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Case Study Paper: Planning and Urban Design for Living Infrastructure: A Framework for Governance, Stewardship and Everyday Practices to Strengthen Social Cohesion

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Case Report

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Case Study Paper

Planning and Urban Design for Living Infrastructure: A Framework for Governance, Stewardship and Everyday Practices to Strengthen Social Cohesion

Abstract

Social infrastructure contributes to social cohesion, but its social value depends on more than civic assets alone. Emerging from international conversations associated with the establishment of a research network on social infrastructure and subsequent thematic panels at the Royal Geographical Society (RGS-IBG) Annual International Conferences, this practice paper advances a collective argument for rethinking the roles of urban design and planning in shaping and sustaining civic life. It develops Living Infrastructure as a relational framework linking spatial design, planning, governance, stewardship and everyday practices. Drawing on four international practice cases - Kentish Town Library in London, RWTH Aachen University in Germany, Northfield Council in metropolitan Melbourne and Muckleneuk Commons in Pretoria - the paper explores distinct pathways and constraints in cultivating social value across institutional contexts. It proposes five principles: plan and design civic ecosystems rather than isolated facilities; activate spaces through everyday practices; treat governance and stewardship as integral to infrastructure; design for adaptability and learning; and evaluate social value beyond service outputs. Living Infrastructure is not a new infrastructure category but an approach to supporting belonging, inclusion, participation and recognition through ongoing civic relationships.

Keywords: Living Infrastructure; social infrastructure; social cohesion; governance; stewardship; planning practice; public space

1. Introduction

This paper proposes Living Infrastructure as an approach connecting urban design and planning with governance, stewardship and everyday practices. The design of accessible entrances, flexible interiors, welcoming edges and connected public spaces shapes opportunities for interaction, but social value also depends on how these settings are managed and used. This builds on accounts of social infrastructure as the spatial and institutional settings of public life (Klinenberg, 2018; Latham and Layton, 2019; 2022), while recognising the contribution of public-space design to inclusive urban environments (Carmona, 2019). Digital environments may also reshape how civic life is organised, although their contribution to social cohesion requires critical examination (Allam et al., 2022).

To develop our argument, we draw on four international practice cases representing contrasting planning contexts and governance arrangements: Kentish Town Library in London (United Kingdom), RWTH Aachen University (Germany), the City of Melbourne (Australia), and community-led public space initiatives in Pretoria (South Africa). Rather than presenting these cases as examples of best practice, the paper uses them to examine different pathways, opportunities and limitations through which Living Infrastructure can be cultivated in diverse urban contexts. Together they suggest that the contribution of social infrastructure depends not simply on physical design, but on the interaction between governance, stewardship, programming and everyday social practices. Our focus is therefore not on planning as a profession in its entirety, nor on a single tier of statutory planning. Rather, we examine place-based urban planning and governance at local and institutional scales, where planners, public authorities, civic institutions, community organisations and other actors collectively shape the provision, management and adaptation of social infrastructure. This understanding builds on collaborative and adaptive approaches

to planning that recognise planning as a process involving multiple institutions, actors and forms of knowledge (Healey, 1997; Albrechts, 2010; Davoudi, 2012).

The argument emerged through international conversations associated with the establishment of a research network on social infrastructure and was further developed through thematic panels at the RGS-IBG Annual International Conferences. Bringing together perspectives from different geographical and institutional settings, the paper is conceived as a collective, practice-oriented position statement rather than a prescriptive manifesto. It calls for urban design and planning to look beyond the delivery of civic facilities and attend to the relationships, forms of care and ongoing adaptation through which public spaces and institutions support social life.

The paper makes three contributions to urban design and planning theory and practice. First, it introduces Living Infrastructure as an operational framework that complements and extends existing debates on social infrastructure (Hall, 2020) by examining how civic assets can generate social value over time. Second, it develops a comparative lens for analysing the interaction of urban design, governance, stewardship and everyday activation, building on existing studies such as Campbell et al. (2022) and Kasemets (2024). Third, drawing on the four international cases, it identifies five transferable principles to inform how urban designers, planners, policymakers and other practitioners design, govern, activate and evaluate civic spaces.

2. From Social Infrastructure to Living Infrastructure: Towards an Operational Planning and Urban Design Framework

For planning and urban design, the distinction matters: civic facilities do not automatically produce social benefits. Their accessibility, spatial configuration, interfaces with surrounding streets and capacity to accommodate different users shape possibilities for encounter; collaboration, care and adaptation determine whether those possibilities endure. The significance of informal encounters in neighbourhood third places reinforces this concern with social interaction (Hickman, 2013).

We define Living Infrastructure as a planning approach that cultivates the spatial, institutional and social conditions through which civic assets generate social value over time. Spatial design enables interaction; governance provides policy, funding and coordination; stewardship supports continuing care and collaboration; and everyday practices activate places. Their interaction can foster belonging, inclusion, participation and recognition (Kearns and Forrest, 2000).

