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URBAN PUBLIC SPACES, SOCIAL INCLUSION AND HEALTH

Karen Witten and Vivienne Ivory

The shared spaces of a city – its parks, squares, libraries and streets – are commonly viewed as “symbols of collective well-being” providing opportunities for people to gather together, to “build sociality and civic engagement out of the encounter between strangers” (Amin, 2008, p. 6). These spaces are recognized as supporting health and well-being through encouraging physical activity (Sallis et al., 2012), and fostering mental health through social engagement, sense of belonging and restorative experiences (Berkman and Kawachi, 2000).

While shared spaces offer much potential for health, the causal pathways to health are complex and contested. This chapter draws on literature from health geography and urban design and planning disciplines to examine the role of inclusion/exclusion in explaining the health-promoting attributes of urban public spaces. Child-friendly public-space design and community resilience through public spaces are presented as illustrative examples. The chapter finishes with research approaches to exploring the pathways between public spaces and health.

Historically, formal public spaces – plazas, squares – have been significant sites of civic life and democratic participation (Low, 2000). Zukin (1995, p. 260) writes:

Public spaces are important because they are where strangers mingle. . . . As both site and sight, meeting place and social staging ground, public spaces enable us to conceptualise and represent the city – to make an ideology of its receptivity to strangers, tolerance of difference, and opportunities to enter a fully socialized life, both civic and commercial.

While portraying public spaces as the sites where public culture takes shape, through experiences of others and social interaction, Zukin makes clear that not everyone has an equal right to be present in these spaces – meaning there is unequal access to their health-promoting properties – or an equal opportunity to shape “constantly changing public culture” (p. 11). Inequalities of access, rights, recognition and influence reflect the power structures of the wider society (Amin, 2008; Zukin, 1995). Marginalized groups, including children and young people, may struggle to have a legitimate presence in public spaces, deterred by the absence of symbols or affordances that signal they are welcome, or, conversely, the presence of those that indicate they are not. Geographers have a long-standing interest in *rights to the city*, both the benefits of inclusion and participation in community life and the detrimental impacts of exclusionary practices that deny rights to certain groups. People who are homeless and/or experiencing addictions or mental illness have been a particular focus of much of this latter work (DeVerteuil et al., 2007; Mitchell, 2003).

Public spaces come in various forms and have been identified as contributing to mental and physical health, through mechanisms such as sense of belonging and stress reduction (Cattell et al., 2008). Streets are the most ubiquitous form of public space, and their role in the social life of cities and neighborhoods was etched into planning consciousness by Jane Jacobs' (1961) seminal work *The Death and Life of Great American Cities*. Jacobs observed the casual street exchanges of everyday life and articulated the contribution they make, as *eyes on the street*, to interpersonal trust, social cohesion and a sense of belonging to place. Her street advocacy is credited with reinstating streets as valued and vibrant public spaces (Larice and Macdonald, 2007). The importance to well-being of informal, public gathering spaces where people casually mix, converse and develop friendships also underpins the *third place* theorizing of Ray Oldenburg's (1989) *The Great Good Place*. Settings such as libraries, cafes and Laundromats, as well as streets and parks, comprise Oldenburg's third places, so named to distinguish them from first places (home) and second places (work or school) (Larice and Macdonald, 2007). Informal, in-between spaces, such as thresholds of public spaces, commute routes and event sites, have also been identified as potential sites of social interaction between strangers. Simões Aelbrecht (2016) termed these *fourth* places to highlight their increasing importance in providing opportunities for social interaction across diverse groups, but also to explore how they come to be used socially by people alongside their primary purpose (e.g., as transport or retail spaces). Compared with the conversational nature of social activity in third places, Aelbrecht proposed that social activity in fourth places included people watching, waiting, and so forth alongside strangers; interactions that are more casual, shorter and less intense than those in first, second and third places and are suggestive of Granovetter's *weak* ties. The importance to people's health of a range of social interactions and social networks, including those formed through everyday neighborhood exchanges, is well established (Berkman and Kawachi, 2003).

Modest features of the built environment can become gestures of inclusion or exclusion and, in turn, promote or constrain health. Park benches, for example, can be a micro-scale inclusionary feature contributing to the health of older people. As resting places, they help maintain mobility, provide places to meet and interact, and enhance overall use and enjoyment of the public realm (Ottoni et al., 2016). Conversely, seats and ledges designed with spikes or sloping surfaces to discourage skateboarding or street sleeping are micro-scale exclusionary features that undermine the health and well-being of already marginalized groups. Aptly named "hostile" or "defensive" architecture (Andreou, 2015), these measures often target homeless individuals – a vulnerable group with no legitimate right to belong, no *place-in-the-world* (Mitchell, 2003).

