

INTEGRATION OF SCHOOLS AND COMMUNITY INFRASTRUCTURE: A NETWORK ANALYSIS

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TO CITE:

Miles, N. (2020). Integration of Schools and Community Infrastructure: A Network Analysis. In B. Cleveland, P. Chandler, S. Backhouse, J. Clinton, I. McShane, & C. Newton (Eds.), *Building Connections for Community Benefit. Proceedings of Schools as Community Hubs International Conference 2020*. <https://doi.org/10.26188/13291526>

SCHOOLS AS COMMUNITY HUBS INTERNATIONAL CONFERENCE 2020

Building Connections for Community Benefit Conference organized by Building Connections: Schools as Community Hubs ARC Linkage project (2019-2022). This research is supported under Australian Research Council's Linkage Projects funding scheme (LP170101050).



Australian Government

Australian Research Council

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INTEGRATION OF SCHOOLS AND COMMUNITY INFRASTRUCTURE: A NETWORK ANALYSIS

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Abstract

This paper presents a literature review and preliminary research design addressing the key research question: What are the roles of schools within a community infrastructure network? The research explores the integration of school and community infrastructure, investigating the boundaries and connections between different forms and providers of social infrastructure. Historically, opposing school design objectives of connection and security have challenged the development of schools as community hubs, whereby the use of school facilities by the wider community has often been poorly planned and/or resolved in practice. This research proposes a networked approach to understanding social infrastructure, including schools and a range of community-focussed facilities, to explore existing and potential connections between facilities and their users.

Keywords: community infrastructure, school infrastructure, networks, schools

Integration of Schools and Community Infrastructure: A Network Analysis

Community Use of Schools: An Introduction

As cities densify and pressures on land increase, the need for schools to share resources with the wider community becomes increasingly apparent (Cleveland, 2016; Sanjeevan, 2012; VCEC, 2009). This is especially true in Australia's major cities, where population growth is putting a strain on existing infrastructure. Similarly, as regional cities and peri-urban areas grow, scarce infrastructure funding must be 'stretched' to deliver better education, and health and wellbeing opportunities for more people (Hands, 2010, McShane et al, 2012).

In recent years there has been a push from Australian state governments for schools to act as community hubs (e.g. Department of Education and Training, 2017). The term "community hub", along with several synonyms such as "full-service school", "extended service school", "community school" etc. have multifaceted and nuanced definitions (Black et. al, 2011). Each of these terms generally refers to connections between a school and their local community by providing shared facilities and/or services that can be used outside school hours.

Yet, despite wide in-principle uptake (VCEC, 2009), little data has been collected to monitor how shared infrastructure, such as sporting facilities, multipurpose halls and health service facilities (e.g., maternal and child health) are being used by community members on, or near, Australian school sites. It is imperative to gain a thorough understanding of the use of these facilities by both school and community members to inform the effective planning and design of shared social infrastructure.

Research into schools as community hubs tends to focus on community members coming on to school sites to access community services. This paper proposes a shift in viewpoint, from one which is asking what schools can give to communities, to one where schools are viewed as one site in a broader, integrated network of community infrastructure. If the relationship is mutual, what do we find?

Connecting Shared Facilities

Anecdotal evidence suggests it is common for schools to use community assets, such as sporting facilities, yet limited data exists to quantify or illuminate the benefits of such activity. How many Australian schools are utilising community infrastructure beyond their boundaries? For what purposes? What are the benefits?

The proposed research involves a shift in how we view the operation of both schools and community facilities. Community facilities in Australia, like schools, have historically been stand-alone buildings, many of which started with community investment – both financial and emotional – as they were paid for and built by sporting clubs and local groups (McShane, 2006). Over time, local government authorities (LGA's) have commonly taken over the management of these facilities, shifting their focus

to become multi-purpose facilities, able to accommodate a wider cross-section of users and activities (McShane, 2006). However, these multi-purpose facilities remain largely stand-alone, with separate management structures and booking systems. They do not belong to well-integrated, nor well-understood, infrastructure networks.

Literature Review

There are many ways to study the relationships between schools and communities. The focus of this study is facility-based and spatial, yet also inherently social. This short literature review looks at relevant multi-disciplinary scholarly research from the fields of infrastructure policy, urban design theory, human geography, psychology and education.