We use the term ‘civic ecosystems’ to describe the interconnected networks of civic spaces, institutions, organisations and everyday social practices through which social value is collectively produced and sustained. This understanding draws on relational approaches to social infrastructure (Latham and Layton, 2019), collaborative planning (Healey, 1997) and the collective governance of shared resources (Ostrom, 1990).

In this practice paper, Living Infrastructure is used as a lens for examining the four cases, rather than as an outcome assumed in advance. We consider how spatial design, governance, stewardship and everyday use interact, where these arrangements encounter constraints, and what can reasonably be inferred about social value. The cases are therefore compared for both their contributions and their limitations.

The shift is from identifying civic assets to understanding how they become socially productive. A library, campus or public square becomes living through collaborative governance, active stewardship, diverse uses and adaptation (Jacobs, 1961; Whyte, 1980; Gehl, 2010; Mang & Reed, 2012). Planners consequently help create the institutional conditions for partnerships, shared responsibility and flexible responses to change, drawing on principles of collective governance and shared responsibility for resources (Ostrom, 1990; Ansell and Gash, 2008; Emerson et al., 2012). Governance and stewardship are integral to infrastructure, not simply post-delivery functions.

This relational framework also draws on adaptive governance, which emphasises learning and responsiveness when multiple actors confront uncertain, complex problems (Nelson et al. 2008; Jansen and Van der Voort, 2016). Section 3 translates this perspective into four operational components.

3. An Operational Framework for Planning for Living Infrastructure

The operational framework identifies four interconnected components through which planning and urban design can support the continuing social value of civic assets. Urban design contributes at the scale of buildings, thresholds, streets and public spaces, while governance and stewardship determine how these environments are activated and adapted. This approach complements critical reflections on the relationship between planning theory and practice (Alexander, 2022).

The second component is governance and stewardship. Governance determines how infrastructure is planned, funded and coordinated, while stewardship refers to the ongoing care, management and collaborative relationships that enable places to remain responsive to changing needs (Healey, 1997; Ostrom, 1990; Ansell and Gash, 2008). From this perspective, local authorities, public institutions, community organisations and citizens all contribute to maintaining Living Infrastructure. Stewardship therefore becomes an intrinsic component of infrastructure itself rather than an activity undertaken after delivery.

The third component is everyday activation. Infrastructure generates social value not simply because it exists, but because it is continually activated through everyday practices. Programming, informal social encounters, volunteering, cultural activities, learning, recreation and routine use all contribute to keeping civic assets socially relevant (Jacobs, 1961; Whyte, 1980; Mehta, 2014). This emphasis on ordinary, repeated interactions reflects growing recognition that social cohesion develops incrementally through everyday experiences rather than exceptional events.

The interaction between these three components produces the fourth component: social value. Rather than being understood solely through conventional service outputs, Living Infrastructure is evaluated by its contribution to four interconnected dimensions of social cohesion: belonging, inclusion, participation and recognition. Together these dimensions capture the extent to which places enable people to feel connected to their communities, access opportunities, contribute to civic life and have their identities and experiences recognised and valued.

Altogether these components position planning as an adaptive process in which governance, stewardship and everyday practices interact through ongoing learning and shared responsibility (Figure 1, Table 1).

Here, planning refers to the decisions and processes through which civic spaces are designed, connected, funded, managed and adapted. These may involve local authorities, institutional managers and community organisations; the cases do not imply that professional planners alone are responsible for these outcomes. Similarly, “civic ecosystems” refers to the interdependent spaces, services, organisations and everyday relationships that support public life, not to a formal governance model equivalent to Ostrom’s commons institutions.

Figure 1. An Operational Framework for Planning Living Infrastructure (Source: Authors, 2026) [about here].

Table 1. International Practice Cases as Pathways to Living Infrastructure (Source: Authors, 2026) [about here].

4. International Practice Pathways for Planning and Urban Design for Living Infrastructure

The usefulness and limitations of Living Infrastructure as a planning approach can be examined through practice. While the framework proposed above identifies the conditions through which infrastructure becomes socially productive, its implementation varies considerably according to local governance arrangements, institutional capacities and community contexts. The four international cases presented here illustrate different planning pathways towards Living Infrastructure. Rather than representing models to be replicated, they allow us to consider how different combinations of spatial assets, governance, stewardship and everyday activation may support social value and social cohesion. Although the cases differ significantly in scale, institutional context and planning systems, they share a common characteristic: each illustrates different aspects of a civic ecosystem, in which spatial assets, institutional relationships and everyday practices interact, although their effectiveness depends on the opportunities and constraints for adaptation and collaboration.

