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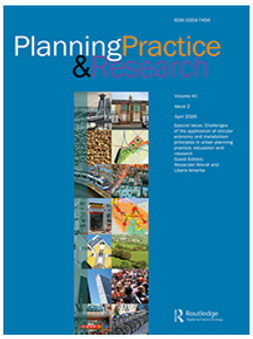
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# Building spatial capital through networked social infrastructure: an urban-area school case study

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**ABSTRACT**

This paper explores the operation of a social infrastructure network in Melbourne, Australia. The research investigates a case study centred on a government-funded secondary school, where an entrepreneurial principal has established connections with community organisations and facilities to create a network of people and spaces that offer students, teachers, and community members a range of mutual benefits. A focus on spatial capital underscores the contributions of the social infrastructure network to social structures, opportunities, and interactions. While studies of spatial capital often examine its accumulation at the individual level, this paper explores its generation from an institutional perspective.

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## Introduction

Schools are often seen as isolated places, especially those with high fences and strict security (McShane & Wilson, 2017). However, schools generally experience a continuous flow of people, knowledge, ideas, materials, funding, and other resources to and from nearby communities and organisations. They also tend to foster social capital, particularly from Bourdieu (1986) perspective, which views social capital as embedded in networks of relations and resources. When discussing Bourdieu's insights in the context of education, Mikiewicz (2021, p. 9) described the school as an 'institution of opportunity opening, a potential source of information resources and institutional support'.

This paper examines the generation and transformation of various forms of capital – social, cultural, economic, and spatial – through a case study (Stake, 1995) of an urban area surrounding a government-funded public secondary school in Melbourne, Australia. It analyses the connections and relationships among people, spaces, educational programs, recreational pursuits, and economic activities, presenting a novel approach to examining social infrastructure networks and the generation of spatial capital.

Using the secondary school as a point of origin, the study mapped an urban social infrastructure network and subsequently explored the creation of institutional, rather than individual, spatial capital. The case, given the pseudonym 'Baycity Secondary

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School', was in an established inner suburb of Melbourne with high socioeconomic standing, good amenities, and high walkability.

Choosing a government-funded public secondary school as the point of origin for the study was crucial in the Australian context, where resource allocation in school education is uneven. Both public and private schools receive government funding, but private schools also charge fees, which can lead to significant disparities in access to resources. With such disparity in mind, the study's research question was: How can schools generate spatial capital to support student learning and community relations?

Social infrastructure was defined by Latham and Layton (2019, p. 3) as 'the networks of spaces, facilities, institutions, and groups that create affordances for social connection'. Focusing on the social, operational, and spatial links identified in the case study, this research examined the often-unnoticed workings of a social infrastructure network, emphasising the role of the origin school as a catalyst in its formation and a key beneficiary of its existence.

This research aligns with the discourse on school-community partnerships, particularly that focused on the role of space as a mediator of such relationships (Cleveland *et al.*, 2023). While the role of schools as sites for community-based interactions has been a subject of research in recent decades (see, for example, Dryfoos & Maguire, 2002; Clandfield, 2010; Boys & Jeffery, 2023), little research has examined the role of schools as nodes within social infrastructure networks and the potential benefits, or otherwise, of such networked connections.

Below, the study's theoretical framework, methodology, and methods are discussed, and the findings are presented. These highlight the networked relationships that connect the school to external groups and organisations. Two vignettes illustrate the nature of these relationships and key emerging themes: reciprocity, symbiosis, and resilience. The discussion examines the role of the social infrastructure network in developing various forms of capital, including the contribution that shared spaces make to generating and operationalising institutional spatial capital.

## Theoretical framing

Here, the theories employed to frame this exploratory research are introduced, and a methodological argument for the project is presented. Rather than presenting a detailed exploration of a single theoretical concept, the theoretical direction drew on diverse sources and was assembled as a 'toolkit' of useful concepts to better understand how social infrastructure networks, including schools, operate. As the research straddles multiple disciplines, including architecture, urban design and planning, educational planning, transport planning, community development, governance and politics, and geography, theoretical knowledge was drawn from multiple sources, which inspired the unique formulation of the project and provided relatively novel ways to analyse and interpret the data collected.

The theoretical concepts adopted included Network Theory (Baran, 1962; Barabasi, 2003; Rogers *et al.*, 2013), Assemblage Thinking (Buchanan, 2015; DeLanda, 2016; Dovey, 2020), and Social and Spatial Capital (Bourdieu, 1986; Fisher, 1998; Lévy, 2014). These concepts inspired the formulation of the project and informed the analysis and interpretation of the data collected. A resultant 'toolkit' of concepts was assembled to

theorise and understand the ways social infrastructure networks operate and how they may influence the production of spatial capital.

