The implications of (Un)sustainable cities for social reproduction

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In Australia, the cities and regions of Sydney, Melbourne, South East Queensland and Adelaide now have long term plans of up to 30 years that set out expected population and urban growth over coming decades. Plans are also in place to manage the process of making urban growth sustainable. These plans have a focus on creating higher dwelling densities and less personal space. Densification is associated with lowering block sizes, expanding house footprints to allotment ratios, urban growth boundaries and transit oriented development but also with the reclamation of public and private space for higher density housing. Urban densification policies are based on an assumption that densification will restrain development on the urban periphery and promote economic activity. These policies have synergies with policies that promote 'healthy cities'. The latter are premised on the argument that denser cities make for 'walkable neighbourhoods', which have health benefits for local residents. However there is contradictory evidence emerging that suggests that increasing dwelling density and removing personal space has implications for public health, especially for children. The residents of Australia's low density cities have traditionally enjoyed good public health related to open access to public parks, gardens and recreational facilities, which in many cases are maintained free of charge by local government authorities. Densification of Australia's cities is removing private public space in the form of backyards but also public, community space. Australian governments and planning authorities have justified the removal of public space, including public parks, by referring to the need to make cities more sustainable by increasing dwelling density. The sustainability discourse has been appropriated by Australian governments in such cases to support a neoliberal planning agenda that seems to use the language of sustainable development to support a process that has implications for the health and social reproduction of communities. This process is manifest in changes to land use legislation by state governments that seek to enhance the profits of investors by appropriating public land for private development and socialising the cost of bringing land on to the market. These changes have emerged at a time when there is evidence to support claims that children's health in Australia is declining. Moreover, while there is evidence to suggest that residents in 'walkable communities' have higher physical activity levels there is only limited evidence demonstrating causality. It is notable that these studies rarely involve children. Indeed recent research suggests that it is green space, not

residential density that correlates with healthier body weight for children. Our paper illustrates these arguments by offering a review of current urban policy in Australia and a case study of how the sustainability discourse has been deployed in support of the appropriation of public and private urban space in Adelaide, South Australia. The case study is unpacked in relation to research into the relationship between access to green space and the health of children, families and communities. The paper draws conclusions on the implications of urban densification for social reproduction.

Introduction

Planning in countries such as Australia is traditionally associated with a concern for urban equity, which includes equitable access to open space for families and children. A recent Australian study by March (2010) suggests that the core role of urban and regional planning involves using spatial understandings to manage the ways in which land and natural environments are valued, used, conserved, developed or organised. In this sense, planning seeks to ensure that the individual decisions made by multiple actors in the planning process are of mutual benefit. Planning's capacity to achieve desirable social, economic and environmental outcomes is intertwined with social norms and the prevailing political economy (Davidson et al. 2012, March 2010). Gleeson (2006, 2010), Gleeson et al. (2004) and Gleeson and Low (2000) have provided an analysis of the political economy of Australian planning, which concerns the themes of policy, space, governance, finance and democracy. These themes are associated with an extension of urban planning into issues of inclusiveness, social justice, sustainability and environmental enhancement (Davidson et al. 2012). As Searle and Bunker (2010) note, over the past 15 years state agencies have introduced housing plans, water plans, energy plans, environment protection and enhancement plans, business development and innovation plans, social plans, education plans, and tourism and recreation plans.

Equity refers to an equitable share of public and social goods, that is, equitable access to social goods such as paid work, education, health services, community services, child care, recreational facilities and sporting facilities (Davidson et al. 2012). Planning for equity includes making space for the unpaid labour of carers (a social good) and the provision of non-excludable public goods such as roads, street lighting and parks. Social goods such as education, community services and health facilities are sometimes described as merit goods that have social benefits. Both social and public goods are associated with public interest

issues that involve private benefits and public costs with regard to matters such as land use (Davidson et al. 2012). For example, an urban development project built on land on the periphery of a city that is poorly located in relation to transport, jobs, education, recreation and health services might serve the need of a developer to make a profit and state agencies to meet development targets but might provide inequitable access to public and social goods for residents.

