraging physical activity and reducing sedentary behaviour.
  - However, exposure to air pollution may increase risk of CVD.
- To mitigate the effects of density on premature mortality:
  - Avoid crowding: minimum percentage of family accommodation?
  - Attention need to be paid to the location of higher density housing, and access to local amenity that encourage physical activity, provides access to healthy food options and reduces exposure to environmental pollution

RESPIRATORY ILLNESS



Conclusion

- Proximity to busy roads, high traffic density and pollution linked to various respiratory illnesses
  - Severe (i.e. higher incidence of death) to minor irritations (i.e. respiratory tract irritations)
  - Affects all age groups
- However methodological problems persist
  - Self selection – people most affected may move away (i.e., may **under estimate** problem)
- Risks associated with high density housing could be reduced by locating away from heavily traffic roads and facing balconies away from traffic

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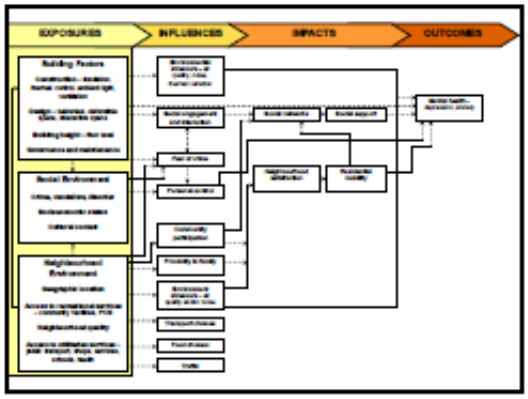
MENTAL HEALTH



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Conclusion

- Impact of noise on mental health - building location (e.g., busy road) and its construction and insulation
- Consistent evidence - cross sectional and longitudinal
  - Both housing and neighborhood quality associated with psychological health
    - Appears to be related to length of residence, social interaction, satisfaction with traffic and neighborhood's appearance and aesthetic appeal
- Quality of higher density housing is effected by its governance and maintenance
- Evidence on impact of floor level is indicative rather than conclusive
  - certain adult sub-groups appear more at risk (e.g., women with children and lower socioeconomic groups)
  - sufficient evidence to warrant caution
- Social interactions influence social support
  - Higher density housing requires opportunities for 'selective' but not enforced interaction
- Real and perceived safety affects
  - anxiety and psychological distress
  - whether behaviour is constrained and physical and social activities reduced
- Both housing and neighborhood need to be safe – incorporating crime prevention through environmental design critical

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Conclusion

- Evidence to suggest that to protect mental health
  - Optimise the quality of buildings and neighbourhoods
  - Limit height of higher density housing, particularly for lower SES groups
  - Provide opportunities for selective interaction
  - Provide play areas for children
  - Locating higher density housing in areas with amenity (utilitarian and recreational) and high quality public open space
  - Create safer buildings and neighbourhoods by incorporating crime prevention through environmental design e.g.,
    - Territoriality
    - Natural Surveillance

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ACCESS TO GREEN SPACE

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Access to public open space

The route pathways through which access to green space may impact physical and mental health

Conclusion

- Neighbourhood attractiveness (including the amount of green space) more likely to be correlated with housing satisfaction in apartment dwellers
- Cross-sectional studies - exposure to nature is associated with a wide range of benefits –
  - Including reducing mental fatigue and stress, enhancing restoration, and promoting positive mood and emotional states
- Access to POS may assist in developing social ties and sense of community
- A hierarchy of public open space required within and near higher density housing

Conclusion

- Public open space is more important to residents of higher density housing than in suburbs
- Some evidence that higher density housing located nearer POS higher value
- 10% allocation is unlikely to be enough
- Question is: How much?
  - Using quantity-based approach (i.e., amount/1000 persons): 40% allocation required for densities of 80 persons/hectare
- Well-surveilled open space areas within higher density complexes would provide more options for parents with children

Special populations

Children

- Potential health concerns include behavioural development, independent mobility etc.
- The utility of play should not be underestimated
- Children should be engaged in planning cities