## Network theory

Although most often used in mathematics, branches of network theory are also applied in other disciplines, including human geography. In this context, Rogers *et al.* (2013, para. 1) defined a network as 'a set of nodes and the paths linking them together', while Mayhew (2015, para. 1) identified a network as 'a system of interconnecting routes which allows movement from one centre to the others'. Mayhew (2015, para. 1) went further to describe networks as being made up of 'nodes (*vertices*), which are the junctions and terminals, and links (*edges*), which are the routes or services which connect them'.

Network theory provided this study with valuable insights for considering 'networks' related to social infrastructure (see Infrastructure Australia, 2019), helping identify what a social infrastructure network might look like and how it might operate (Miles *et al.*, 2023). When discussing networks, Barabasi (2003, p. 7) argued that it's increasingly important to recognise that 'nothing happens in isolation. Most events and phenomena are connected, caused by, and interacting with a huge number of other pieces of a complex universal puzzle'.

The types of networks identified by Baran (1962), including centralised, decentralised, and distributed networks, also proved helpful in developing an understanding of the nodes, links and routes that connected the different social infrastructures present in the urban neighbourhood, while highlighting the limitations of such simplified types when dealing with the complexities of social infrastructure networks in reality. Such limitations led to the adoption of assemblage thinking as an additional lens for exploring these socio-spatial relations.

## Assemblage thinking

Assemblage thinking was adopted in this research to help conceptualise a 'whole of network' approach. Originally termed 'Agencement' by Deleuze and Guattari when writing in French (Deleuze & Guattari, 1987, translated 1987), the concept of assemblage has been well documented, including its use in the study of socio-spatial contexts. Dovey *et al.* (2017, p. 12) offered a useful description of this concept, stating that 'assemblage thinking is a practice of looking for relationships rather than simply looking at things; seeking to understand how urban alliances, synergies and symbioses work'. These insights offered a valuable way to consider a social infrastructure network through alliances, synergies, symbioses, and flows.

## Spatial capital

The concept of spatial capital builds on Bourdieu (1986) writing on capital as 'accumulated labor' (p. 241), where he identified three forms of capital: economic, social, and cultural. The later conception of spatial capital (e.g. Lévy, 2014; Rérat,

2018) builds on Bourdieu's ideas to offer a spatial dimension to the concept of capital, as a resource that gives people power or some form of advantage.

Ramos (2024, p. 15) suggested that 'spatial capital can be understood as a skill, resource, or asset that enables agents to develop spatial practices' and highlighted the need for further studies to 'consider the connections and interrelationships with other fields and broader socio-spatial frameworks' (p. 16). This study aimed to provide additional insights into the spatial dimensions of capital, particularly concerning the existence and operation of social infrastructure networks.

Centner writes about spatial capital as the 'taking' of space as an act of privilege (Centner, 2008, p. 194). Mosselson extends Centner's definition, describing spatial capital as 'the ability to take and make place, but also as the ability to successfully navigate, inhabit and engage with space'.

Chen *et al*. discuss the role of planners in ensuring spatial justice through the operationalisation of spatial capital, defining spatial capital as a 'collective resource and service embedded in communities, which the physical location possesses, originating from other forms of capital and enabling spatial agents to gain advantages' (Chen *et al*., 2025, p. 6).

Barthon and Monfroy (2010) explored the operationalisation of spatial capital in the context of parental school choice in France, identifying patterns of unequal distribution among social groups.

Bourdieu's (1986, p. 253) discussion about the conversion between different types of capital through the measure of 'labor-time' identified both the 'labor-time accumulated in the form of capital and the labor-time needed to transform it from one type into another'. Lévy (2014, p. 46) further notion that mastery of geographical space as a capital may be 'accumulated, exchanged, and transformed into other forms of capital' highlighted the idea that spatial capital can also be transformed from one form to another. These ideas about capital transformations were adopted to develop the study further and facilitate a discussion about the benefits of social infrastructure networks, not only for individuals but also for institutional entities (e.g. schools).

Studies on capital, particularly in its social and spatial forms, typically consider capital accumulation from the perspective of individual actors or agents (e.g. Centner, 2008; Barthon & Monfroy, 2010; Chen *et al*., 2025). This study adopted a different stance, examining the generation and operationalisation of capital from an institutional perspective by analysing a school-based social infrastructure network. Here, the school itself is considered the agent, whereby the benefits gained are not limited to individual advantage but extend to the school as an organisational entity.

These concepts of network theory, assemblage thinking, and spatial capital each provided the study with an informative relational lens through which to develop an understanding of social infrastructure networks. Where network theory and assemblage thinking were predominantly used to identify, understand, and map the social infrastructure networks and their operations, spatial capital provided a framework for understanding the benefits of a networked approach to social infrastructure for Australian communities and cities.

## Methods

To gain insights into the operation of the school-linked social infrastructure network, qualitative methods were used to collect field data, including semi-structured interviews and observations.

These methods were selected to align with the research aims, which were focused on identifying and understanding how school-linked social infrastructure networks operate in Australia, and on assessing the benefits or otherwise that may be produced.