The Australian cities and regions of Sydney, Melbourne, South East Queensland and Adelaide have long term strategic plans of up to 30 years that set out expected population and urban growth over coming decades and State government plans to manage the process. The new *30 Year Plan for Greater Adelaide* released in 2010 has marked similarities with Sydney's *2005 City of Cities Plan* (DSRD 2005) and the recent update to Melbourne 2030, *Melbourne @ 5 Million* (DPCD 2008) and the *South East Queensland Regional Plan 2009–2031* (DIP 2009). All contain references to the maintenance of community facilities that are associated with sustainable consumption. Most contain frequent references to 'sustainability', 'social inclusion' and saving the environment. Providing access to green space, a key concern of local communities, is also widely referred to in these Plans as is maintaining urban heritage. However there is very little mention of children in these documents or references to planning for their needs. Equitable access to public and social goods for children seems to be off the agenda in Australia.

Sustainable urban development

The predominant theme in the plans for Australian cities and regions is urban consolidation. Forster (2006, p178) writes that urban consolidation has been promoted since the 1980s as a rationale for economic efficiency but has been seen increasingly as the key to more environmentally sustainable cities. Kotkin (2010) identifies similar trends in urban policy in the USA. He argues that city development is moving away from 'suburbs' towards greater density, public transport orientation and less personal space, where the assumption is, the denser the city, the better for economic activity. Densification is also held to increase use of public transport and reduce 'sprawl' hence having environmental benefits. Kotkin (2010) argues that much contemporary planning is based on 'urban legends', as he calls it, which are driving urban development and form. Kotkin (2010) suggests that consolidation comes at the expense of liveability, and notes that the simple notion that consolidation will reduce of urban sprawl and carbon emissions dioxide through reduced car use is flawed. Energy use is

complicated and when the higher consumption of material goods and heat island effects of consolidated inner suburbs are factored in, sustainability claims tend to be reduced.

From a different perspective, Gunder (2006, p. 209 – p. 215) argues that the discourse of 'sustainability' is being manipulated by powerful actors to primarily to support economic activity and that sustainability's underlying message that we must reduce consumption is being ignored. Moreover social equity holds a distant third position to economic and environmental considerations in this discourse. Gunder notes that if communities do not endorse urban intensification, then they can be considered insensitive to regional environmental concerns by governments and their planners. The alleged insensitivity of communities to the environment can then be used as a justification to ignore community concerns. The sustainability discourse in this sense can be used to justify the loss of private space to further densification policy, sometimes with unintended consequences. A study by Phan et al (2008) of the changing built form in the City of Monash in the Australian state of Victoria, which sought urban consolidation in conjunction with transit oriented development found that rezoned areas near railway stations did not draw the anticipated higher density development, rather it was opportunistic subdivision infill development that took place, which led to losses of private green space loss without compensatory public green space.

The removal of public green space can also be justified in urban densification policy by reference to the sustainability discourse, although such developments sometimes run into trenchant resistance. The South Australian Government's Sustainable Budget Commission made a recommendation in 2010 to the SA Government to sell the Parks Community Centre and its 14 hectares of inner city land near the centre of Adelaide to help balance the state budget (Sustainable Budget Commission 2010). Subsequent announcements by the SA government that sought to justify the sale to the public stated that the land would be redeveloped for 'sustainable', higher density housing, consistent with the 30 Year Plan for Greater Adelaide. The Parks was established by a social democratic, Labor government in the 1970s to provide community services to the north western suburbs of Adelaide in South Australia, then as now, one of the most disadvantaged urban areas in Australia. The Parks accommodates a sport and fitness centre, a public swimming pool, a library, theatres, and an arts and crafts area providing youth, children's and community programs. These facilities were slated to close with the sale of the Parks. The announcement of the sale triggered a community campaign to reverse the decision. The master plans for the Parks redevelopment

made no mention of replacing the sport and fitness centre, public swimming pool, library, theatres, and arts and crafts areas providing youth, children's and community programs although government spokespersons made vague references to space being found elsewhere. The sale of The Parks was cancelled in the face of community outrage at the inequitable removal of green space and social infrastructure from socially deprived neighbourhoods and the handing of the land to private housing developers who stood to make a considerable profit.