The design of public space is the purview of architects, urban designers and planners. Jan Gehl, a Danish architect, identifies three dimensions essential for promoting positive civic relations: a meeting place, a democratic place, and a friendly and safe place (Gehl, 2010). Consistent with Gehl's approach, reclaiming the streets for walking and cycling to enliven cities and reduce car dependency and the "greening" of city centers are gaining traction as urban-renewal strategies. Implications of these strategies for health are considerable in light of climate change, declining levels of physical activity and surging rates of obesity in many countries. Jannette Sadik-Khan (2013), as transport commissioner in New York, was a leader in the use of tactical urbanism to rally public support for reallocating road space for pedestrians and cyclists and changing street culture. Festivals and other events that make a temporary claim on public space – for example, gay-pride parades – can, over time, establish a history of spatial rights to the city.

Design features contribute to how public spaces are perceived and sensed; and whether a space feels safe and welcoming, or foreboding, determines its use. Crime prevention through environmental design (CPTED) is an urban-design approach for reducing the incidence of crime and improving perceptions of safety. CPTED involves the application of design principles such as passive surveillance – eyes on the street – natural access control, and layout, orientation and wayfinding strategies (Ministry of Justice, 2005). The thinking is that a space sensed as unsafe will not be well used, whereas flexibility or looseness about a space can prompt inclusive social interaction (Simões Aelbrecht, 2016) by providing places for people to linger safely among strangers.

Children can display a heightened awareness of the affective atmosphere of spaces in ways that influence whether they advance and explore or instead retreat to safety. By way of illustration, in one of our studies in Auckland, New Zealand, children spoke of discomfort and fear in the presence of intoxicated and homeless people in an inner-city street. They were alert to bodily odors and the potential of encounter, and they mentally rehearsed safe exit routes. They developed tactics of avoidance; they did not mingle in the presence of difference (Witten, Kearns and Carroll, 2015).

For all population groups, it is important that cultural values be recognized and affirmed to help engender a sense of belonging and membership in society. Sense of belonging and sense of place are concepts with currency in health geography (Relph, 1976). Sense of belonging implies feeling accepted; social inclusion is a necessary but not sufficient precursor to belonging. Sense of place entails an affective and meaningful connection to a particular setting. In the New Zealand context, Māori architects and designers have developed Te Aranga Principles to support and advocate for the incorporation of indigenous Māori cultural values and practices through urban design. They offer practical guidance to design professionals and decision-makers for achieving “a widely held desire to enhance mana whenua presence, visibility and participation in the design of the physical realm” (Auckland Council, 2016) (*mana whenua* refers to authority over land). The principles have a strong relational base, and establishing partnering relationships with Māori of the local area is a necessary antecedent to the application of all other principles. The integration of visual and historical cultural markers that affirm Māori cultural values are a probable outcome when Te Aranga principles are applied in the built environment.

Children, young people and public space

Despite children’s marginal status in the planning area, public spaces – streets, footpaths and verges – remain important to children’s everyday play and mobility, as well as their health and well-being. However, over recent decades, children’s rights to the city – to walk, cycle, play and have a public presence – have been undermined by automobility. Sheller and Urry (2003) describe the way in which pedestrians, cyclists and public-transport users become marginalized as a *blurring* of public and private space by a “civil society of automobility” transforms “once public space into road space” (p. 115). Where cars are dominant, parents’ fears for children’s safety intensify and children become invisible, retreating from the public realm to the domestic spaces of home (Karsten, 2005; Freeman and Tranter, 2011). Neighborhood streets become off-limits, and outdoor play becomes increasingly confined to designated settings such as skate parks and playgrounds. This signals a remarkable shift in children’s rights to the city: a century ago, children and adults had a comparable presence in city streets and public spaces (Simpson, 1997; Whitzman, Worthington and Mizrachi, 2010). To draw on Soja’s (2010, p. 4) exploration of social justice, increasing urbanization has intensified *struggles over geography* (with implications for spatial justice), and children and young people have been among those to lose out.