4.1 Kentish Town Library (London): Stewarding Everyday Civic Life

Kentish Town Library provides an example of how an established civic institution can be understood through Living Infrastructure, particularly in relation to adaptive governance, collaborative stewardship and everyday activation. Situated within a diverse inner-London neighbourhood characterised by significant socio-economic diversity, the library performs far more than a conventional information service (Aabø et al., 2010; Aabø and Audunson, 2012; Vårheim, 2014). It functions as an accessible civic platform where learning, social interaction, digital inclusion, cultural participation and everyday support converge. The library's contribution stems not simply from its physical building but from the continual interaction between spatial design, programming and institutional collaboration. Flexible internal spaces accommodate reading, study, informal meetings, children's activities, digital learning, community workshops and cultural events throughout the week (Figures 2 and 3). Initiatives such as the Library of Things further extend the library's civic role by promoting resource sharing (with a focus on household materials), affordability and environmental sustainability while attracting new user groups.

Equally important is the library's governance model. Rather than operating as an isolated municipal service, Kentish Town Library works through partnerships with local organisations, schools, health services, community groups and volunteers. Library staff act not only as service providers but also as facilitators, connectors and stewards who actively cultivate relationships across the neighbourhood. Through these practices, the library continually adapts its activities to changing community needs, demonstrating that stewardship is fundamental to maintaining infrastructure as a living civic resource.

The library's social role also raises questions about the forms of informal care and support associated with everyday stewardship. This is particularly relevant for people experiencing vulnerability, including housing insecurity or homelessness, who may use public libraries as safe daytime spaces and to access basic facilities. The present research did not systematically examine how staff respond to homelessness, whether users are referred to specialist support services, or whether formal protocols are in place. These questions point to an important area for further investigation into the boundaries between library stewardship, informal care and more formal forms of welfare support.

From a Living Infrastructure perspective, Kentish Town Library demonstrates that social value emerges through repeated everyday encounters rather than exceptional events. Routine activities such as borrowing books, attending children's programmes, using computers, seeking advice or simply spending time within a welcoming environment collectively foster belonging, participation and recognition. These cumulative everyday interactions illustrate how social cohesion is gradually produced through ordinary practices embedded within an adaptable civic institution.

Figure 2. Rhyme Time activity (Source: Author, 2024) [about here].

Figure 3. Digital support session for older people (Source: Author, 2024) [about here].

4.2 RWTH Aachen (Germany): Activating the Campus as Living Infrastructure

The RWTH Aachen case offers an opportunity to examine how a university campus may function as Living Infrastructure when its spatial and institutional resources are activated through collaborative learning, experimentation and co-design. Rather than understanding the campus primarily as educational infrastructure, the case approaches it as a living laboratory where students, researchers and other actors can collectively explore pathways towards sustainable transformation.

This approach was demonstrated through the IDEA League Summer School *University Campus as a Co-Design Hub for Sustainable Transformation: Learning by Doing*. Using the RWTH campus itself as a site of investigation, participants explored sustainability challenges through an experiential process structured around “Feel-Understand and Act” approach. Feel means experiencing campus directly. Understand means making sense of those experiences and observation. Act means turning this understanding into possible interventions and pathways for transformation. The participants observed and experienced campus spaces, investigated their spatial, environmental and social conditions by using multiple methods and tools, and developed possible interventions and future pathways through collaborative design and backcasting (Figure 4 and 5). The campus-based approach also resonates with RWTH Aachen’s work on the built and lived environment (Förster and Chang, 2022).

RWTH Aachen illustrates how a campus can become a platform for collaborative learning, experimentation and co-design, rather than functioning solely as educational infrastructure. The process demonstrates how campus spaces can become socially productive through active participation rather than physical accessibility alone. Campus open spaces and everyday meeting places became sites for collaborative learning around issues including outdoor comfort, mobility, energy, resource use and social interaction. Students and researchers thereby became active participants in interpreting and imagining the transformation of their everyday environment.
The summer school activated existing spaces and built relationships through collective experimentation. Its lasting contribution, however, depends on whether temporary learning is incorporated into institutional decision-making and campus planning.

Figure 4. Picnic at RWTH Aachen, organised by staff and students. (Source: Author, 2026) [about here].

Figure 5. Experiential investigation of outdoor environmental conditions during the IDEA League Summer School at RWTH Aachen. Participants used digital sensing and thermal-imaging tools to explore microclimatic conditions as part of the campus-based Feel-Understand and Act” co-design process. Source: Author, 2026. [about here].

4.3 Northfield Council (Australia): Governing Living Infrastructure

The third case is a Council with the pseudonym 'Northfield’ in the Melbourne Metropolitan area (in Victoria, Australia). This local Council stretches from inner city suburbs to the outer suburbs of the metropolitan area. The inner-city suburbs are gentrified and are home to a population of highly educated – mostly young – people, many students, university staff, and professionals. The outer suburbs are home to some of the lowest income groups of the country, with many newly arrived migrants, and a high share of Muslims.