Other studies by Gunder (2006, p. 216- 217), Randolph (2004, p. 486) and Gleeson (2008, p. 2655) suggest that there is little empirical evidence that demonstrates that a consolidated city form supports social reproduction. There is also debate as to whether consolidation can meet the assumed economic and environmental benefits, such as changing transportation behaviours to more active methods (Recsei 2005; Newman 2005; & Cox 2005). Gleeson (2008, p. 2657, 2659) argues that market driven densification will not be successful because uneven social development and overproduction are inherent in this process. Children are particularly affected by uneven social development.

Children and social reproduction

Australia was less affected by the 2008 global economic crisis than most other advanced economies has not experienced and economic recession, partly because of strong regional growth associated with the rise of China and India. The latter has driven a mining boom in Australia. Economic growth has improved the material wealth of Australians but concurrently, there has been a decline in the health and wellbeing of Australian children. Studies by Gleeson (2006, 2010) suggest that the pursuit of economic growth and the ever increasing consumption of material goods have come at the expense of under valuing social values. He argues that the privatisation of the public realm, evidenced by the rise of private sector roles in industries such as childcare, economic insecurity, the growth of individualism and materialism, and the contraction of urban public domains are leading to toxic Australian cities with deep social and geographic polarisations. These processes present rising health concerns for younger Australians. According to Gleeson (2006), parents are enslaved to the work culture with resulting loss of family time and ensuing impacts on children.

Similar studies by Stanley et al (2005,) Li et al (2008,), Eckersley (2009) and Emerson (2010) tend to support claims that children's health in Australia is declining. Eckersley (2009, p. 3)

says we should not "confuse how well people live with how long they live." While mortality and infectious disease have fallen and life expectancy increased, the average weight of children in Australia is increasing, as are associated conditions of diabetes, heart disease, and some cancers. The increasing incidence of mental health disorders is also a significant issue for children in Australia. Eckersley (2009, p. 3) reports that psychological stress now accounts for 49% of the burden of disease in 15-24yrs in Australia with suggestions that this is increasingly presenting in earlier ages.

Emerson's (2010, p. 107) analysis of the Australian Research Alliance for Children and Youth (ARACY) Report Card indicates that, at best, notwithstanding the challenges of incomplete data, the wellbeing of Australian children ranks, 'average' in most areas, in comparison to other OECD countries. The UNICEF 2008 report for wellbeing in early childhood ranked Australia 23rd out of 25 OECD countries in terms of the health and well being of young children. A recent study by Emerson (2010, p. 108) suggests that this grade of 'average' in a relatively prosperous society indicates that children and young people are undervalued in Australia in relation to social investment.

Stanley et al. (2008) likewise argue that child wellbeing has been undermined in recent decades by the reduced psychological and social capital of families that has been caused by growth in insecure employment, increasing social inequality and reduced government spending on infrastructure and services related to child development and safe physical environments. Stanley et al. (2008) argue that these processes have reduced the time that families can spend together and have increased family breakdowns.

A recent study by Woolcock et al. (2010, p. 179, 182) also questions whether rising affluence in Australia will drive mass improvement in child's wellbeing. This study reviews growing scientific evidence that indicates increasing material wealth presents a physical and psychological threat to children. Woolcock et al. (2010) argue that Australian urban policy has largely ignored or understated children's issues with evidence indicating that this is more noticeable in Australia than other countries.