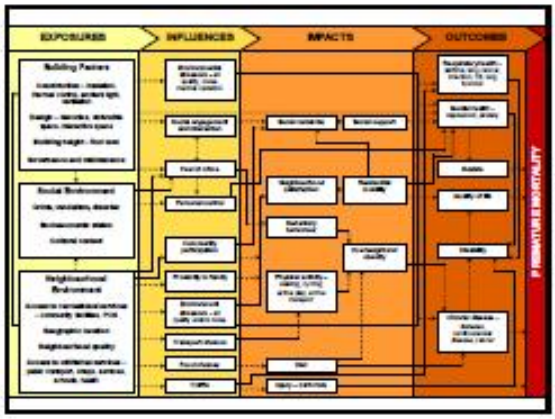
Older adults

- It is vital that cities be designed for healthy aging
- Satisfaction is particularly important for this age group, and can effect social bonds and mental health
- Real and perceived safety are other important issues for this age group, this can influence mental health and physical activity

In summary....

'Badly designed places impose costs on their occupiers, their neighbours and on society' CABE

What factors are important?



Recommendations for next steps and dissemination

- **Recommendation 17:** Consult and engage practitioners and policy-makers in planning, urban design and architecture across all states for input into how each recommendation could be implemented.
- **Recommendation 18:** Initiate design competitions to engage planning, architecture and development industry practitioners and students
- **Recommendation 19:** Devise recommendations for the amount of public open space required in higher density areas
- **Recommendation 20:** Create professional development and curriculum opportunities and distribute articles in appropriate newsletters
- **Recommendation 21:** Initiate multi-disciplinary research to build evidence base and gain better understanding of the impact of higher density housing in Australia

Recommendations related to the building: its location, construction, design and maintenance

- **Recommendation 1:** Ensure adequate noise insulation, ventilation and ambient lighting
- **Recommendation 2:** Locate higher density housing near public transport, but where possible away from busy roads and intersections

Recommendations related to the building: its location, construction, design and maintenance

- **Recommendation 3:** For buildings located on busy roads, ensure balconies do not overlook the road and building sited to maximise cross ventilation

Recommendations related to the building: its location, construction, design and maintenance

- **Recommendation 4:** Provide opportunities for 'selective' interactions between residents

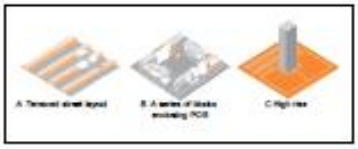
Source: Western Regional Health Centre, Older Persons High Rise Program, Floyd Lodge Community Garden

Recommendations related to building location, constructions, design and maintenance

- **Recommendation 5:** Provide well-surveilled age-appropriate play areas within higher density housing developments

Recommendations related to building location, constructions, design and maintenance

- **Recommendation 6:** Limit higher density housing to three to four storeys, particularly for low-income families. Exceptions to this include inner-city developments (for office workers) and higher socioeconomic areas with views.
- **Recommendation 7:** Achieve higher density through low-rise development



Recommendations related to the building: its location, construction, design and maintenance

- **Recommendation 8:** Ensure there is adequate governance of higher density housing across all states and territories and ensure adequate maintenance
- **Recommendation 9:** Provide opportunities for input into decisions about building management for residents (not just owners)

Recommendations related to the social environment

- **Recommendation 10:** Incorporate crime prevention through environmental features into building and neighbourhood design
  - Increase territoriality by limiting the number of people accessing entrances, landings and semi-private space;
  - Create transitional zones (public, semi-private through to private)
  - Maximise natural surveillance

Recommendations related to to the social environment

- **Recommendation 11:** Provide some larger apartments in each development to accommodate families and co-locate family housing on the lower floors

Recommendations related to location and neighbourood environment

- **Recommendation 12:** Locate higher density housing near employment opportunities, schools, shops and services (e.g., libraries), and public transport to other activity centres
- **Recommendation 13:** Locate higher density housing in (low allergen) leafy neighbourhoods including near high quality public open space and near other recreational opportunities
- **Recommendation 14:** Increase the amount of high quality public open space available in higher density areas that cater for multiple users