This council is an example of living infrastructure as a shared responsibility to create social value. Northfield has adopted a Human Rights Policy to all their policies, programs and activities. The Human Rights Policy lens means that co-design of policy is central: Ideally every policy is co-designed with the community, service providers and other stakeholders, with the local council as the enabler of this collaboration. This dynamic process aims to create social value through inclusive participation practices, while encouraging collaboration within the community and with government, developers and other organisations.

In practice, this is not as straightforward as it sounds. As described in Dekker et al. (2024), the council faces challenges in leadership and organizational support for this inclusive approach. Local leaders show little interest and prioritise other issues (which they believe may make them popular with part of the community) over an inclusive co-design approach (Figures 6 and 7).
Insufficient funding, knowledge and visible support hinder the development of inclusive approaches. An example is the development of strategic cycling corridors. During the Covid-19 lockdowns, separated bike lanes were put in place on a busy road. The bike lanes took out some of the parking spots for people with a disability, close to a medical health facility. Due to poor consultation during the design phase, the conflict between the bike lane users and the parking spots for people with a disability, escalated. The bike lanes were removed, forcing the cyclist to share the road with traffic going 60-80 km/hr. The parking spots were reinstated.

An example of dynamic governance took place in the local park, where homeless people were camping in tents, close to the public toilets and water fountain. Parents with children also wanted to use the park on hot days, but were concerned about the presence of homeless people with drug- and alcohol problems. Heatwaves in Melbourne can be intense, with temperatures over 40 degrees over several days. For people without shelter and managing multiple health issues, this can be fatal, and can increase mental health problems such as anger and anxiety. The council decided to open the libraries for longer hours to provide a place to shelter in the air-conditioning, while also providing social workers to support the library workers during these days of intense heat. This dynamic response showed both a focus on human rights, looking after the diverse needs of the community, and sharing responsibilities between services.

Figure 6. Accessible spaces designed by Northfield Council officers and residents. (Source: Author, 2024) [about here].

Figure 7. Co-design workshops at the Council office with representatives from all Council branches. Note the absence Councillors during the co-design process even thought they were invited. (Source: Author, 2024) [about here].

4.4 Muckleneuk Commons, Pretoria (South Africa): Community Stewardship and Co-production

The final case illustrates how Living Infrastructure can emerge through community leadership even where institutional support and resources are limited. Muckleneuk Commons was one of four case studies examined as part of a National Research Foundation (NRF) project investigating regenerative development and design. It was selected precisely because it represents an exceptional rather than typical example of community-led action. The case should therefore not be understood as representative of public-space governance in Pretoria more broadly, but as an example of what can be achieved through sustained community initiative in a relatively unsupported institutional environment.

At Muckleneuk Commons**,** situated in a middle- to upper-class neighbourhood but serving a wider and more diverse population, community organisations, local residents and civil society groups co-created a local park on public land and assumed active responsibility for improving, maintaining and programming the space . Everyday stewardship extends beyond maintenance to include organising activities, mobilising partnerships, strengthening local networks and cultivating shared responsibility for neighbourhood wellbeing.

Unlike more institutionally led forms of Living Infrastructure, the revitalisation and ongoing care of Muckleneuk Commons highlights the importance of co-production and co-mutualism through adaptation and collaboration (Figures 8 and 9). Planning outcomes are shaped through ongoing collaboration between communities, recognising local knowledge, everyday experience and collective action as essential resources for sustaining infrastructure over time.

The exceptional nature of this case is important to its contribution to the Living Infrastructure framework. Rather than suggesting that community stewardship can substitute for institutional support, Muckleneuk Commons demonstrates what sustained local initiative, collaboration and care can make possible under relatively unsupported conditions. At the same time, it raises questions about the resources, capacities and relationships required to sustain such initiatives over time and the extent to which they can be transferred to contexts where comparable community capacity does not exist.

Muckleneuk Commons illustrates how local knowledge, co-production and shared care can sustain a public space through community-led collaboration.

Figures 8. Pathway and sculpture of the hand acting as focal point in the park (Source: Author, 2024) [about here].

Figures 9. Seating area under the tree built and decorated by community members. (Source: Author, 2024) [about here].

5. Five Principles for Planning Living Infrastructure.

Drawing on the four international cases, we identify five interconnected principles for planning Living Infrastructure. While Kentish Town Library emphasises everyday activation and institutional stewardship, RWTH Aachen highlights collaborative learning and experimentation, Northfield demonstrates adaptive governance, and Muckleneuk Commons illustrates community-led stewardship. Together, these cases highlight opportunities and constraints in how urban design, governance and everyday practices interact to support social value across different institutional contexts. The following principles translate these insights into practical guidance for urban design and planning.