In this sense Timimi (2010, p. 695-696) points to the role of the urban environment in children's health. Timimi (2010, p. 692) argues that children in contemporary post-industrial societies are experiencing health problems from more time spent on individual gratification

and a decrease in exercise. Timimi (2010) argues that a narrow biomedical framework has been encouraged by neo-liberal social policy to address children's health. This framework neglects cultural and/or environmental influences in favour of treating individual illness. In neoliberal discourse of "viewing children's poor behaviour and emotional state as being caused by 'illness' seems to *spare all from further scrutiny*" (Timimi 2010, p. 697, italicised added) and has resulted in the rapid rise in pharmaceutical interventions rather than a focus on primary health care and a healthy environment.

It seems evident that in countries like Australia where the majority of the population lives in urban societies ordered by neoliberal economic and social processes that encourage urban densification without adequate provision for the well being of children, there are significant implications for social reproduction, and for our economy and environment. Economic development requires constraint and innovation in order to be contained within the earth's carrying capacity and hence remain sustainable, but clearly economic development can only exist in a social and environmental milieu. A society in which the physical and mental health of its children is declining due to a consumerist culture and unsupportive urban environments is less likely to be able to support innovation and economic development as the reproduction of a healthy, stable and educated labour force is eroded.

Green space and children's health

Much of children's physical activity is derived from unstructured play (McCurdy et al, 2010, p. 103) therefore children need both places, and opportunities, for this type of activity. But, as reported by McCurdy et al, (2010, p. 103) children's free time has decreased by 12 hours per week since the 1970s which includes a 25% decrease in play and 50% decrease in unstructured outdoor activity. Backyards provide a place for outdoor physical activity (Spurrier et al 2008), particularly for less independent children (Veitch et al. 2006). Moreover many families in modern, industrial societies lack the time to take children to public green space areas, as discussed by (Veitch et al. 2006) and children (Veitch et al 2007). In this sense access to a backyard for the purpose of children's play becomes more important for parents and children, as the space is ready at hand. Yet, Hall (n.d) reports, backyards are disappearing from Australian homes as a result of expanding house footprints to allotment ratios – a measure taken by developers and home builders to maximise the capital investment of the dwelling. Profits are higher if the house is large and the block size small.

Urban infill and densification in Australia is associated with a noticeable absence of natural play spaces or reduction of existing space (Woolcock et al, 2010) with implications for children's activity. While a place to play is important to children, increasingly the incidental activity that comes from the use of active transportation – i.e. the use of walking or cycling as a mode of transport, is being considered as a significant measure to increase children's activity levels. The notion of active transport is couched within the compact city and urban consolidation discourse; however, there is debate as to whether active transport can deliver the necessary physical activity for children, particularly for time poor families, for less independent children or where there are concerns over safety.

In one of the few studies of compact urban design that involved children, Bell et al (2008) sought to test the claims that a compact walkable city form could be used as an obesity prevention measure. Bell et al. conducted a 2 year study to test whether greenness (green space) and residential density were independently associated with changes in the Body Mass Index (BMI) of children. They found it was green space, not residential density characteristics, that correlated with BMI scores for children. Higher residential density was not associated with BMI scores. Higher levels of greenness were associated with lower odds of BMI increasing. This study suggests that urban planning measures that seek to address physical activity and obesity prevention in children, should focus on the preservation of green spaces that can be used by children for play and other activities. Higher density development that removes private or public green space is likely to have negative repercussions for children's health (Bell et al 2008, p. 2,7). The link between accessibility to green space and physical activity and body weight was also investigated by Coombes et al (2010), albeit an adult study. They found proximity of green spaces was important as to whether participants used the space. They also found the more frequent green space users were more likely to be physically active and less likely to be overweight. As distance increased to green space, the use of the space decreased. A similar study by Veitch et al (2007) pointed to other factors that affect the use of green spaces by children, such as parental safety concerns; child independence; social aspects (i.e. available friends to play with; parental attitudes to active free-play; facilities at parks/playgrounds; and environmental/urban design. Likewise Giles Corti et al. (2009) found that the presence of parks and sports centre is significantly associated with higher physical activity for children. While indicating that the evidence on the relationship of the built environment with physical activity is inconsistent and limited in

relation to children, they believe that walkable mixed use neighbourhoods are conducive to more physical activity by children. The close connectivity and proximity found in these neighbourhoods is meant to encourage walking although this is moderated by factors such as topography, mobility associated with children's age and independence, and parental perceptions of safety from strangers and traffic (Giles-Corti et al 2009).