Community Infrastructure Networks

A focus on social infrastructure was included for the first time in the *Australian Infrastructure Audit* in 2019 (Infrastructure Australia, 2019). Its inclusion responded to “the growing recognition of the role effective social infrastructure assets and networks play in supporting our nation’s wellbeing” (p. 388). In the report, social infrastructure includes sectors such as healthcare, education, outdoor recreation, arts, culture, justice, emergency services and social housing (Infrastructure Australia, 2019). Community infrastructure fits within this ‘social infrastructure’ category and is largely provided by Local Government Authorities (LGA’s) (McShane, 2006). McShane uses the term ‘community facilities’, which he defines as “recreational, cultural, educational, health and civic facilities available to the public” (McShane, 2006, p.269). The Australian Infrastructure Audit describes these facilities as “assets” and states that “while assets are often considered individually, our social infrastructure networks as a whole play a nationally significant role in supporting Australia’s economy, liveability and sustainability” (Infrastructure Australia, 2019, p.388). It goes further, affirming that “the network of social infrastructure contributes to social identity, inclusion and cohesion and is used by all Australians” (2019, p.338). Throughout the report, social infrastructure networks are referred to frequently, yet without explanation. It seems logical to think about social infrastructure as a network, but how do these networks occur in practice?

Networks are commonly discussed, but it is important here to define what is meant by a social or community infrastructure network. The *Dictionary of Human Geography* (Rogers et. al., 2013) describes a network as a set of nodes and the paths linking them together. The *Dictionary of Geography* (Mayhew, 2015) expands, to describe *networks* as:

A system of interconnecting routes which allows movement from one centre to the others. Most networks are made up of nodes (vertices), which are the junctions and terminals, and links (edges), which are the routes or services which connect them.

In the context of community infrastructure networks, it is relatively clear that the facilities

themselves can be seen as the “nodes”, but what are the “links/edges” in these networks? One way to consider this research question is to look at the ‘community’ members as the links. But what is community?

Community

The term ‘community’ is frequently used but rarely defined. Lewi et. al. describe how definitions “have been multifarious and elastic” (2010, p.8). They also offer their own broad definition stating that the term “‘community’ encompasses a group of people bound together by common threads, including geographical location, ethnicity, socioeconomic status, sexuality, or circumstances” (2010, p.8).

Parker (2006) states “despite years of research and inquiry, definitions of “community” are unstable and fluid” (p. 472). Head (2007) suggests “the term ‘community’ is notoriously vague and value-laden” (p. 441), going on to argue that the term is overused in the political realm to imply harmony and unity without interrogation and commonly used in a ‘symbolic’ way, as a ‘spray-on solution’ to suggest that all members of an area or group have one voice, or one set of needs, whereas in fact each ‘community’ is made up of both individuals, and smaller communities.

Connecting Schools and Communities

Before connecting schools with social and community infrastructure, however, it is important to understand why this is a useful endeavour. There are efficiencies in land use, financial investment and asset utilisation (VCEC, 2009 p.IV). But beyond the numbers, are there social benefits to schools sharing infrastructure too?

Fisher (1998) argues that connecting schools and communities can lead to gains in social capital. While acknowledging that social capital is difficult to define, Fisher states “it seems to be dependent on a number of values – trust, reciprocity, networks and community cooperation” (1998, p.10). He then laments that due to concerns of safety and liability, school designs have continued to remain separated from their surroundings, stating that:

The concern for safety and security in society is seen uppermost in the design and placement of schools – the idea of trust, networks, reciprocity and collaboration is seemingly deliberately designed out. Thus, opportunities for students and staff and parents and the community to ‘learn’ social capital are extremely limited and in fact in many cases almost physically impossible (Fisher, 1998, p.11).

These conflicting desires of safety and security, versus openness and connection, remain a challenge twenty years on in the discussion of community hub schools. So, how can both safety and connection be achieved? This is a key discussion in creating successful school and community integration, and one which will remain prominent throughout this research.

Morphet argues that social and community infrastructure is “essential for the functioning of society” (2016, p. 90). She also addresses the point that “planning for school places needs to be part of an integrated process for all infrastructure” (Morphet, 2016, p.95). While Morphet’s book is focused on UK infrastructure, many of her findings appear highly relevant in Australia and elsewhere around the world.