Children’s enforced retreat from the public realm has had significant implications for their health and development. Considerable attention has been given to declining rates of independent mobility and physical activity in children, now reported in a number of countries (Fyhri et al., 2011). But this retreat from the street also has implications for children’s social and cognitive development, as playing and socializing in public settings allow children to learn to negotiate relationships with others (Carroll et al., 2015). They observe and engage, or distance themselves from, the people they encounter; learn to read the street; assess risk; gain confidence and make decisions independently (Cahill, 2000; Witten, Kearns and Carroll, 2015). An apt response to the needs of children and a child-friendly city is Latham and Loch’s call for geographers to attend more to the “generative capacities of public spaces and to the material and practical affordances they can offer” (p. 516).

Freyberg square: a case study of children as urban-design consultants

In recent years, Auckland's inner city has re-urbanized. Apartment blocks have been constructed, drawing new residents, including families with children, into the central business district (CBD). As the number of households has risen, pressure on public space has increased, and the absence of suitable play space for children has become apparent. Freyberg Square, in the heart of the CBD, was scheduled for redevelopment. With aspirations to acquire Child-friendly City accreditation, Auckland Council staff saw the redevelopment as an opportunity to involve children in a participatory design process. A child-friendly audit was facilitated by the first author and colleagues in partnership with Council staff. A reference group of children, assembled for the audit/consultation, engaged in on-site and off-site workshops with Council staff and researchers. The children, aged 7–13 years, explored all corners of the square and investigated its play potential. Photographs were taken and annotated with likes and dislikes, proposed plans were critiqued and imaginative ideas for how the square could be developed as an exciting and sociable child-friendly space were generated. Children's feedback and suggestions led to a number of design changes, such as the incorporation of an adventure/scavenger trail, trees for climbing, and a water feature that could be touched by children in wheelchairs.

Not all of the children's recommendations were taken up. For example, a lane closure sought by the children and the designer was overruled based on objections from local retailers. Nevertheless the audit/consultation had successes: the children had fun and felt heard; the urban designer's understanding of what was needed to make a public space child-friendly was transformed from a concern about safety barriers and constraints to creating affordances and play opportunities; and, at an organizational level, there is now an intention to incorporate children's audits into design briefs for future redevelopment projects (Bishop and Corkery, 2017; Carroll and Witten, 2017).

Public space and community resilience

The contribution of public space to the resilience of communities to shocks and stresses is increasingly recognized and has been firmly established in the city of Christchurch following the devastating 2010–2011 Canterbury Earthquake Sequence. Many buildings were demolished across the city, and, as a consequence of the scale of damage, ongoing seismic activity and complex insurance arrangements have seen large numbers of sites left vacant for a number of years while rebuild efforts were being planned (or not, in other cases). Recognizing the opportunity to use transitional spaces to aid recovery, bottom-up initiatives such as Gap Filler (2018), Greening the Rubble (2017), and Life in Vacant Spaces (2017) largely supported by local authorities and official recovery agencies) have developed projects and events to enhance social support through engagement in public spaces (Brand and Nicholson, 2016). Such initiatives have “started to re-engage Cantabrians with their public realm” (p. 173), thus ensuring the city's spaces are “a vehicle for the life and interaction of its citizens” (p. 173), not simply sites of exclusive property ownership and economic productivity awaiting development.

Allen et al. (2016) point out that public open spaces can play a critical role in disaster response and recovery because they are familiar, available and used by the public. Public places that promote everyday social interaction (and, as discussed above, health and well-being) can strengthen the ability of a community to continue functioning post-event. They allow people to come together for informal support rather than waiting in isolation and to respond to the crisis and plan for the future (Allen et al., 2016). Learning lessons on the value of open space for recovery from the 1906 earthquake in San Francisco (1906) and the 2010 one in Concepcion, Chile, Allen et al. (2016) proposed that resilience through public spaces is facilitated where normal use, before the disaster event, contributed to a community's social capital and spaces and where spaces are familiar and comfortable to people. The importance of pre-event planning is also illustrated by the Blue Line projects (Wellington Region Emergency Management, 2017) in which lines are painted on roads to show safe evacuation zones in the event of a tsunami, with the routes selected based on their common usage along

with practicalities such as elevation and topography. To increase the familiarity of routes, additional public spaces such as pocket parks, benches and walkways are planned in strategic locations to foster everyday social interactions and, therefore, social capital and community well-being (Allen et al., 2016).