One of the main arguments for the development of compact walkable cities is that compact urban forms are likely to reduce car use and reduce car emissions (Frank and Kavage, 2008). However some studies claim there is no evidence that increasing density will lead to less vehicle use. On the contrary there is evidence that densification is likely to result in increased vehicle congestion, particularly where there is ad hoc subdivision of the kind that is currently occurring in many Australian cities (Byrne et al 2010, p. 163). On this matter McClosky et al (2009, p. 58) investigated whether higher density housing around transport hubs reduced car use. Their study found that it did not and concluded that "any increase in housing density in close proximity to tramlines will add much more to the number of car trips than it will to the number of trips made by tram" and the likely outcome will be an increase in road congestion.

An increase in road congestion has significant implications for children's health, active transportation and use of green space, most notably in terms of reduction in air quality. Outdoor air pollution adversely affects children's respiratory health because their lungs and immune systems are still developing, with children with asthma being particularly vulnerable (Gilliland, 2009, p. S168). Asthma is more prevalent in urban areas (Mc Curdy et al 2010, p. 106) with recent research showing children living near traffic have increased adverse respiratory risks. A growing body of international evidence suggests that breathing fresh vehicle exhaust increases the risk of new onset asthma, with a strong relationship between traffic and new onset asthma during school years (Gilliland, 2009, p. S170). Frank and Kavage (2008) while supporting the consolidated walkable city form, recommend urban designs that separate vehicles from vulnerable populations.

If urban densification increases traffic as McClosky et al (2009) found this also affects the capacity of children to access public transportation and to access green places. A study by Rahman et al (2011, p. 54) reported a survey undertaken in Melbourne, Australia that found the requirement to cross several roads significantly reduced use of outdoor green spaces and

the use of public transport to school by Melbourne school children. Parental traffic fears also play a role in children accessing and using green spaces as identified by Eckersley (2009, p. 3) and Giles-Corti et al (2009, p. 999). Increasingly dense urban environments causes parents to fear for their children's safety from both the presence of strangers and increased traffic and congestion. These fears are well justified since the major cause of death for young Australians is road accidents. This process is made worse because parents fearing road traffic and strangers choose to drive children to places, thereby increasing traffic levels and raising fears for more parents (Giles et al, 2009,).

Urban consolidation that increases traffic will impede the quality of life for children. Planning for urban consolidation must carefully consider children and the affect that the built environment has on their health, yet Byrne et al (2010) infer this has not been evident in planning in Australia. Woolcock et al, (2010, p. 183) also suggest that families are not being planned for in the 'vibrant' and 'liveable' precincts of the consolidation movement. Most of these developments are characterised by adult oriented facilities with little attention paid to the needs of children.

Byrne et al (2010, p. 163) observe that urban consolidation causes the incremental replacement of single family homes with multiple buildings that can harm quality of life, increase noise, concentrate social disadvantage, undermine social cohesion, and compromise neighbourhood character through the loss of green space. It must also be recognised that private and public green space is being diminished in Australian cities by economic pressures to maximise profit for developers, as discussed by Wilson and Davidson (2011). Wilson and Davidson's (2011) study suggests that urban consolidation policy is associated with a desire by some governments in Australia to champion the interests of developers in land use planning in the belief that such assistance will deliver economic benefits, even if this is at the expense of social and economic concerns. Such imperatives become sharper in times of economic crises, which place pressure on state revenues and local economies.