School planning and community infrastructure planning have largely been undertaken in isolation from each other, often by different levels of government (Morphet, 2016; McShane and Wilson, 2017). While few authors discuss the interactions between school planning and urban planning or community infrastructure, McShane and Wilson (2017) have discussed the challenges in Victoria, Australia, where the State government generally oversees school provision and local governments provide community infrastructure – a stratification of roles that has produced few well-developed examples of unified planning and delivery. Nevertheless, a report prepared in 2009 by the Victorian Competition and Efficiency Commission (VCEC), specifically looking at the sharing of facilities in Victoria, states “of the 1577 Victorian government schools, as many as two-thirds might share their facilities in some way” (VCEC, 2009, p.XXVIII). It goes on to indicate that “better connections between what is wanted and what is available is a starting point for improving the benefits of shared facilities” (VCEC, 2009, p.33). Fisher (1998, p.6) suggests that “schools are now seen as not simply buildings but are organisations and networks of relations and communications”. But has this translated to a physical change in how schools connect with their surroundings?

It is clear there are many potential benefits to connecting schools and communities, yet the literature above indicates that achieving such relationships is more complex than simply co-locating shared facilities on school sites. As Morphet discusses, the factor of integration is not addressed in current policy and is what can drive real change (2016, p.95).

Research Design

As a practicing architect, my interest in undertaking this research is to understand the role facilities play in school-community relationships – and in a broader context, the role of facilities in fostering communities. The research sits at the intersection between schools, communities and social infrastructure. By connecting these, the focus is on community infrastructure networks (see Figure 1).

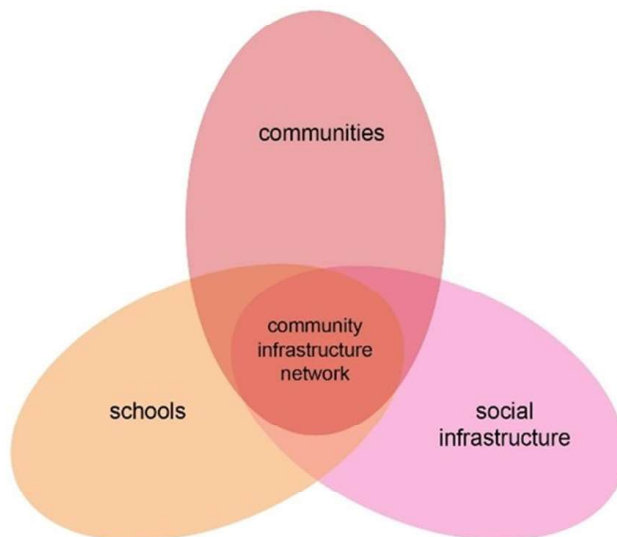
To position schools within community infrastructure networks, first we need to understand a) what the key elements of a community infrastructure network are, and b) how schools are currently sharing facilities. This leads to a three-phase study; 1) typologies of community infrastructure, 2) schools as sites of community infrastructure, and 3) community infrastructure network analysis, including school sites.

Phase 1: Typology study of community infrastructure

A typology of community infrastructure facilities will be developed from a study of existing literature – both academic research and government documentation. Fisher (1998) includes an extensive list of

Figure 1

Community infrastructure networks sit at the intersection of schools, communities and social infrastructure



Source: Author

potential examples of community facilities, such as community centres, libraries, sports centres, museums and hospitals. Interestingly, these are presented as potential learning environments, highlighting the scope for inclusion in a school and community infrastructure network involving schools using off-site facilities, just as members of the broader community might use school-located facilities.

Phase 2: Schools as sites of community infrastructure

How schools share facilities with community groups will be examined using a number of schools as case studies. The schools as case studies will be chosen where they have a variety of shared facilities; the purpose being to explore if and how school-based shared facilities are different to their community-based equivalents. Spatial relationships and affinities will be mapped, along with key factors such as access and site boundaries.

Key questions addressed in this phase are: What facilities are schools currently contributing to community infrastructure? Are community facility building types different when located on a school campus? How are they integrated with the school?

Phase 3: Community infrastructure network analysis

The community infrastructure networks will be mapped, including at least one school which is currently sharing facilities studied in Phase 2. This will commence with a pilot study of one local network, chosen from the schools studied in Phase 2. Once the pilot study has been analysed, multiple networks will be mapped to include a variety of geographic locations: inner city; suburban; peri-urban; regional centre.

This phase will analyse the relationships (both existing and potential) between schools and community infrastructure networks by mapping all facilities available within the network and exploring the associated social connections and shared benefits (if any).