Principle 1. Plan civic ecosystems rather than isolated facilities

Living Infrastructure encourages planners and urban designers to consider civic ecosystems rather than isolated facilities. This requires attention to pedestrian connections, public-space networks, accessible routes and the relationship between building frontages and surrounding neighbourhoods, alongside the organisations and services that support everyday life. Planning for civic ecosystems therefore involves not only spatial integration but also coordination between institutions, community organisations and other stakeholders responsible for the provision, management and long-term adaptation of civic spaces.
In practice, urban design briefs and place-based plans should assess how civic facilities connect to one another and whether their edges, entrances and surrounding spaces invite use by different groups.

Principle 2. Activate infrastructure through everyday practices
Everyday activation depends partly on design: seating, shade, visibility, accessible thresholds and flexible layouts can support informal encounters alongside programmed activities. Kentish Town illustrates how adaptable library spaces host varied uses; Aachen shows how campus open spaces can become settings for collaborative learning; Muckleneuk Commons highlights the role of community care in sustaining public-space use. Urban designers should therefore consider not only physical provision but also the programming, community engagement and operational capacity needed to sustain use over time.

Principle 3. Treat governance and stewardship as infrastructure
Governance and stewardship shape urban design outcomes after completion: decisions about opening hours, maintenance, access, temporary activities and the use of shared space influence who feels welcome. Kentish Town relies on library staff and partners; Northfield illustrates the tensions and opportunities of coordinating services; Muckleneuk Commons demonstrates community-led care under constrained institutional support.
Urban design strategies should specify who will manage, maintain and adapt civic spaces, and how communities can influence these decisions, rather than treating stewardship as an afterthought.

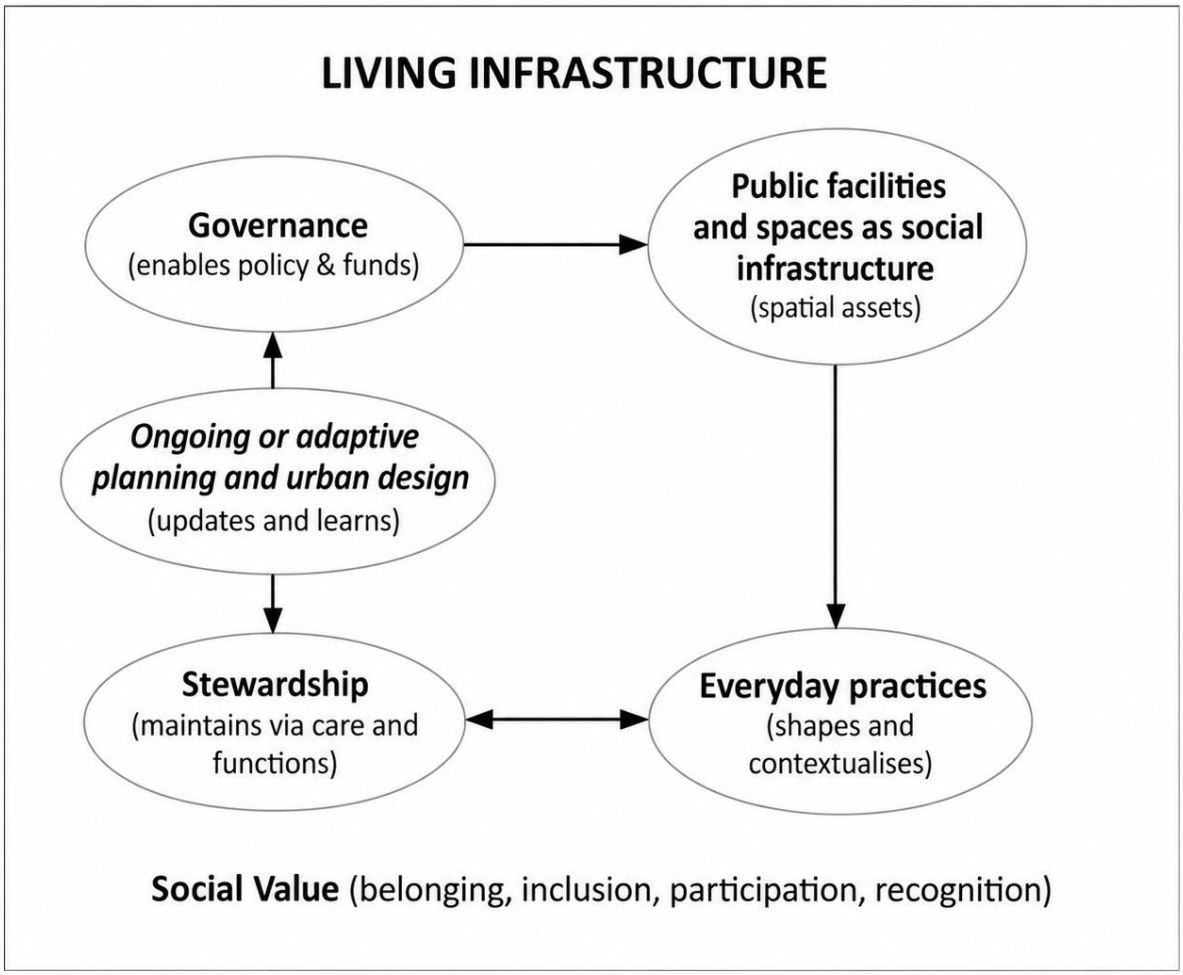
Principle 4. Design for adaptability and long-term learning
Designing for adaptability means creating spaces that can accommodate changing activities and users without major rebuilding. Kentish Town's evolving services and Aachen's campus experiments illustrate programmatic flexibility, while Northfield's response to extreme heat shows how existing civic buildings can serve new needs. The long-term effects of temporary experiments should nevertheless be assessed rather than assumed.
Urban designers can support this through flexible layouts, inclusive access, climate-responsive public spaces and post-occupancy learning that informs subsequent design and management decisions.