On this matter Woolcock et al (2010) indicate that consolidation is in part driven by demographic changes - population growth, growth in small households and the change to an older population. Higher density precincts generally target an assumed market reflecting these changes with implications for social polarisation. Consolidation strategies that include an urban growth boundary to encourage higher density development result in land supply

reduction, which affects housing affordability by creating a scarcity of land (Recsei, 2005, p. 52). There are notable implications here for urban equity. Apartments marketed to struggling families tend to have minimal green space to reduce the price of housing. However lower income families tend to have larger families and are more likely to require green space as a free space for activity, particularly in higher density housing where private green space is limited. A consequence of consolidation, may result in housing near green spaces being highly sought after. Indeed a study by James et al (2009, p. 70) linked the environmental quality of green spaces with the capacity of housing development to attract wealthier 'knowledge' workers who could afford private homes.

It is interesting to consider what value the community places on open green space in regard to children and how this influences their choice of housing location. Recsei (2005, p. 68) claims that it is the spaciousness of Australian cities that contributes to their high liveability. Research by Andrews (2010) r=found families chose to live in the outer fringes in Melbourne based on perceived benefits for children of cleaner air and water and access to open space, and the presence of other families. This overrode other factors, such as affordability and accessibility to their workplace.

It is evident that children need to be physically active in order to have good health outcomes. Green space, both private and public, offer places for children to play and be physically active. Access to natural green space is imperative for children to achieve necessary physical activity levels, whether in low or higher density neighbourhoods. The evidence suggests that activity levels are determined by many factors such as time, stranger fears, traffic fears and children's age. There is evidence that the removal of green space by urban consolidation planning practices that seek to increase residential densities means that there are fewer play areas. Moreover densification associated with increased traffic congestion makes it more difficult for children and families to access parks and play areas and raises fear of strangers in parents.

Green spaces are also venues for community events and festivals and play an important role in the social learning of children. Such events strengthen community bonds and identity (Konijnendijk 2008). They have a duality where they can be both a place for solitude and for social interaction (Konijnendijk 2008). They provide informal meeting space and importantly provide places for families. Konijnendijk (2008,) suggests that the role of the

'social' forest is a key element of green landscapes. In new estates a sense of community is often missing with residents expressing 'nothing seems public', that without local environment there is no local community (Konijnendijk 2008, p. 171). The provision of attractive green space can help foster informal social interaction and strengthen social ties. Plants and trees can be powerful symbols of distinctive community identity and may carry special associations. Green space as such contributes not just to the health of children and families but to social reproduction, identity and the development of communities.

Conclusion

Urban planning has a long history of addressing increasing health and social problems associated with urbanisation. Historically, plans for minimum block, the provision of sanitation infrastructure and other measures were implemented to reduce overcrowding, and prevent poor sanitation and the exposure of communities to environmental pollution. In Australia the historic association of planning with health might by challenged by the new emphasis on urban densification in the long term plans for Australia's cities, which entail the sacrifice of public and private green space. These affect of these processes on health might be most keenly felt by children, Indeed there is evidence that in some Australian cities children today may have a shorter life expectancy than their parents. Green space in our urban environment plays a significant role in the health and social learning of children and families and also aids social reproduction, identity formation and the development of communities.

Where urban consolidation is associated with opportunistic subdivision and infill development as is the case in many Australian cities, private green space loss occurs without the provision of compensatory public green space. Indeed some governments seem to actively plan for the loss of green space as the case of the attempted sale of The Parks suggests and justify the loss of space with reference to creating compact, walkable communities, which they argue are more sustainable. In such cases a distinction might be made between the loss of private green space resulting from adhoc consolidation processes driven by changes to land use regulations and the loss of public green space arising from government land sales to developers. The former involves the adhoc loss of private space without the provision of compensatory public green space but the latter involves the planned removal of public space, sometimes justified by the alleged environmental and health benefits of creating compact, walkable cities. If, however, the walk is simply to commercial shops in

a neighbourhood stripped of green space and community facilities then the health benefits might be questionable, especially for children. This is especially so if as some studies suggest, urban consolidation does not inhibit car use and increases traffic congestion.

In summary, urban consolidation policies that do not provide adequate private and public green space have significant implications for the health of children and for social reproduction. Greater consideration must be given to the needs of our children and the provision of green space lest we produce a generation with poorer health than our own and the implications that carries for the social health of our communities.

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