Because social infrastructure networks are poorly understood and rarely documented, data were collected from multiple sources to understand where and how such networks operate. Information was primarily gained through interviews with people involved in the network's relationships. Semi-structured interviews were undertaken, as they provided a structure for the conversations while also allowing participants to lead the discussion where appropriate (Bryman, 2012). As the research was exploratory, flexibility in research methods was essential to accommodate unexpected responses and to follow up on conversation threads (Maykut & Morehouse, 1994).

Eleven semi-structured interviews were conducted, with participants identified through data collection using a variation of the snowball sampling technique (Parker *et al.*, 2019). This sampling technique was employed because the networks themselves were uncovered during data collection, and their type and extent were unknown prior to the case study. Table 1 presents a list of interview participants. Each interview lasted 30–60 minutes. The networked organisations and associated individuals were assigned pseudonyms to protect participants' anonymity.

Interview questions were designed to uncover and document relationships between the origin school, community facilities, government bodies, and other schools. Questions were asked about the number and types of partnerships with other organisations, the use of shared spaces, the types of activities conducted, the value of these partnerships/relationships, benefits for the school or organisation, challenges and obstacles associated with sharing facilities, and future ambitions.

Observations also played an important role but were somewhat limited due to COVID-19 restrictions. Observations were conducted during site visits to the school, including a walking interview with the Baycity principal that covered walking between the school's multiple campuses, and during visits to several off-site facilities within the network. In this study, observational data were triangulated with data collected through the semi-structured interviews.

**Table 1.** Baycity interview participants.

| Interview | Pseudonym | Participant | Date of interview |
|---|---|---|---|
| 01 | Andrew | School Principal | December 2022 |
| 02 | Andrew | School Principal | May 2023 |
| 03 | Olivia | Local Mayor | May 2023 |
| 04 | Isabel | Local Government Authority Urban Planner | June 2023 |
| 05 | Emily | Lifesaving Club President | June 2023 |
| 06 | James | State Government - Department of Education - Senior Employee | July 2023 |
| 07 | David | Yacht Club Commodore | July 2023 |
| 08 | Audrey | Local Government Authority Social Planner | July 2023 |
| 09 | Layla | Lifesaving Club Representative | August 2023 |
| 10 | Andrew | School Principal | August 2023 |
| 11 | George | Rotary Club Representative | August 2023 |

Drawing on relational concepts from network theory and assemblage thinking, data were analysed using an inductive thematic analysis approach (Braun & Clarke, 2006), with reference to the theoretical literature between coding rounds. Conceptual mapping techniques (Lynch, 1960) were also used to explore the case's spatial dimensions and network relationships.

Spatial data obtained from publicly available maps and digital tools were used to develop network maps and calculate walking distances. Overlaying qualitative data onto this spatial information generated insights into the socio-spatial assemblages of the networks and into the development of spatial capital.

Researcher reflexivity was supported by the study being conducted within a larger multidisciplinary project funded by the Australian Research Council, titled Building Connections: Schools as Community Hubs. The data collected for the study were presented to and discussed regularly over three years with a group of academics with backgrounds in urban planning, architecture, and education.

Adopting a narrative approach, the data reported here are not exhaustive of the data collected; rather, they represent a sample relevant to the concept of spatial capital and the transfer of capital as observed in the case.

## Findings

As the multiple and varied relationships uncovered in this study are too numerous to outline in detail in a single paper, two vignettes are shared to describe the types of network relations uncovered and highlight related themes. The two vignettes described here were chosen to highlight the breadth of the network through their differences. Notably, both vignettes highlight how relations are centred around the sharing of space for varied uses.

Firstly, the relationship between Baycity Secondary School and a charity book re-seller illustrates a connection that was established early in the school's existence, involving the charity sharing a space in the school's library to sort, store, and re-sell second-hand books. Through the narrative shared about this relationship, themes such as reciprocity, trust, and symbiosis were identified, as has been previously linked to ideas about social capital and assemblage thinking (e.g. Fisher, 1998; Dovey, 2020). This story highlights the use of school facilities to offer 'more than a school' for community engagement (Cleveland, 2023).

Secondly, the story of Baycity Yacht Club's relationship with the school is documented. The yacht club is one of several facilities that the school has negotiated for exclusive use during school hours, when the club members are not using the space. This vignette documents the use of off-site facilities and highlights the multiple benefits afforded to the school and community organisation (i.e. yacht club) through the sharing of spatial assets.

Since opening with a single campus, the school has expanded over 15 years to accommodate its increasing student enrolment. It now operates out of five campuses (with a sixth under construction) across the local area, adopting a dispersed model that benefits from the amenities of its neighbourhood. Further expanding the multi-campus model, the school makes use of several 'underutilised' facilities in the area, as described by the principal. Figure 1 illustrates the distribution of the school campuses and off-site facilities utilised by the school as part of its regular programming and curriculum.