Key questions addressed in this phase are: How are schools currently accessing off-site community infrastructure? What connections/relationships/affinities exist in community infrastructure networks?

Conclusion

This paper outlines the background and broad research design for the author's PhD research into the roles of schools in community infrastructure networks. This research is exploratory and aims to broaden the discussion on school and community relationships, with a focus on the physical settings in which such relationships may be fostered. The outcomes of this research will assist future school planning and design by outlining the contexts in which school located facilities can be integrated with community infrastructure networks, helping to facilitate strengthened connections between schools and their communities.

References

- Black, R., Lemon, B., & Walsh, L. (2011). *Literature review and background research for the National Collaboration Project: Extended Service School Model*. Melbourne: Foundation for Young Australians. Final Report. <https://www.fya.org.au/app/theme/default/design/assets/publications/Literature-review-and-background-research-for-the-National-Collaboration-Project.pdf>
- Cleveland, B. (2016). *A school but not as we know it! Towards schools for networked communities*, Australian Association for Research in Education (AARE) Conference 2016
- Department of Education and Training. (2007). *Shared Facilities Fund*. Retrieved 24 February 2020, from <https://www.schoolbuildings.vic.gov.au:443/Pages/shared-facilities-fund.aspx>
- Fisher, K. (1998). *Making Better Use of School Buildings: Schools as Social Capital*. OECD/EIB Seminar. Appraisal of Educational Investments. Indicators for Evaluating Educational Facilities and their Utilisation. Luxembourg.
- Hands, C. M. (2010). *Why collaborate? The differing reasons for secondary school educators' establishment of school-community partnerships*. *School Effectiveness and School Improvement*, 21(2), 189–207. <https://doi.org/10.1080/09243450903553993>
- Head, B. W. (2007). *Community Engagement: Participation on Whose Terms?* *Australian Journal of Political Science*, 42(3), 441–454. <https://doi.org/10.1080/10361140701513570>
- Infrastructure Australia. (2019) *Australian Infrastructure Audit 2019 | Infrastructure Australia*. Retrieved 29 September 2020, from <https://www.infrastructureaustralia.gov.au/publications/australian-infrastructure-audit-2019>
- Lewi, H., Nichols, D., Goad, P., Willis, J., & Darian-Smith, K. (2010) *Making the Modern Community*. In Lewi, H., & Nichols, D. (Eds.). *Community: Building modern Australia*. (pages 1-23). UNSW Press.
- Mayhew, S. (2015). Network. In *A Dictionary of Geography*. Oxford University Press. <https://www.oxfordreference.com/view/10.1093/acref/9780199680856.001.0001/acref-9780199680856-e-2155>
- McShane, I., Watkins, A. J., & Meredyth, D. (2012). *Schools as Community Hubs: Policy Contexts, Educational Rationales, and Design Challenges*. Sydney. Schools as Community Joint AARE APERA International Conference. <https://files.eric.ed.gov/fulltext/ED544497.pdf>
- McShane, I. (2006). *Community Facilities, Community Building and Local Government – an Australian perspective*. *Facilities*, 24(7/8), 269–279. <https://doi.org/10.1108/02632770610666125>
- McShane, I., & Wilson, C. K. (2017). *Beyond the School Fence: Rethinking Urban Schools in the Twenty-first Century*. *Urban Policy and Research*, 35(4), 472–485. <https://doi.org/10.1080/08111146.2017.1310098>
- Morphet, J. (2016). *Infrastructure Delivery Planning: An Effective Practice Approach*. Policy Press.
- Rogers, A., Castree, N., & Kitchin, R. (2013). Network. In *A Dictionary of Human Geography*. Oxford University Press. <https://www.oxfordreference.com/view/10.1093/acref/9780199599868.001.0001/acref-9780199599868-e-1275>
- Sanjeevan, S., McDonald, M., & Moore, T. (2012). *Primary Schools as Community Hubs: A Review of the Literature*. *Parkville, Victoria: The Royal Children's Hospital Centre for Community Child Health*. http://www.rch.org.au/uploadedFiles/Main/Content/ccch/Schools_as_Community_Hubs_Lit_Review.pdf
- Victorian Competition and Efficiency Commission. (2009). *Getting it Together: An Inquiry into the Sharing of Government and Community Facilities (DRAFT)*. Melbourne.
- Williams, R. (2002). *Keywords (Routledge Revivals): A Vocabulary of Culture and Society*. Taylor & Francis Group.