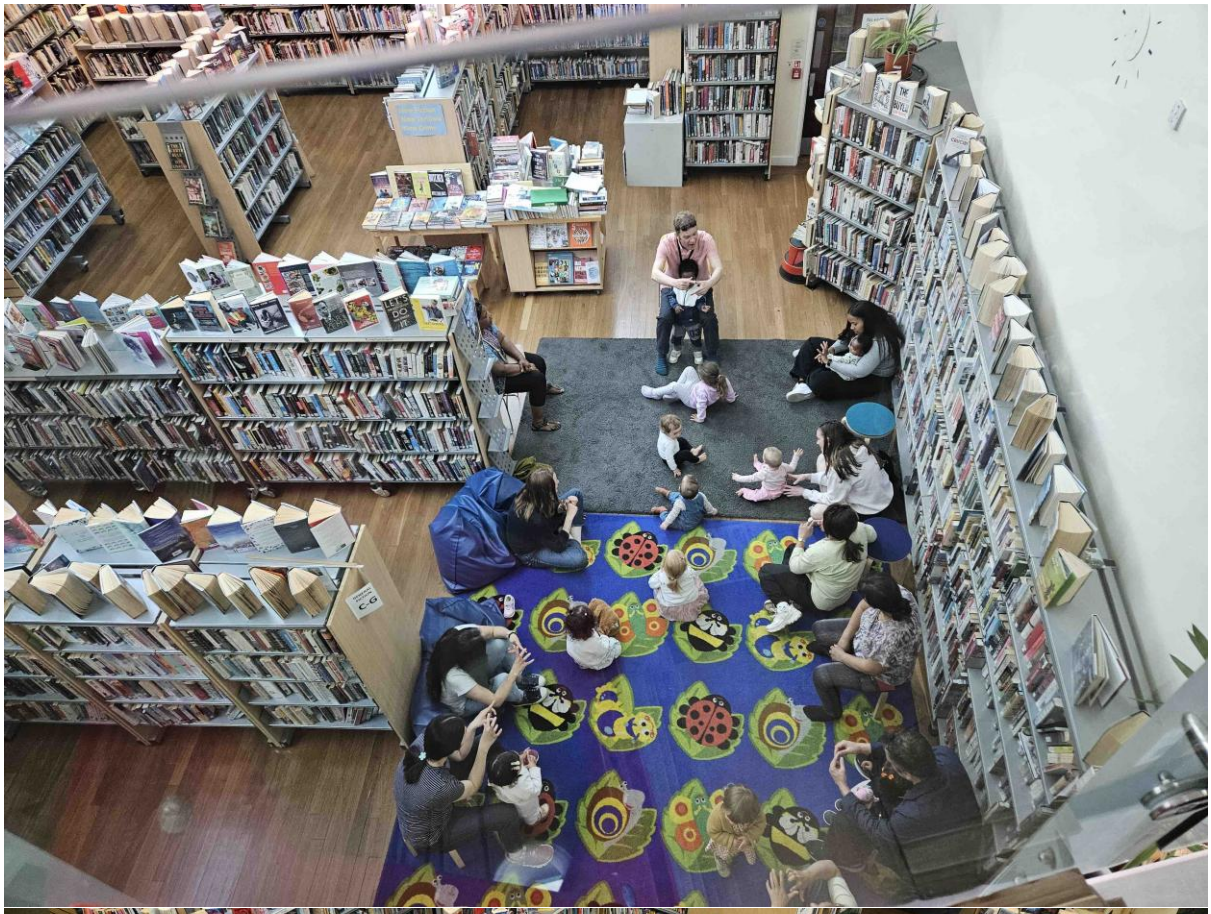
Principle 5. Evaluate social value rather than service provision alone
Evaluation should examine not only footfall and service outputs but also how spatial arrangements affect who uses a place, who stays, who participates and who feels excluded. Observations of everyday use, accessibility audits and engagement with diverse users can complement institutional indicators of belonging, inclusion, participation and recognition.
For planning and urban design practice, combining post-occupancy evaluation with feedback from staff and communities can reveal whether design, programming and stewardship work together to sustain social value.
The cases suggest different dimensions of social value: digital inclusion and belonging at Kentish Town; knowledge exchange at Aachen; responses to diverse needs at Northfield; and participation and collective responsibility at Muckleneuk Commons. These outcomes depend on users, institutional arrangements and local context.
Together, the principles offer a flexible planning framework rather than a prescriptive model. Their application depends on local conditions, but each directs attention to how civic assets can remain responsive and socially valuable over time.