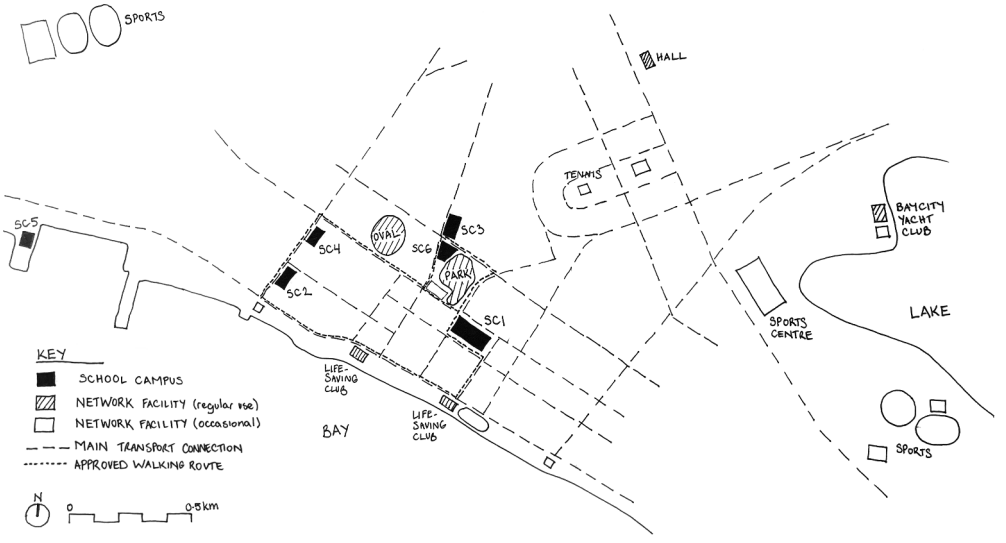



Figure 1. Baycity social infrastructure network, school and community facility map (Miles, 2025) https://doi.org/10.26188/28589321.v1.

### *Vignette 1: the book co-op*

The establishment of a partnership between Baycity Secondary and the local charity predated the school's opening. This collaboration, initiated by the school's principal (*Andrew) and a volunteer for the charity organisation (*George), centred primarily on a second-hand book-selling initiative. The agreement allows the charity to utilise a space within the school's library (School Campus SC1 in Figure 1) for book storage and sorting, while granting the school access to these books for its collection as needed.

The operational model of this enterprise involves a systematic process of book collection, sorting, and distribution. Collection points, located outside three local libraries, facilitate book donations by members of the public. These donations are collected by George each week and driven to the school, where student volunteers are ready to help move the donations to the dedicated space within the school's third-floor library.

Within this space, a methodical process is undertaken to sort the donated books by value and type. The school librarian is granted unrestricted access to the books, and George pre-emptively puts aside books he thinks may be suitable for the school's collection for the librarian to review and select.

Books selected for the school's library are integrated into the collection, complete with an acknowledgment of the charity's contribution inside the front cover. The remaining books are then categorised based on their potential market value, with various distribution channels noted, including online sales (for books worth over $50 to make the time worthwhile), bulk sales to resellers, consignment arrangements, and allocation to a volunteer-run bookstore in a neighbouring suburb. These channels are noted in the operational diagram shown in Figure 2.

The success of this partnership is evidenced by its longevity. The school also receives a substantial material benefit through the cumulative value of books provided to the