Research approaches

The disciplines of urban planning and design, health geography and epidemiology all have research histories investigating the relationship between public spaces, social inclusion and health, and each discipline is characterized by methodological diversity. We describe three more common approaches: socioecological frameworks using multilevel modeling (e.g., Francis et al., 2012; Sallis et al., 2012); experiential approaches investigating the meaning of public spaces (Carroll et al., 2015; Ivory et al., 2015); and case studies using direct observation of public spaces *in use* (Koch and Latham, 2012; Low, 2000).

Multilevel modeling combined with uptake of geographical information systems (GIS) technology has become a vital tool for researchers wanting to empirically explore place–health mechanisms suggested by socioecological frameworks. In particular, it allows for more robust statistical examination of the relative contribution to health outcomes of individual and/or household factors and, using GIS, neighborhood or small-area factors. Walkability, and the urban design attributes that sustain physical activity and active travel, has been a topic of intense research attention over recent years. Studies applying socioecological frameworks and statistical modeling have established that street connectivity, among other urban design features, creates more walkable neighborhoods and is associated with increased physical activity (Witten et al., 2012). Perhaps due to greater conceptual and methodological challenges quantifying social aspects of neighborhoods and places, studies linking attributes of public spaces to social, health-related outcomes using similar methods are less common. However, as part of the unpacking of complex relationships between public space and health, an Australian study investigated determinants of sense of community and found a significant relationship between (a) the perceived quality of public open spaces and shops and (b) participants’ sense of community (Francis et al., 2012).

Research that focuses on the experience of place is helping unpack the *how* and *why* of the place–health relationship. Ivory et al. (2015) used thematic analysis of focus-group interviews to capture how being active in public places as part of everyday life shaped people’s sense of place and well-being. Residents demonstrated agency in seeking out good-quality public places that were safe, seemed pleasant and engendered a sense of belonging and identity (in keeping with Oldenburg’s third places). The act of regularly being active in local streets and parks seemed to create a sense of familiarity and Heidegger’s [1982] *nearness* “[arising] through experiences of amicability, congeniality, harmony and pleasantness: a warm and welcome affective connection between people and places where everyday domestic lives intersect” (Ivory et al., 2015, p. 320). Such familiarity and socialness not only acted as a driver to be physically active, but also was regarded as a benefit in itself by participants.

Perhaps not surprisingly, what works for many adults also works for children. Carroll et al. (2015) used *go along* interviews and photovoice with children living in both suburban and inner-city settings. Talking while walking allowed children to share with researchers how and why public places became significant to them. Children’s personal histories and identities were forged through their repeated presence in locations during their play, commute to school, visits to local shops and so on.

Experiential approaches can also help us understand lack of engagement with public places. A lack of easy access to safe streets and quality public places (because of a less walkable urban form), and/or constraints on time available to spend in them (because of parental restrictions or, for adults, lengthy working hours), can hinder development of a sense of place and, for children in particular, perhaps, engender a sense of distrust in both places and the people (strangers) in them (Carroll et al., 2015; Ivory et al., 2015).

Case studies using direct observation have been a common research approach in urban design. Observational methods have included activity mapping, time-lapse photography, film and pedestrian–path analysis, as

well as interviews with users (Koch and Latham, 2012; Larice and Macdonald, 2007; Low, 2000). Intangible attributes of public spaces, such as human scale (e.g., designed for people rather than cars) are seldom objectively measured. However, new methods are evolving. For example, Ewing and Clemente (2013) have drawn on constructs from architecture, urban design and planning to develop operational definitions and tools for measuring imageability, visual enclosure, human scale, transparency and complexity. Emerging technology is also providing new ways for researchers not only to make observations at the micro-scale (e.g., sentiment analysis about a place from social media or information elicited through public participatory GIS methods), but also to see broader patterns – for example, flows of pedestrians in and out of public spaces, along routes, and across settlements (You and Tuncer, 2016). Agendas such as Smart Cities and Sensing Cities are driving innovation among designers and decision-makers to use data generated from infrastructure usage to “listen” more closely to what matters for a city’s residents and therefore provide services that meet their diverse needs and wants. In many ways, city operators and researchers are addressing the same issues; technology is providing both with data that can provide broad and rich insights.

Conclusions

Global and local mobility is increasing the diversity of cities and the groups of people inhabiting urban neighborhoods. Planning and designing public spaces that are welcoming, offer safety and conviviality to people of all age and ethnic groups, and encourage positive encounters and interaction between them is enormously challenging. Children’s experience and use of neighborhood streets and public spaces has been at the fore in this chapter, but just as relevant would have been a focus on older and/or disabled people. Thoughtful, people-friendly public-space design is needed to foster community participation and the health and well-being of all. The chapter also touched on the importance of formal and informal public spaces for community resiliency for bringing residents together in a post-disaster context. Extreme weather events predicted as a consequence of global climate change may well place high demands on the public spaces in our cities to engage citizens and bolster the resiliency and health of communities in future.