Reference list

Aabø, S., Audunson, R. and Vårheim, A. (2010) 'How do public libraries function as meeting places?', *Library & Information Science Research*, 32(1), pp. 16–26.
Albrechts, L. (2010) 'More of the same is not enough! How could strategic spatial planning be instrumental in dealing with the challenges ahead?', *Environment and Planning B: Planning and Design*, 37(6), pp. 1115–1127.

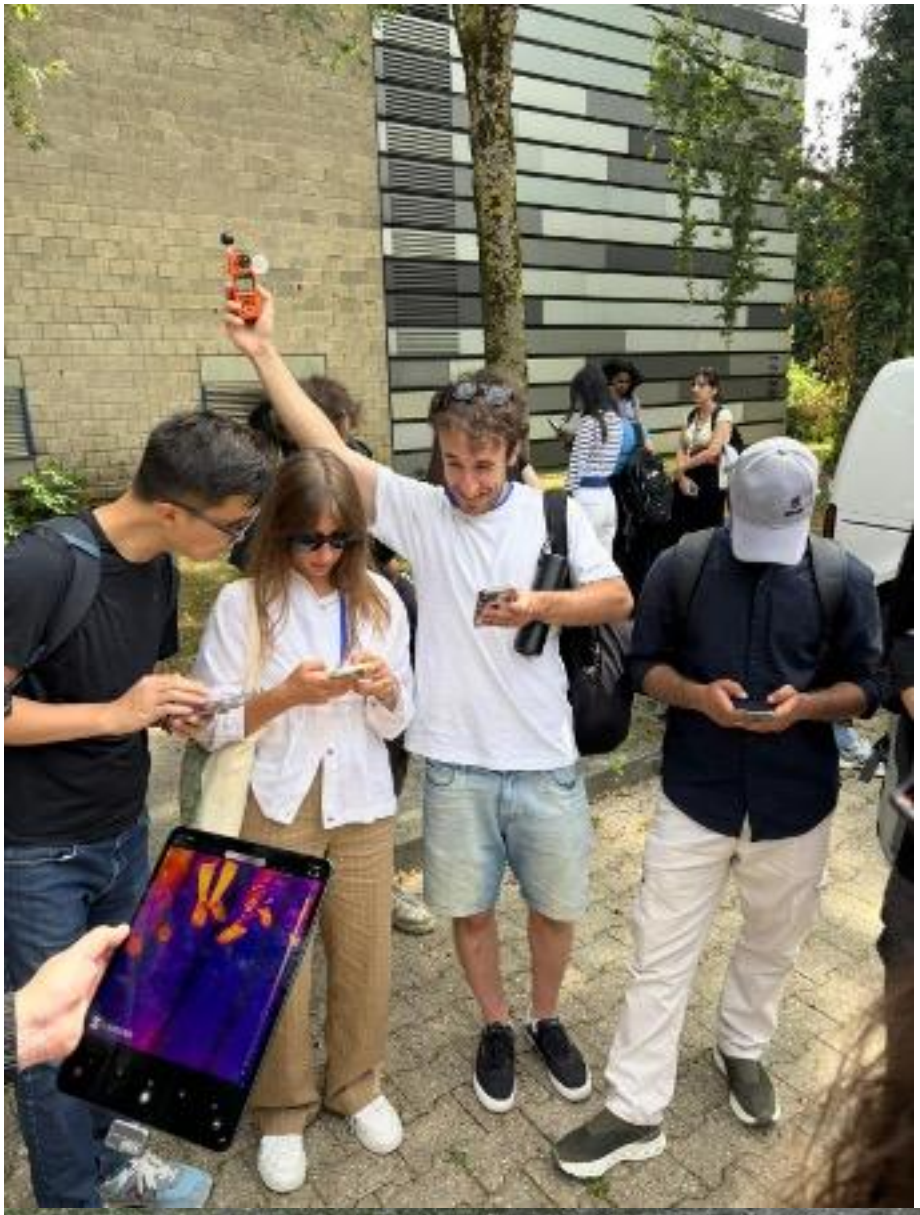
Alexander, E. R. (2022). On planning, planning theories, and practices: A critical reflection. *Planning Theory*, *21*(2), 181-211.
Allam, Z., Sharifi, A., Bibri, S. E., Jones, D. S., & Krogstie, J. (2022). The metaverse as a virtual form of smart cities: Opportunities and challenges for environmental, economic, and social sustainability in urban futures. *Smart Cities*, *5*(3), 771-801.
Ansell, C. and Gash, A. (2008) 'Collaborative governance in theory and practice', *Journal of Public Administration Research and Theory*, 18(4), pp. 543–571.
Campbell, L. K., Svendsen, E., Johnson, M., & Landau, L. (2022). Activating urban environments as social infrastructure through civic stewardship. *Urban Geography*, *43*(5), 713-734.
Carmona, M. (2019) 'Principles for public space design, planning to do better', *Urban Design International*, 24, pp. 47–59.
Davoudi, S. (2012) 'Resilience: A bridging concept or a dead end? Reframing resilience: Challenges for planning theory and practice', *Planning Theory & Practice*, 13(2), pp. 299–307.
Dekker, K., Lewis, A., Luo, Y., & Ciaffaglione, A. (2024). Challenges and Opportunities for a Local Government Implementing a Human Rights Policy in Australia. *Urban Planning.*, *9*.
Emerson, K., Nabatchi, T. and Balogh, S. (2012) 'An integrative framework for collaborative governance', *Journal of Public Administration Research and Theory*, 22(1), pp. 1–29.
Förster, A. and Chang, R. (eds) (2022) *Science Day 22: Built and Lived Environment – Towards a Sustainable, Livable, Urban, and Regional Future: Pop-Up Campus in Aachen on 30 June 2022*. Aachen: Built and Lived Environment (BLE), RWTH Aachen University. Available at: https://doi.org/10.18154/RWTH-2022-06848 [Accessed 5.03.2024].
Gehl, J. (2010) *Cities for People*. Washington, DC: Island Press.
Hall, S. M. (2020). Social reproduction as social infrastructure. *Soundings,* (76), 82-94,160-161.
Healey, P. (1997) *Collaborative Planning: Shaping Places in Fragmented Societies*. Basingstoke: Macmillan.