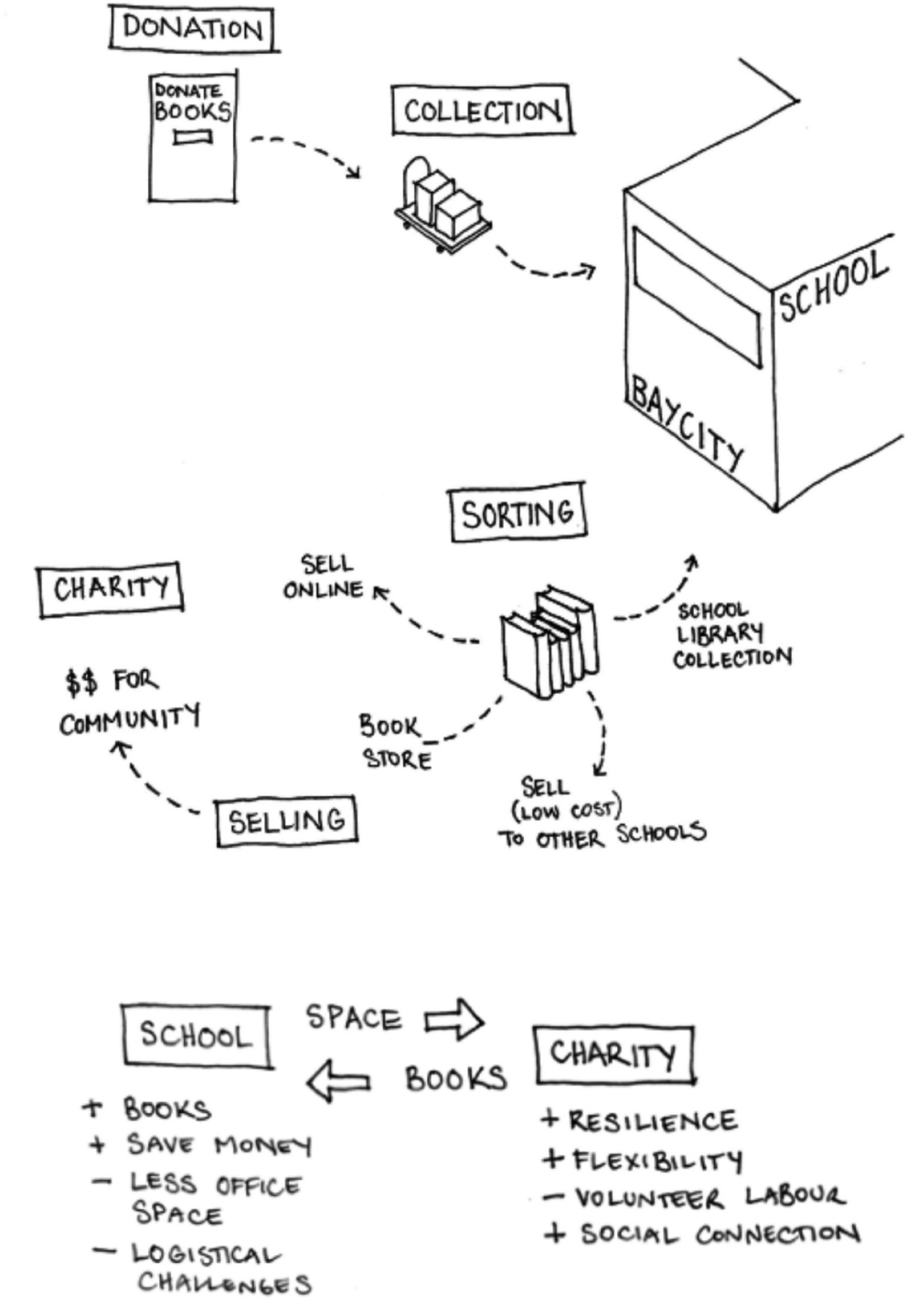



Figure 2. Baycity book co-op operational diagram (Miles, 2025). https://doi.org/10.26188/28586258.v1.

school over the length of the agreement. George estimated this to be worth approximately $500,000 so far. Though this figure cannot be verified, the benefit is significant.

### Community partnerships

This relationship illustrates the potential of on-site community partnerships in enhancing educational resources and fostering local development. It also highlights opportunities for replicating such models in other contexts to address resource constraints in educational settings.

Social capital is generated through this partnership by embedding these relationships into the operation of the school. Though there are clear economic (rent savings, donated books), cultural (knowledge sharing) and social (community connection) benefits to this relationship, these are made available through the sharing of space. It is through shared physical space that incidental conversations, sharing literature, student help with moving books, knowledge sharing, and so on are made possible.

### Mutual benefit

This story accentuates two key concepts highlighted in the literature on assemblage and social capital. Symbiosis, which is connected to the literature on assemblage thinking (Dovey, 2020), and reciprocity, which links to the literature related to social capital (Fisher, 1998).

One of the key differences between the terms 'symbiosis' and 'reciprocity' is the intention behind them. Where symbiosis recognises mutual benefits, reciprocity highlights the intention to give or offer something in return for something received.

The reciprocal benefits of the charity's book co-op and school library arrangement are observed through this vignette. For the charity, a rent-free space to sort and store their books alleviates many of the pressures felt by volunteer initiatives. The second-hand book project was established by George several years before the arrangement with the school, but they had trouble finding a suitable space from which to operate. George explained that he had been storing and sorting the books at his own business premises (a retail space), however when he retired and his son took over the business it became more challenging, both because of the business and inter-personal dynamics and because he was collecting more and more books as he spent more time on the project:

> It's given us a space up here, to sort books, and to be able to distribute books to other charities; and also, to sell books. (George, charity bookseller)

For Baycity Secondary School, Andrew, the principal, explained that the relationship is about more than just free books; it fosters a sense of belonging and connection that can only be gained through meaningful, continued connection and a shared purpose.

Given the longevity of this relationship, each party now describes its operation in a way that makes it sound like an easy win-win scenario. So, why is it not happening everywhere? The aligned values of the two organisations, although operating at very different scales, contribute to the success and development of the partnership, along with the disposition of the key actors, Andrew and George, who are vital to the partnership's effectiveness. The ongoing commitment to the success of this partnership is key to its

current operation and has not yet been tested by a change of leadership of either party which has been identified as a challenge in school-community partnerships (Valli *et al.*, 2018).