Space and place are core concepts in geography and in health geography. They are also central to urban planning, as reflected in the pithy definition of “planning” used by the Royal Town Planning Institute: *mediation of space; making of place* (RTPI, 2017). Geographers tend to have a healthy interest in the theories and methodologies of their own and other disciplines. In working with architects and urban designers and planners – and embracing the concepts and methods of these disciplines alongside those of geography – to explore and understand how physical, social and affective attributes of cities can be generative of new relational possibilities and better population health, health geographers are likely to develop new and rewarding forms of inquiry.

References

- Allen, L., Allan, P., Bryant, M., Becker, J., Johnston, D. and Saunders, W. (2016). *Design for resilience*. Christchurch, New Zealand: New Zealand Society for Earthquake Engineering.
- Amin, A. (2008). Collective culture and urban public space. *City*, 12(1), pp. 5–24.
- Andreou, A. (2015). Anti-homeless spikes: “Sleeping rough opened my eyes to the city’s barbed cruelty.” [online] *The Guardian*. Available at: www.theguardian.com/society/2015/feb/18/defensive-architecture-keeps-poverty-undeen-and-makes-us-more-hostile [Accessed 28 Mar. 2017].
- Auckland Council. (2016). *Auckland design manual: Te Aranga principles*. [online]. Available at: www.aucklanddesignmanual.co.nz/ [Accessed 28 Mar. 2017].
- Berkman, L. and Kawachi, I. (2000). *Social epidemiology*. New York: Oxford University Press.
- Berkman, L. and Kawachi, I. (2003). *Neighborhoods and health*. Oxford: Oxford University Press.
- Bishop, K. and Corkery, L. (eds.) (2017). *Designing cities with children and young people: beyond playgrounds and skate parks*. New York: Taylor & Francis.