Hickman, P. (2013) '"Third places" and social interaction in deprived neighbourhoods in Great Britain', *Journal of Housing and the Built Environment*, 28(2), pp. 221–236.
Jacobs, J. (1961) *The Death and Life of Great American Cities*. New York: Random House.
Kasemets, K. (2024). Stewardship and everyday governance: Managing materialities in a south-eastern village community, Estonia. *Sociologia Ruralis*, *64*(1), 104-125.
Kearns, A. and Forrest, R. (2000) 'Social cohesion and multilevel urban governance', *Urban Studies*, 37(5–6), pp. 995–1017.
Jansen, M and Van Der Voort, H. (2016). 'Adaptive governance: towards a stable, accountable and responsive government', Government Information Quarterly, 33, pp. 1-5.
Klinenberg, E. (2018) *Palaces for the People: How Social Infrastructure Can Help Fight Inequality, Polarization, and the Decline of Civic Life*. New York: Crown.
Latham, A. and Layton, J. (2019) 'Social infrastructure and the public life of cities: Studying urban sociality and public spaces', *Geography Compass*, 13(7), e12444.
Latham, A., and Layton, J. (2022). Social infrastructure: Why it matters and how urban geographers might study it. *Urban Geography*, *43*(5), 659-668.
Mang. P & Reed, B. (2012). Designing from place: a regenerative framework and methodology. *Building Research & Information*, 40:1: 23-38
Mehta, V. (2014) 'Evaluating public space', *Journal of Urban Design*, 19(1), pp. 53–88.
Nelson, R., Howden, M. and Smith, M.S. (2008). Using adaptive governance to rethink the way science supports Australian drought policy', Environmental Science and Policy, 11, pp. 588-601.
Ostrom, E. (1990) *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.
Vårheim, A. (2014) 'Trust in libraries and trust in most people: Social capital creation in the public library', *The Library Quarterly*, 84(3), pp. 258–277.
Whyte, W.H. (1980) *The Social Life of Small Urban Spaces*. Washington, DC: Conservation Foundation.


LIVING INFRASTRUCTURE
Governance
(enables policy & funds)
Public facilities and spaces as social infrastructure
(spatial assets)
Ongoing or adaptive planning and urban design
(updates and learns)
Stewardship
(maintains via care and functions)
Everyday practices
(shapes and contextualises)
Social Value (belonging, inclusion, participation, recognition)

















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- Table1.docx