Reciprocity is not about each party offering the same things. Rather, it involves acknowledging different needs or goals and aligning them in a mutually beneficial way: an exchange (Molm *et al.*, 2007).

In the first vignette of the book co-op, by the school giving a section of their library space for sorting and storing books – previously a significant challenge for George – spatial, social, and cultural capital is generated without the need for conversion into economic capital.

### *Vignette 2: the yacht club*

Where 'Vignette 1' illustrates a relationship based within the school's grounds, the second relationship highlighted in this paper is located approximately 2.5 km from the school's main campus, where the school utilises the facilities of Baycity Yacht Club. The Yacht Club, a volunteer-run organisation with a 150-year history, occupies an advantageous location on an urban lake. The club's physical assets, primarily boats and storage facilities, are supplemented by a 'peppercorn lease' with a state government authority for their premises [a peppercorn lease is where the payments are significantly under market value, often applied to not-for-profit entities using government-owned buildings]. In addition to its physical assets, the club's Commodore *David highlighted the human value inherent in their organisation in the following way:

> The value of the volunteer labour, and the value of the relationships which are embedded in the management of that, is where a lot of that value sits as an entity. (*David, Yacht Club Commodore)

Prior to their agreement with Baycity Secondary School, the yacht club rented out their space on an ad-hoc basis for private functions. Seeking a more sustainable and mission-aligned approach, the club initiated a partnership with the school. The partnership's genesis stemmed from the club's proactive community engagement strategy, which led it to reach out to the school to collaborate after observing other successful partnerships the school had developed in the area:

> The school has allowed us to shift to more legitimate sailing focused operation . . . So that's been a win-win. [The agreement is] not just about money, it's about integrity of the operation. (David, Yacht Club Commodore)

The arrangement includes an exclusive use agreement with the school (during school hours), resulting in a site-specific educational program that the school has developed. A whole-day program was designed specifically for year eight students (second year of high school in Australia), focusing on sports and leadership activities. The program, described by the principal as 'technology-free', capitalises on the unique amenities of the yacht club and its surroundings. Having the day start and finish at the club addresses the logistical challenge of the facility being beyond a 'walkable' distance from the school's main campus. As students arrive and leave this alternative location, the school is not responsible for their transport to and from the site. The travel is considered equivalent to students' regular travel arrangements