- Brand, D. and Nicholson, H. (2016). Public space and recovery: learning from post-earthquake Christchurch. *Journal of Urban Design*, 21(2), pp. 159–176.
- Cahill, C. (2000). Street literacy: urban teenagers' strategies for negotiating their neighbourhood. *Journal of Youth Studies*, 3(3), pp. 251–277.
- Carroll, P. and Witten, K. (2017). Children as urban design consultants: a children's audit of a central city square in Auckland, Aotearoa/New Zealand. In: K. Bishop and L. Corkery, eds., *Designing cities with children and young people: beyond playgrounds and skate parks*. Abingdon and Oxon: Routledge, pp. 105–119.
- Carroll, P., Witten, K., Kearns, R. and Donovan, P. (2015). Kids in the City: children's use and experiences of urban neighbourhoods in Auckland, New Zealand. *Journal of Urban Design*, 20(4), pp. 417–436.
- Cattell, V., Dines, N., Gesler, W. and Curtis, S. (2008). Mingling, observing and lingering: everyday public spaces and their implications for well-being and social relations. *Health & Place*, 14, pp. 544–561.
- DeVerteuil, G., Hinds, A., Lix, L., Walker, J., Robinson, R. and Roos, L. (2007). Mental health and the city: intra-urban mobility among individuals with schizophrenia. *Health & Place*, 13(2), pp. 310–323.
- Ewing, R. and Clemente, O. (2013). *Measuring urban design: metrics for livable places*. Washington, DC: Island Press.
- Francis, J., Giles-Corti, B., Wood, L. and Knuiiman, M. (2012). Creating sense of community: the role of public space. *Journal of Environmental Psychology*, 32, pp. 401–409.
- Freeman, C. and Tranter, P. (2011). *Children and their urban environment: changing worlds*. London: Earthscan.
- Fyhri, A., Hjorthol, R., Mackett, R., Fotel, T. and Kyttä, M. (2011). Children's active travel and independent mobility in four countries: development, social contributing trends and measures. *Transport Policy*, 18(5), pp. 703–710.
- Gap Filler. (2018). About Gap Filler. [online] Available at: <http://gapfiller.org.nz/about/> [accessed 9 March 2018].
- Gehl, J. (2010). *Cities for people*. Washington, DC: Island Press.
- Greening the Rubble. (2017). Current Projects. [online] Available at: <http://greeningtherubble.org.nz/> [accessed 9 March 2018].
- Ivory, V., Russell, M., Hooper, C., Witten, K., Pearce, J. and Blakely, T. (2015). What shape is your neighbourhood? Investigating where people go for physical activity. *Social Science & Medicine*, 133, pp. 313–321.
- Jacobs, J. (1961). *The death and life of great American cities*. London: Jonathan Cape.
- Karsten, L. (2005). It all used to be better? Different generations on continuity and change in urban children's daily use of space. *Children's Geographies*, 3(3), pp. 275–290.
- Koch, R. and Latham, A. (2012). Rethinking urban public space: accounts from a junction in West London. *Transactions of the Institute of British Geographers*, 37, pp. 515–529.
- Larice, M. and Macdonald, E. (eds.) (2007). *The urban design reader*. London: Routledge.
- Life in Vacant Spaces. (2017). Site brokers for creative Christchurch. [online] Available at: <http://lives.org.nz/home/> [accessed 9 March 2017].
- Low, S. (2000). *On the Plaza: the politics of public space and culture*. Austin: University of Texas Press.
- Ministry of Justice. (2005). Part 1. Seven qualities of safer places. In: *National guidelines for crime prevention through environmental design in New Zealand*. Wellington: Ministry of Justice.
- Mitchell, D. (2003). *The right to the city: social justice and the fight for public space*. New York: Guilford Press.
- Oldenburg, R. (1989). *The great good place: cafes, coffee shops, bookstores, bars, hair salons and other hangouts at the heart of a community*. New York: Marlowe & Co.
- Otoni, C., Sims-Gould, J., Winters, M., Heijnen, M. and McKay, H. (2016). “Benches become like porches”: built and social environment influences on older adults' experiences of mobility and well-being. *Social Science & Medicine*, 169, pp. 33–41.
- Relph, E. (1976). *Place and placelessness*. London: Pion Limited.
- RTPI. (2017). *Mediation of space – making of place*. [online] Royal Town Planning Institute. Available at: www.rtpi.org.uk/ [Accessed May 2017].
- Sadik-Khan, J. (2013). New York's streets? Not so mean anymore. [online] *TED Talks*. Available at: www.ted.com/talks/janette_sadik_khan_new_york_s_streets_not_so_mean_any_more [Accessed 24 May 2017].
- Sallis, J., Floyd, M., Rodriguez, D. and Saelens, B. (2012). Role of built environments in physical activity, obesity, and cardiovascular disease. *Circulation*, 125, pp. 729–737.
- Sheller, M. and Urry, J. (2003). Mobile transformations of “public” and “private” life. *Theory, Culture and Society*, 20(3), pp. 115–133.
- Simões Aelbrecht, P. (2016). “Fourth places”: the contemporary public settings for informal social interaction among strangers. *Journal of Urban Design*, 21, pp. 124–152.
- Simpson, B. (1997). Towards the participation of children and young people in urban planning and design. *Urban Studies*, 34(5/6), pp. 907–925.
- Soja, E. (2010). *Seeking spatial justice*. Minneapolis: University of Minnesota Press.

- Wellington Region Emergency Management. (2017). Blue Lines – Tsunami Safety Zones. [online] Available at: <https://wremo.nz/about-us/initiatives/blue-lines/> [accessed 9 March 2018].
- Whitzman, C., Worthington, M. and Mizrachi, D. (2010). The journey and the destination matter: child-friendly cities and children's right to the city. *Built Environment*, 6(4), pp. 473–486.
- Witten, K., Blakely, T., Bagheri, N., Badland, H., Ivory, V., Pearce, J., Mavoa, S., Hinckson, E. and Schofield, G. (2012). Neighborhood built environment and transport and leisure physical activity: findings using objective exposure and outcome measures in New Zealand. *Environmental Health Perspectives*, 120(7), pp. 971–977.
- Witten, K., Kearns, R. and Carroll, P. (2015). Urban inclusion as wellbeing; exploring children's accounts of confronting diversity on inner city streets. *Social Science & Medicine*, 133, pp. 349–357.
- You, L. and Tuncer, B. (2016). *Exploring the utilization of places through a scalable "Activities in Places" analysis mechanism*. Big Data, 2016 IEEE International Conference, IEEE, pp. 3563–3572.
- Zukin, S. (1995). *The cultures of cities*. Cambridge, MA: Blackwell.