Recommendations related to location and neighbourood environment

Recommendation 15:

- In existing areas, consider using school grounds to provide safe play spaces for children after school, and local farmers markets on weekends
- In developed areas where retrofitting is not possible, consider closing the streets after school and on weekends and holidays to provide age-appropriate safe play areas and local markets

Recommendations related to the location and neighbourhood environment

- **Recommendation 16:** Ensure there is good access to health-promoting resources (e.g., fresh fruit and vegetables, cycling infrastructure)

Recommendations related to outer suburban areas

- **Recommendation 17a:** Double average density in fringe developments 30 to 35 houses per hectare
- **Recommendation 18a:** Explore alternative housing designs to accommodate houses being built at 30-35 houses per hectare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Attachment 6. Workshop Themes, Recommendations and Instructions

WORKSHOP THEMES & RECOMMENDATIONS

Theme No.1 Building siting, design and construction

1. In terms of building design:
   - Ensure adequate noise and thermal insulation, ventilation and ambient lighting (1).
   - For buildings located on roads carrying heavy traffic, ensure balconies do not overlook the road, and buildings are sited to maximise cross-ventilation (3).

2. Provision on-site/ within buildings:
   - for 'selective' interactions between residents (4).
   - for well-surveilled age-appropriate play areas within higher density housing developments (5).
   - incorporating crime prevention through environmental design (CPTED) features into building and neighbourhood design (10).

3. Limit higher density housing to three to four storeys, particularly for low-income families. Exceptions to this include inner-city developments (for office workers) and high socioeconomic areas with views (6).
4. Achieve higher densities through low-rise developments (7).

Theme No. 2 Socio-economic factors, social interaction and governance

1. Limit higher density housing to three to four storeys, particularly for low-income families. Exceptions to this include inner-city developments (for office workers) and high socioeconomic areas with views (6)
2. Provide some larger apartments in each development to accommodate families. Co-locate family housing on the lower floors (11).

3. Provision on-site/ within buildings:
   - for 'selective' interactions between residents (4).

- for well-surveilled age-appropriate play areas within higher density housing developments (5).

- incorporating crime prevention through environmental design (CPTED) features into building and neighbourhood design (10).

4. Ensure there is adequate governance of higher density housing and adequate maintenance, and provide opportunities for input into decisions about building management by residents (not only owners) (8 and 9).

Theme No. 3 Locational and neighbourhood matters

1. Locate higher density housing:
   - near employment opportunities, schools, shops and services (e.g. libraries), and public transport to other activity centres (12).

   - in (low-allergen) leafy neighbourhoods including near high-quality public open space (POS) and other recreational opportunities (13).

   - with good access to health-promoting resources (e.g. fresh fruit and vegetables, cycling infrastructure) (16).

   - near public transport but on lower traffic roads, and away from roads carrying heavy traffic and major intersections (2).

2. Achieve higher densities through low-rise developments (7)
3. Increase the amount of high-quality public open space available in higher density areas to cater for multiple users (14).
4. In existing areas, consider using school grounds to provide safe play spaces for children after school, and local farmers' markets on weekends. (In developed areas where retrofitting is not possible, consider closing the streets after school and on weekends and holidays to provide age-appropriate safe play areas and local markets.) (15)

Please note: Recommendation numbers in brackets. Recommendations 17-21 (dealing with future research and dissemination) will be covered in the General Discussion and Where to from here?

SMALL GROUP INSTRUCTIONS

Task 1. Introductions (5 minutes)

- Role of table facilitator and spokesperson/ scribe
- Nominate a group member as spokesperson/ scribe

Task 2. Browse the Report Recommendations for your theme (led by table facilitator). (5 minutes)

Task 3. Discuss and answer the following Questions:

Q1: Will the recommendations listed for your theme work in practice (from your experience)? What are the barriers to their implementation? (20 minutes)

Q2: How can these recommendations be improved/ strengthened and barriers overcome? (20 minutes)

Q3: Do these recommendations cover all of the main issues (for your theme)(10 minutes)

Task 4. Prepare for spokesperson to Report-back