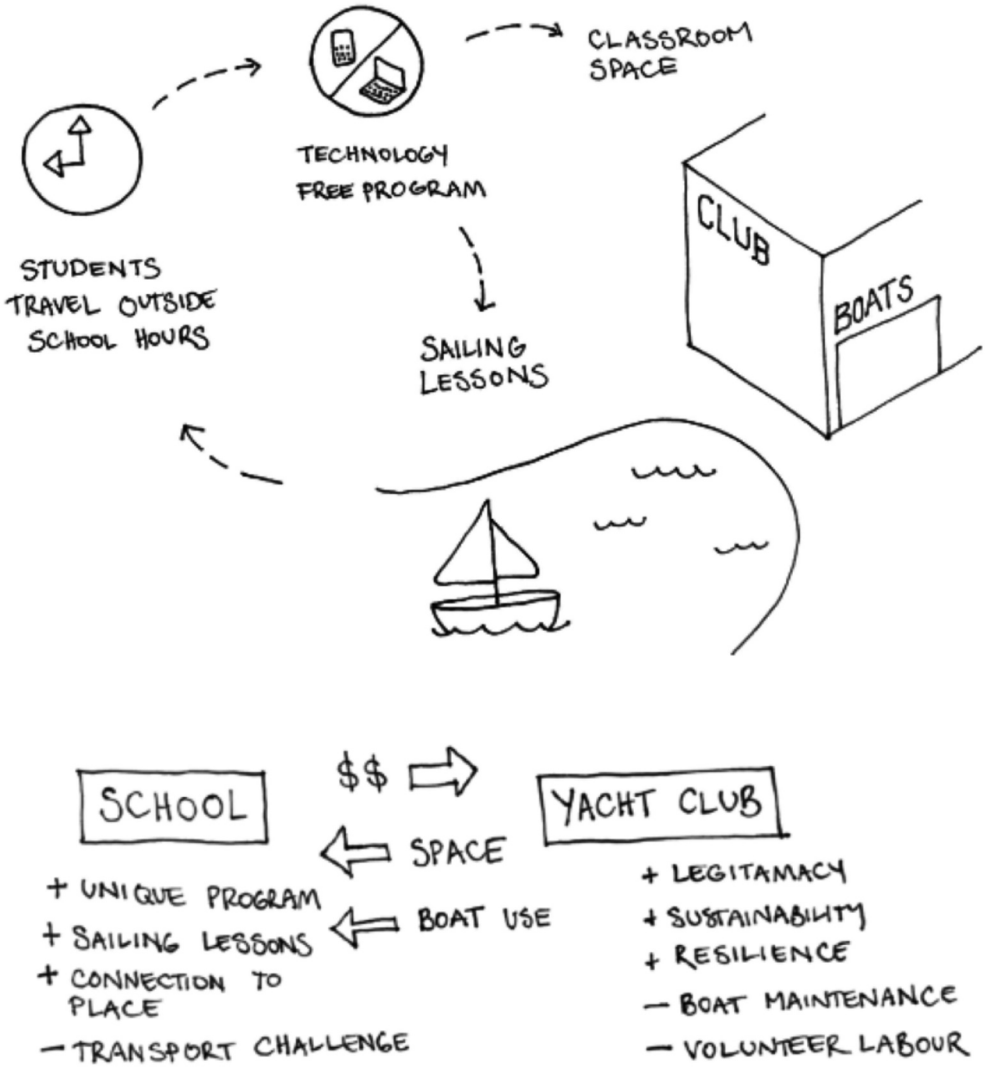



**Figure 3.** Baycity secondary school and yacht club program diagram (Miles, 2025). https://doi.org/10.26188/28589405.v1.

to and from school. This program is represented in Figure 3. Key benefits and challenges are also shown, depicting the 'time-labor' costs (Bourdieu, 1984) and key spatial resources (the lake and its surroundings) used to enable engagement with place and space (Levy, 2013).

This approach exemplifies the concept of place-based education, where local resources and community partnerships are leveraged to enhance educational experiences. The principal notes the bidirectional nature of program development, which is sometimes driven by available spaces and at other times by predetermined educational objectives, for which a suitable space is found.

Interestingly, while the school initially perceived that its use of the space might generate a younger membership base for the club, this has not occurred. Nevertheless, the club views this outcome positively:

> I actually don't mind if if we don't end up with a whole bunch of teenage members. Because there's so much value for older people in this sport. (David, Yacht Club Commodore)

This relationship illustrates the complex interplay between community resources, educational programming, and social capital. Furthermore, it highlights the potential for innovative partnerships to create value that exceeds initial expectations, thereby contributing to both educational enrichment and community vitality. It also shows the spatial capital generated through the partnership, where the school gains access to a 'set of resources' (Levy, 2013, p. 147) that enables them to engage with place and space.

The inclusion of this relationship between the school and a local yacht club is also used to show the nature of the Baycity suburb and its high level of local amenity relative to other suburbs.

### *Sharing space in a dense urban neighbourhood*

The most apparent benefit for the school in establishing these relationships is access to the space required to cater to its increasing student enrolment and provide a wider breadth of subjects than it would otherwise be able to. The school's first agreement for the use of an off-site facility was made soon after it opened, when student enrolments had quickly exceeded the capacity of the school's facilities, a result of the school's success. Commonly, schools in Victoria (and Australia more broadly) are situated on larger sites, where a relocatable or portable classrooms strategy is used to accommodate increasing enrolments. However, inner-urban schools like Baycity often have minimal grounds, constrained outdoor play areas for students, and no space for portable classrooms. For these schools, an alternative strategy is required.

Andrew, the principal of Baycity Secondary School, has developed an innovative strategy that incorporates a network of spaces across the local area, catering to the school's need for flexible space. However, this strategy is about more than a need for space. It's about offering an extended selection of courses, which is important for retaining students and keeping pace with private schools in the area. Providing a wide variety of subjects often means that classes have fewer students than is optimal. Subsequently, if they were to rely solely on their own facilities, they would lack sufficient learning spaces. To counter this problem, they have gained access to shared space through a network of existing facilities in the neighbourhood. Mostly sporting club facilities, where spaces are generally unused during school hours, resulting in a sustainable and efficient use of shared social infrastructure.

This dispersed model enables the school to access additional, flexible, and low-cost space, generating multiple benefits. Firstly, they are not tied to the spatial allocation provided by the state government school system. Secondly, they have access to 'backup' facilities for activities like sports and physical education on wet weather days, employing a full-time staff member to manage these flexible arrangements, which embeds resilience in the system. Thirdly, they can extend their curriculum offerings to suit the spaces they can access, further benefiting students' engagement beyond typical school infrastructure.

From the principal's perspective, the purpose of creating connections goes beyond sharing space. He speaks of his ambition for students to contribute to society more broadly, also touching on the school's ambitions to build further and deeper connections

with local communities, generating social and cultural capital through deeper engagement with space and place:

> That's the next level I think that we're aiming for, and that's in our new strategic plan. So, how do we get every kid to contribute to the lives of others and think beyond themselves? I think there's a big challenge for our society. (Andrew, Baycity Secondary School Principal)

These spatial arrangements are facilitated through shared-use agreements. The terms of these agreements have evolved over time in response to emerging challenges. For example, the school's longstanding relationship with a local lifesaving club was strained by tensions over cleaning requirements. The resolution negotiated by the school principal and club management led to the shared-use agreement being adjusted to include the school paying some regular cleaning costs. Having learned this lesson, these management provisions were also incorporated into the template agreement the school uses with other community partners.

## Discussion

The findings revealed how aspects of an urban-area social infrastructure network have operated over recent years in connection with Baycity Secondary School, offering insights into the role of space in generating spatial, social, cultural and economic capital.

In their work on social infrastructure, Latham and Layton (2019) discuss the importance of the abundance of provision in its success. In this context, they discuss the link between the abundant provision of social infrastructure and generating 'social surplus' (Amin, 2008; Latham & Layton, 2019).

> The social connections and socialities that are built and maintained through accessing social infrastructure have real material benefits and consequences; they generate a 'social surplus'—encouraging trust, civility, encounter, and common purpose (Amin, 2008). (Latham & Layton, 2019, p. 8)

The spatial practices developed by the school, which extend its engagement with place through shared access to off-site facilities, increase physical and pedagogical connections with its local area. This paper argues that by doing this, the school is generating a *spatial* surplus.

Operational connections were found to be instrumental to this network's success, including shared-use agreements in which the school gains 'exclusive use' of facilities during school hours, when otherwise unoccupied. As a state-funded secondary school, Baycity would typically be restricted by prescribed school facility area guidelines, which determine the size and number of learning spaces provided. These agreements between the school and a range of shared facilities have afforded predictable access and usage rights for additional space during school hours, effectively 'hacking' the school's space allocation and creating a spatial surplus.

This spatial surplus has, in turn, generated spatial capital through the mastery of space as an asset (Lévy, 2014). Where Centner describes spatial capital as the 'taking' of space as an act of privilege, in this case the *sharing* of space is an inclusionary rather than an exclusionary act (Centner, 2008, p. 194). Mosselson's extension of Centner's 'taking and making' of place adds 'the ability to take and make place, but also as the ability to

successfully navigate, inhabit and engage with space' (Mosselson, 2019, p. 279). The school as an institution, led by the principal, has demonstrated the 'ability to successfully navigate, inhabit, and engage with' space through the network of shared infrastructure it has established in its local area. It has also used this mastery of shared space, or spatial capital, to further generate social and cultural capital, both as an institution and for its students.

Access to infrastructure resources and authentic local learning opportunities for students has benefited the school. At the same time, local community groups and businesses have benefited from sharing facilities, engaging with the wider community through the school, and gaining shared reputational advantages.

By accessing a network of additional spaces, the school has been able to expand its curriculum, especially in the senior years, helping to build both social and cultural capital in several ways. By offering an extensive curriculum, the school can 'compete' with private schools, identified early in the school's existence by the principal as a key factor for the school's success. The partnerships established through shared-use agreements also foster trust between the school and the broader community. The enhanced reputation developed through these partnerships has led to community organisations seeking partnerships with the school due to its community-minded reputation.

Here, it is worth acknowledging that the Baycity case study is situated in a privileged area of Melbourne, which has had a significant impact on the opportunities available to it for building its socio-spatial network. Not all schools in Melbourne would be able to establish a network like this using existing amenities in their local area. However, Baycity Secondary School has significantly smaller grounds and facilities compared to many suburban state schools. So, rather than providing an example to be replicated, this case features a school making the most of what is available to it, utilising the amenity of its neighbourhood in a novel way, offering lessons for other urban schools and social infrastructure planners.

## Conclusion

This study demonstrates how a secondary school leveraged underutilised community facilities to generate spatial capital and convert it into social, cultural, and, to a lesser extent, economic capital. By creating a network of shared spaces, the school achieved a spatial surplus that enabled curriculum expansion, place-based learning, and stronger community relationships. These findings highlight the potential of networked social infrastructure to support educational and community objectives, even within the constraints of traditional school planning models.

It is important to acknowledge that this case represents a good-news story situated in a relatively privileged urban context. The opportunities available to Baycity Secondary School may not be replicable in all settings, particularly where local amenities are limited or socio-economic conditions differ. Recognising this limitation underscores the need for caution in generalising these findings and highlights the importance of exploring how similar strategies might operate in less advantaged contexts.

In areas that offer high public amenities but experience economic disparity, network building may increase social equity and spatial justice by providing opportunities to access and operationalise spatial capital for those who could benefit most. However, in

areas where a surplus of social infrastructure does not exist, it should not be assumed that schools can access community facilities, and such provisions should not be relied upon to support school operations. Where such opportunities do exist, access to facilities beyond those owned and operated by the education system may provide additional amenities that can be leveraged to reduce disparities across the system, suggesting that recognition of networked social infrastructure as a strategic tool for school and community infrastructure planning and provision should become more widely recognised.

Future research should examine how shared-use agreements and distributed spatial models function in diverse socio-economic environments to assess whether they mitigate or exacerbate educational inequalities. Investigating governance frameworks, power dynamics, and sustainability could deepen understanding of how spatial justice can be operationalised through collaborative spatial practices. Such work should inform planning strategies aimed at creating equitable, resilient, and socially connected urban education environments.

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